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The relation between teachers' interpersonal role identity and their self-efficacy, burnout and work engagement

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ABSTRACT

This study investigated the relation between teachers' interpersonal role identity on the one hand and teachers' self-efficacy, burnout and work engagement on the other. Data was collected using questionnaires and semi-structured and video-stimulated interviews. Results especially showed differences for self-efficacy between the teachers' interpersonal role identities. The results indicate that teacher educators and coaches at schools can support (student) teachers (1) by helping them to discover and making them aware of their interpersonal identity standard and (2) by facilitating their growth towards a match between their interpersonal identity standard and their appraisal of classroom situations.

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Teacher identity; self-efficacy; work engagement; burnout

1. Introduction

During the last two decades, an increasing number of studies has focused on the professional identity of teachers and the importance (and consequences) of professional identity (development) for teacher well-being, for meeting the everyday challenges and tensions in the classroom, for teaching well and ultimately for staying in the profession (e.g. Beijaard *et al.* 2004, Beauchamp and Thomas 2009). In these studies, the interpersonal or teacher–student relationship appeared to be an important element within the professional identity of teachers (Beijaard 1995). Teachers often relate their experiences or tensions in their professional identity development to teacher–student relationships (Pillen, Beijaard & Den Brok, 2013). Moreover, many teachers experience problems with teacher–student relationships (Evertson and Weinstein 2006; Wubbels *et al.* 2006), and problems with teacher–student relationships are seen as one of the major issues in teachers' professional development during the career and a main reason for teacher burnout (Tatar and Horenczyk 2003).

In this study, we will therefore explore the relation between teachers' self-efficacy, chance for burnout and work engagement as indicators of well-being and the professional identity of teachers concerning the teacher–student relationship, referred to as teachers' interpersonal role identity (cf. Van der Want, *et al.* 2015). With this study, we aim to explore associations between both teachers' self-efficacy, burnout, and work engagement and teachers' interpersonal role identity. Following Burke and Stets (2009), teachers' interpersonal role identity is seen as a system in which two main elements – interpersonal appraisal and interpersonal identity standard – influence each other. *The interpersonal appraisal* is the process of evaluating a classroom situation with respect to its importance to a teacher's well-being (Lazarus and Folkman 1984, Admiraal *et al.* 2000). *The*

interpersonal identity standard is a frame of reference, consisting of the set of self-relevant meanings that define the character of teachers' interpersonal role identity (Burke and Stets 2009). For example, when the teacher is waiting for the students to enter the classroom at the start of the lesson and the students enter the classroom talking loudly to each other without greeting or paying attention to the teacher, the teacher can evaluate this situation in different ways. For example, s/he might think that it is important to let the students settle and have a minute to talk informally to their peers. Or s/he might think that it is very important that students greet the teacher shortly immediately followed by the start of the lesson and that therefore everyone should be quiet and prepared to begin the lesson immediately. In a situation in which the identity standard is confirmed during the appraisal, *interpersonal role identity verification* occurs: appraisals of specific classroom situations by the teacher are consistent with a teacher's interpersonal identity standard. A *lack of identity verification* occurs when teachers' appraisals of such situations do not match with their interpersonal identity standards. When there is a lack of identity verification, '(...) people become upset or distressed in varying degrees' and thus will try to change this (Burke and Stets 2009, p. 208). This can be done by either changing the appraisal of a situation ('maybe the classroom was not as chaotic as I thought it was') or changing the identity standard ('maybe in general students do not have to be quiet all the time and listen to me, it can be good for them to chitchat a bit and walk around every now and then').

Drawing upon previous studies in which the teacher–student relationship was related to student outcomes and teacher well-being (Wubbels *et al.* 2006), two dominant kinds of interpersonal identity standards could be distinguished (see also Figure 1). One of these

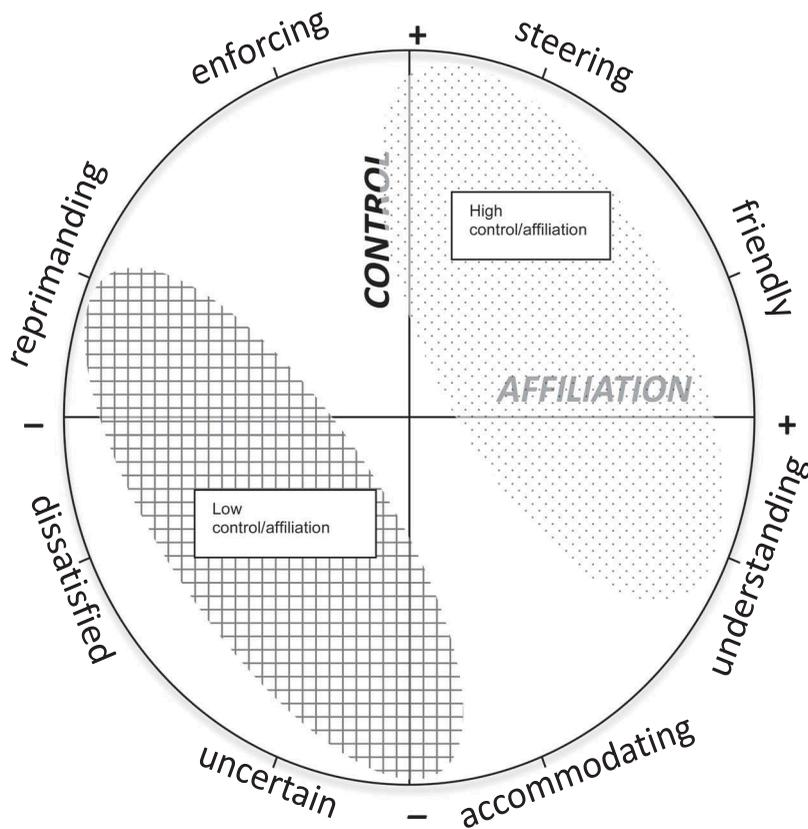


Figure 1. Teacher Interpersonal Circle depicting high control/affiliation and low control/affiliation areas of interpersonal identity standards (cf. Authors *et al.*, 2015).

standards is negatively related to teachers' stress and positively related to student outcomes and can be described as having a high level of control combined with a high level of affiliation in terms of the Teacher Interpersonal Circle (e.g. being steering, friendly and understanding). The other dominant identity standard can be described as having a low level of control combined with a low level of affiliation and being positively related to teachers' stress and negatively related to student outcomes (e.g. being uncertain, dissatisfied, reprimanding). There is much evidence that this latter interpersonal identity standard is less high control/affiliation for becoming and being a teacher than the first one (Wubbels *et al.* 2006). In the remainder of this article, we therefore label both interpersonal identity standards as 'high control/affiliation' and 'low control/affiliation' standards.

Following Eder (1995, 2002), we regard teacher well-being as the degree to which a teacher feels good at school and is free of school-related psychological or psychosomatic problems (cf. Belfi *et al.* 2012). In several studies, well-being is researched by studying relevant aspects or indicators for well-being, among which are self-efficacy (Engels *et al.* 2004), burnout (Spilt *et al.* 2011) and work engagement (Schaufeli and Bakker 2004). In this study, we will focus on the relation between such indicators and teachers' interpersonal role identity.

A considerable amount of studies has been conducted on aspects often ascribed to indicators of well-being and concepts related to teachers' interpersonal role identity. For instance, in their Vitae study, Day *et al.* (2006) showed that a good teacher–student relationship helps teachers to stay motivated for doing their jobs. Teachers' self-efficacy (Tschannen-Moran and Woolfolk Hoy 2001), work engagement (Schaufeli and Bakker 2004) and burnout (Friedman 2006) have also been found to be important for or related to teachers' professional identity and teacher–student relationships. Some studies have been conducted about the importance of either the appraisal or the interpersonal identity standard for the well-being of teachers (Admiraal *et al.* 2000, Chang 2009, Pillen *et al.* 2013). However, most studies were positioned in the context of emotional coping with student misbehaviour or solely focused on emotions and appraisals. Next to that, there have been studies on the relation between motivation or coping and teacher–student relationships (Admiraal *et al.* 2000, Riley *et al.* 2012, Pillen *et al.* 2013). Whereas in previous studies many combinations of the abovementioned core concepts have been made, there is to our knowledge no study in which all concepts, namely, teachers' self-efficacy, burnout, work engagement, teachers' professional identity and teacher–student relationship, were combined.

In this study, we explore the relation between teachers' interpersonal role identity and teachers' self-efficacy, burnout and work engagement. The research question of this study is thus the following: *What is the relation between teachers' interpersonal role identity and teachers' self-efficacy, burnout and work engagement?*

Insight into the relation between teachers' interpersonal role identity and teachers' self-efficacy, burnout and work engagement can give directions for future possible professional development activities for teachers. We expect that teachers with a high control/affiliation match between the interpersonal identity standard and appraisal of specific classroom situations will score higher on self-efficacy scales and work engagement scales and less on burnout scales compared to teachers with a low control/affiliation match or teachers with a mismatch, either high control/affiliation or low control affiliation. In this exploratory study, we will try to get a first indication of this. Based on our small sample of participants, we must be very cautious with the results of this exploratory study.

2. Conceptual framework

2.1. Self-efficacy

Teachers' self-efficacy is the extent to which the teacher believes that he or she has the capacity to affect desired outcomes of student engagement and learning (Brouwers and Tomic 2000, Tschannen-Moran and Woolfolk Hoy 2001).

According to Tschannen-Moran and Woolfolk Hoy (2001), teachers' self-efficacy influences their persistence, the effort they invest in teaching, and the goals they set. Self-efficacy is found to be important in relation to professional identity (e.g. Hong 2010, Canrinus *et al.* 2011) and teacher–student relationships (Brouwers and Tomic 2000). Self-efficacy in this study is related to three teaching components: classroom management, student engagement and instructional strategies (Tschannen-Moran and Woolfolk Hoy 2001). Classroom management efficacy refers to a teacher's belief to be able to develop and maintain classroom order. Student engagement efficacy refers to a teacher's belief to be able to motivate students and to engage them in their own learning process. Instructional strategy efficacy refers to a teacher's belief to be able to use various pedagogical–didactical techniques in the classroom.

2.2. Burnout

Teaching can be considered as a high-stress occupation (Gold and Roth 1993). Several studies have explored the field of teacher burnout, showing high rates of burnout and attrition (Tatar and Horenczyk 2003, Hultell *et al.* 2013). Similar to other countries, the burnout rate for teachers in the Netherlands is higher than other professions due to high psychological work pressure, low levels of agency and limited possibilities for career/professional development. Brouwers and Tomic (2000) state that burnout is a phenomenon of 'dramatic importance in education' (Brouwers and Tomic 2000, p. 239). Secondary school teachers' demands consist of a substantial degree of emotionally caring relationships with students. Several studies have elicited the positive effect of student misbehaviour on teacher burnout (Burke *et al.* 1996). Burnout is defined as 'a prolonged response to chronic emotional and interpersonal stressors on the job' (Maslach *et al.* 2001, p. 397) and consists of the three elements: emotional exhaustion, cynicism/depersonalisation and individuals' reduced personal accomplishment in their work environment (Brouwers and Tomic 2000). Emotional exhaustion refers to energy depletion or a draining of emotional resources, possibly caused by interpersonal demands, and is characterised by severe physical, mental and emotional fatigue. Cynicism is an attempt to distance oneself from the job by actively developing negative attitudes towards it. Reduced feelings of personal accomplishment are the tendency of evaluating one's work negatively (Brouwers and Tomic 2000).

2.3. Work engagement

Work engagement can be defined as a high level of energy and as a strong identification with one's work in a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption (Bakker *et al.* 2008). Studies have found work engagement to be an independent concept negatively related to burnout (Bakker *et al.* 2008). In this study, work engagement is measured with three scales: vigour, dedication and absorption. 'Vigor is characterised by high levels of energy and mental resilience while working, a willingness to invest effort in one's work and to persist when facing difficulties' (Bakker *et al.* 2008, p. 188). Dedication is characterised by being involved in one's work, experiencing enthusiasm, inspiration and pride. 'Absorption is characterised by being fully concentrated and being happily engrossed in one's work' (Bakker *et al.* 2008, p. 188).

2.4. Teachers' interpersonal role identity

Previous research (Van der Want, *et al.* 2015) described the link between teachers' appraisals of specific classroom situations and their more general interpersonal identity standards, which together form their interpersonal role identity. In this section, other key elements of the study will be further elaborated. First, our previous study and the concept of teachers' interpersonal role identity will be described, followed by an elaboration of teachers' self-efficacy, burnout and work

engagement. After that, the more specific research questions for this study based on the theoretical framework will be presented.

In this previous study (Authors 2015), teachers' interpersonal role identity was empirically explored within a sample of 29 teachers in secondary education (see Table 1). To select participants, we invited teachers through large Internet fora and by using a network of schools from teacher training institutes to complete the Questionnaire on Teacher Interaction (QTI) (Wubbels *et al.* 2006) in one of their classes. In total, 135 teachers completed the QTI in one of their classes. Based on the results of the QTI, we selected 29 participants with different teacher–student relationships, gender, age, school subjects and career phases to participate in this study. The QTI is based on the Teacher Interpersonal Circle, which depicts the interpersonal relationships between students and teachers. In the Teacher Interpersonal Circle, the teacher–student relationships are conceptualised in terms of two dimensions that are both independent and necessary to describe a complete picture of the teacher–student relationship: a control dimension and an affiliation dimension. The control dimension describes the degree of influence a teacher has when interacting with students and the affiliation dimension describes the degree of cooperation or opposition between the teacher and the students. The two dimensions (Figure 1) can be subdivided into the following eight categories: steering, friendly, understanding, accommodating, uncertain, dissatisfied, reprimanding and enforcing (Wubbels *et al.* 2006).

Table 1. Overview of the participants.

<i>N</i> total = 29 teachers in 2011 ¹	Name (Alias)	Gender	Age	Years of teaching experience	Subject taught	Interpersonal identity standard in 2011
Group A 'High control/affiliation matcher' (<i>n</i> = 9)	Matthew	Male	24	1	Physics	Steering, friendly and enforcing
	Lucy	Female	35	12	Dutch	Steering and friendly
	Billy	Male	35	11	Arts	Friendly, understanding and accommodating
	Paul	Male	34	1	Physics	Friendly
	Ben	Male	29	2	Social Studies	Steering, understanding and enforcing
	Thomas	Male	59	35	Arts	Steering and understanding
	Christine	Female	42	21	Physics	Friendly and accommodating
	Angel	Female	53	31	Latin	Steering
	Philip	Male	56	28	Geography	Friendly and enforcing
	Group B 'Low control/affiliation mismatcher' (<i>n</i> = 15)	John	Male	25	1	Physics
Patrick		Male	43	1	Physics	Friendly and understanding
Michael		Male	34	11	History	Friendly and understanding
Joyce		Female	47	9	French	Steering and enforcing
Dorothy		Female	42	9	Biology	Friendly and dissatisfied
Louise		Female	39	1	Physics	Friendly
Nancy		Female	28	1	Chemistry	Steering and dissatisfied
Peter		Male	28	2	Biology	Friendly
Charlotte		Female	50	11	Dutch	Steering and friendly
David		Male	47	11	Physics	Understanding Accommodating
Group C 'Low control/affiliation (mismatcher' (<i>n</i> = 5)	Beth	Female	40	10	Social Studies	Friendly and uncertain
	Rosy	Female	55	34	Economics	Steering and uncertain
	Luke	Male	50	25	Physics	Friendly
	Mark	Male	53	22	Arts	Friendly and understanding
	Adrian	Male	54	26	Geography	Steering and friendly
	Daniel	Male	46	8	Economics	Uncertain and dissatisfied
	Denise	Female	29	1	Chemistry	Accommodating and uncertain
	Andrew	Male	50	1	Chemistry	Uncertain and dissatisfied
	Carin	Female	40	2	Dutch	Accommodating and dissatisfied
	Jane	Female	56	34	Arts	Enforcing

¹All names are fictitious for reasons of anonymity.

In order to obtain data about teachers' interpersonal role identity, two interviews per teacher were used for data collection: a semi-structured interview and a video-stimulated interview. The interviews took place at the school of the teacher (with the consent of both school management and respondent). Prior to each interview, though on the same day, one lesson of the teacher, who was going to be interviewed, was video-taped and observed by the researcher (students were informed beforehand by the teachers and were given the opportunity not to be visible on camera).

The semi-structured interview was first conducted to gain insight into teachers' interpersonal identity standard. The starting question (How would you describe your relationship with students in general?) was followed by several (un-structured) follow-up questions depending on the answers of the participants. The coding procedure of the semi-structured interview was based on the Teacher Interpersonal Circle.

The video-stimulated semi-structured interview was held to study teachers' appraisals of three specific classroom situations (the start of the lesson, reacting to student misbehaviour and reacting to positive student behaviour). [Each teacher was asked to watch and reflect on the fragments by answering three questions. The first question dealt with the description of the situation (Can you describe this event, how relevant is this event for you?), followed by questions regarding the appraisal (What did you feel and think at that moment? What were your coping options at that moment? What were you planning to do?).]

The appraisals were also coded using the categories of the Teacher Interpersonal Circle. Interrater reliability was found sufficient for the codes of both the analysis of the interpersonal identity standard and the analysis of the appraisals of specific classroom situations. In order to measure per participant whether interpersonal identity verification occurred, we compared the codes of the interpersonal identity standards and the interpersonal appraisals. If exactly the same codes or codes positioned next to each other on the Teacher Interpersonal Circle were assigned to a particular teacher, this was considered as 'a match' according to interpersonal identity verification. If the codes from the interpersonal identity standard and the interpersonal appraisal differed by a distance of two or more categories from each other in the Teacher Interpersonal Circle, then this was considered as a 'mismatch' between the interpersonal identity standard and the interpersonal appraisal, thus a lack of interpersonal identity verification. A matrix was constructed in order to create an overview of the data.

The results of the study showed that for about half of the teachers, their interpersonal appraisal of two or three classroom situations matched their interpersonal identity standard. For the other half of the teachers, these appraisals did not match, or did only match in one situation with their interpersonal identity standard and, accordingly, interpersonal role identity verification did not take place.

The study also indicated that if the emotions accompanying the affective appraisal of teachers were positive, this resulted in an evaluative appraisal which was most often steering, friendly or understanding. As such, positive affective appraisals played an important role for teachers' interpersonal role identity and the possible lack of interpersonal identity verification (Authors 2015). Other researchers have also stated that teaching is an occupation that involves considerable emotional labour, which involves effort, planning and control (Chang 2009; Meyer 2009). As such, emotional labour has been associated with job dissatisfaction, health symptoms and emotional exhaustion, which are key components of burnout (Schutz and Zembylas 2009). Next to that, researchers have found that emotions are inextricably linked to teachers' work, development, teachers' interpersonal role identity (e.g. Pillen *et al.* 2013), teacher-student relationships and teacher well-being (Schutz and Zembylas, 2009).

For the present study, all participants from the prior study were first assigned to two groups: one group consisted of teachers with a high control/affiliation interpersonal identity standard, and another group consisted of teachers with a low control/affiliation interpersonal identity standard. High control/affiliation is defined as a high level of control combined with a high level of affiliation. Low control/affiliation is defined as a low level of control combined with a low level of affiliation (see

Figure 1). In a following step, the group of teachers with a high control/affiliation interpersonal identity standard was also divided into groups: one group consisted of participants with interpersonal identity verification or ‘a match’ in two or three of the researched situations while the other group consisted of the participants with no interpersonal identity verification – ‘a mismatch’, or verification in only one situation. The low control/affiliation match group and the low control/affiliation mismatch group were combined, as both contained very few participants. This resulted in three groups of participants: (A) high control/affiliation match ($n = 9$), (B) high control/affiliation mismatch ($n = 15$) and (C) low control/affiliation (mis)match ($n = 5$) (see Table 1). Figure 2 presents an example of a participant from each of the groups. Looking at group A, the high control/affiliation matchers in Figure 2, for example, the Dutch language teacher Lucy has an interpersonal identity standard denoting ‘steering and friendly’, which is a high control/affiliation interpersonal identity standard. In addition, Lucy’s appraisals of the situations, represented by the different dots/circles, are mostly positioned in the same area as her interpersonal identity standard: steering and friendly. This means that, in the case of Lucy, interpersonal identity verification has taken place and that her match is a high control/affiliation one. In this study, we will use these three groups (Table 1) to study the relation between teachers’ un/high control/affiliation match/mismatch and their well-being.

3. Research question

The central research question of this study is: *how does teachers’ self-efficacy (a), burnout (b) and work engagement (c) differ between high control/affiliation matching teachers, high control/affiliation mismatching teachers and low control/affiliation (mis)matching teachers?*

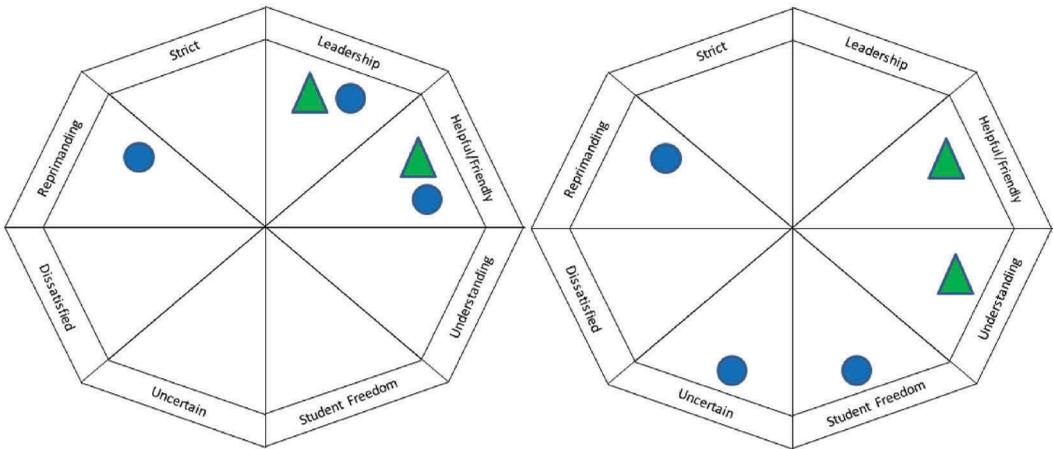
Based on the background of our study, it is expected that high control/affiliation matchers (i.e. participants with interpersonal identity verification and a high control/affiliation interpersonal identity standard) score higher on work engagement and self-efficacy and lower on burnout compared to high control/affiliation mismatchers and low control/affiliation matchers. Low control/affiliation matchers are expected to score lower on work engagement and self-efficacy and higher on burnout than high control/affiliation high control/affiliation mismatchers and high control/affiliation high control/affiliation matchers. High control/affiliation mismatchers are expected to score lower on work engagement and self-efficacy and have a higher chance on burnout than teachers with a high control/affiliation match.

4. Method

4.1. Participants

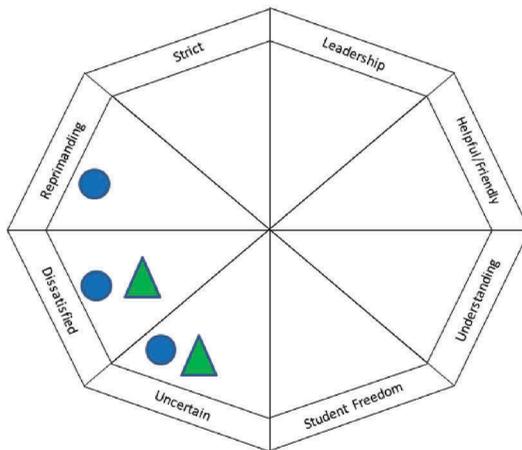
This study was based on a prior study (Authors 2015) and was conducted among 29 teachers in general secondary schools in the Netherlands. Table 1 presents an overview of the participants, their gender, age, years of teaching experience, subject taught, interpersonal identity standards, whether their interpersonal identity standards can be considered as high control/affiliation or low control/affiliation and their interpersonal identity verification in terms of match or mismatch.

As can be seen from Table 1, the majority of the teachers (group A/high control/affiliation matchers, $n = 9$) have a high control/affiliation interpersonal identity standard and interpersonal identity verification. There is also a group (group B/high control/affiliation mismatchers, $n = 15$) of teachers who have a high control/affiliation interpersonal identity standard but no interpersonal identity verification. The teachers (group C/low control/affiliation (mis)matchers, $n = 5$) who have an low control/affiliation interpersonal identity standard with or without interpersonal identity verification are teachers who have an low control/affiliation interpersonal identity standard (for example, being uncertain and dissatisfied) and appraise situations differently from their interpersonal identity standard.



Group A (n=9): Lucy

Group B (n=15): Michael



Group C (n=5): Andrew

Legend:

-  Interpersonal identity Standard
-  Appraisal of interpersonal situations in the classroom

Figure 2. Examples of teachers from the three groups: interpersonal identity standards and appraisals.

4.2. Data collection and procedure

To collect data on teachers’ self-efficacy, burnout and work engagement, participants were invited to complete a questionnaire. The questionnaire consisted of the Utrecht Burnout Scale for teachers (UBOS-L; Schaufeli *et al.* 1996), the Utrecht Work Engagement Scale (UWES) for teachers (Bakker *et al.* 2008) and a translated version of the Teacher Sense of Self-efficacy Scale (TSES; Tschannen-Moran and Woolfolk Hoy 2001). All 29 participants completed the questionnaire at an organised meeting at a university in the 2010–2011 school year.

4.3. Instrumentation

4.3.1. Self-efficacy

The validated and reliable Tschannen-Moran and Woolfolk Hoy short version of the Teachers Sense of Efficacy Scale (Tschannen-Moran and Woolfolk Hoy 2001) used in this study contained 12 items. In a previously conducted validation study of the TSES in five countries (Klassen *et al.* 2009), 1211 teachers participated. In our study, the items were scored on a 7-point Likert scale ranging from 1 (not at all) to 7 (very well) and consisted of three scales: classroom management, student engagement and instructional strategies. Tschannen-Moran and Woolfolk Hoy (2001) reported Cronbach's alphas between .81 and .86. Table 2 displays the scales, including their satisfying reliability for the present study and original sample items.

4.3.2. Burnout

Burnout was measured with the Dutch version of the Maslach Burnout Inventory – General Survey (Schaufeli *et al.* 1996, Schaufeli and Van Dierendonck 2000). The UBOS-L (Schaufeli *et al.* 1996) was developed validated in several studies in which approximately 2300 teachers participated (Schaufeli and Van Dierendonck 2000).

The teachers' version of this questionnaire, the UBOS-L, was used. The questionnaire consisted of 22 items (7-point Likert scale ranging from 0 [never] to 6 [every day]) divided into three subscales: emotional exhaustion, cynicism/depersonalisation and personal accomplishment. High scores on the emotional exhaustion scale and on the cynicism/depersonalisation scale and a low score on the personal accomplishment scale are (together) indications of burnout (Brouwers and Tomic 2000). In the original study of Schaufeli and Van Dierendonck (2000), the reported alpha's varied from .73 to .92. Original sample items and Cronbach's alphas for the present study can be found in Table 2 and are again satisfying, except for the cynicism/depersonalisation scale, which is low and for which results should be interpreted with caution.

4.3.3. Work engagement

Work engagement was assessed with the short, nine-item version of the UWES (Bakker *et al.* 2008, Schaufeli *et al.* 2009). In previous studies in which the UWES has been validated for multiple countries, involving the participation of over 2600 teachers from several countries (Schaufeli and Bakker 2004, Bakker *et al.* 2008).

Table 2. Overview of self-efficacy, burnout and work engagement: scales, reliability and example items.

Construct	Scale	Cronbach's alpha (<i>n</i> = 29)	Example item
Self-efficacy	Instructional strategies	.68	To what extent can you craft good questions for your students?
	Classroom management	.78	How much can you do to control disruptive behaviour in the classroom?
	Student engagement	.74	How much can you do to motivate students who show low interest in school work?
Burnout	Emotional exhaustion	.88	I feel emotionally drained from my work
	Personal accomplishment	.69	I feel that I can achieve important things in my job
	Cynicism/depersonalisation	.42	I am frustrated because of my job
Work engagement	Absorption	.72	Time flies when I am working
	Dedication	.88	I find the work that I do full of meaning and purpose
	Vigor	.85	At my work, I feel bursting with energy

The 9 items of the UWES are scored on a 7-point Likert scale with scores ranging from 0 (never) to 6 (every day) and consist of three scales: vigour, dedication and absorption. Previously reported Cronbach's alphas (cf. Schaufeli and Bakker 2004) exceed .70 (see Table 2 for reliability of the present study and original sample items).

5. Analysis

First, a descriptive analysis was conducted to explore the data of each of the 29 participants for the three groups (see Table 3). To map the relationship between self-efficacy, burnout, and work engagement and interpersonal identity verification, analyses were performed in IBM SPSS Statistics version 19 in several steps. Several analyses of variance were carried out to map the difference between the three groups (independent variables) for their scores on self-efficacy, burnout and work engagement (dependent variables). A Scheffé *post hoc* test was carried out to analyse the statistically significant differences which resulted from the analysis of variance (see Table 3).

Table 3. Descriptive statistics and analysis of variance for scales of the constructs.

Construct	Scale	Group ¹	Mean ²	SD	F	df	P
Self-efficacy	Student engagement	A	5.27	.70	2.49	2	.10
		B	4.43	.92			
		C	4.33	1.48			
		Total	4.67	1.02			
	Instructional strategies	A	5.47	.55	6.37	2	<.01*
		B	4.51	.65			
		C	4.38	1.00			
		Total	4.79	.81			
	Classroom management	A	5.58	.51	2.12	2	.14
		B	5.11	1.00			
		C	4.55	1.13			
		Total	5.16	.94			
Burnout	Emotional exhaustion	A	1.26	.65	1.11	2	.34
		B	1.78	1.02			
		C	1.87	.92			
		Total	1.63	.91			
	Cynicism	A	.80	.40	1.46	2	.25
		B	.96	.52			
		C	1.28	.56			
		Total	.97	.50			
	Personal accomplishment	A	4.71	.59	1.71	2	.20
		B	4.23	.74			
		C	4.08	.77			
		Total	4.35	.72			
Work engagement	Vigour	A	5.07	1.07	.40	2	.66
		B	4.8	.90			
		C	4.6	1.09			
		Total	4.85	.97			
	Dedication	A	5.18	1.05	.24	2	.78
		B	5.17	.78			
		C	4.86	1.01			
		Total	5.12	.88			
	Absorption	A	4.44	1.38	.31	2	.73
		B	4.68	.98			
		C	4.26	.98			
		Total	4.54	1.09			

¹Group A: high control/affiliation matchers ($n = 9$). Group B: high control/affiliation mismatches ($n = 15$). Group C: low control/affiliation (mis)matchers ($n = 5$).

²Theoretical range mean scores per scale (min–max): self-efficacy(1–7), burnout (0–6) and work engagement (0–6).

Statistically significant results are presented with an asterisk ().

6. Results

In this study, we explored the relation between teachers' interpersonal role identity and teachers' self-efficacy, burnout and work engagement. To answer the research question, first means and standard deviations were calculated for self-efficacy, burnout and work engagement (Table 3 and Figure 3). To illustrate the results, a selection of interview excerpts concerning the three concepts was added (Table 4).

When comparing the means on the burnout scores listed in Table 3 with the norm scores of 1677 Dutch secondary school teachers (Schaufeli and Van Dierendonck 2000), the scores of the

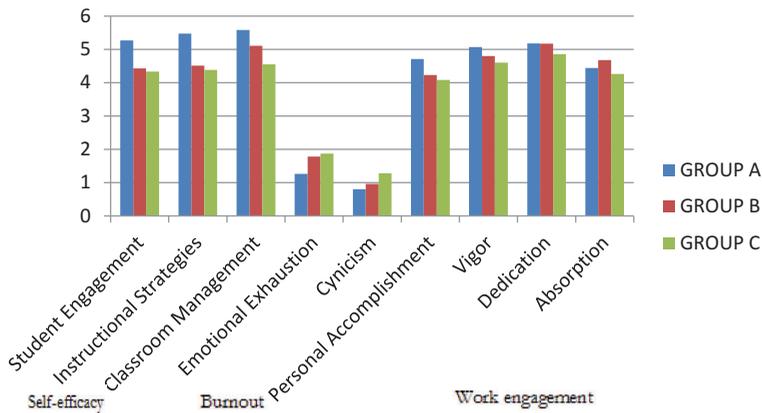


Figure 3. Visual overview of the scale scores for each of the three constructs per group.

¹Group A: high control/affiliation matchers (n = 9). Group B: high control/affiliation mismatchers (n = 15). Group C: low control/affiliation (mis) matchers (n = 5).

²Theoretical range mean scores per scale (min–max): self-efficacy (1–7), burnout (0–6), and work engagement (0–6). *Statistically significant results are presented with an asterisk (*).

Table 4. Selected interview excerpts concerning self-efficacy, work engagement and burnout.

Construct	Interview excerpts
Self-efficacy	
Student engagement/ instructional strategies/classroom management	<p>'I have no pedagogical background at all' (Patrick, high control/affiliation mismatcher)</p> <p>'Sometimes I think "how is this possible, I have prepared and explained this for three lessons and still you [student] don't understand?"' (Peter, high control/affiliation mismatcher)</p> <p>'My expertise is subject matter knowledge and pedagogical knowledge. I am able to explain clearly and to offer a proper lesson structure' (Lucy, high control/affiliation matcher)</p> <p>'Classroom management is difficult for me. But I accept that, I won't fight it' (Louise, high control/affiliation mismatcher)</p>
Burnout	
Emotional exhaustion/ cynicism/ personal accomplishment	<p>'Honestly, I need to admit that being a teacher is tougher than I thought, I thought it wouldn't be so heavy' (Andrew, low control/affiliation (mis)matcher)</p> <p>'I do not want it [my lessons] to go like this but I do not know how or what to change' (Andrew, low control/affiliation (mis)matcher)</p> <p>'I try very hard not to add new irritations to my previous ones' (Jane, low control/affiliation (mis)matcher)</p> <p>The classroom climate is positive. If it does not work out, too bad, I won't lay around at night thinking about it' (Dorothy, high control/affiliation mismatcher)</p>
Work engagement	
Vigour/absorption/ dedication	<p>'I work for money, when I teach I close the door of my classroom, outside the classroom I do as little as possible' (Daniel, low control/affiliation mismatcher)</p> <p>'I love to see the children develop and learn, that's my mission' (Denise, low control/affiliation mismatcher)</p>

participants in our study show average scores for emotional exhaustion, low to average scores for cynicism/depersonalisation and average to high scores on personal accomplishment.

When focusing on the differences between the high control/affiliation matchers (A), high control/affiliation mismatches (B) and the low control/affiliation (mis)matchers (C) more closely, a one-way analysis of variance (ANOVA) was used to test the differences between the groups for all the scales of the three constructs. The results are presented in the three columns on the right side of Table 3 (F , df and p). The results show a statistically significant difference for instructional strategies (self-efficacy) ($F(2,26) = 6.37, <.01$). The Scheffé *post hoc* test indicated this difference to be statistically significant between group A, the high control/affiliation matchers, and C, the low control/affiliation (mis)matchers ($p = .032$) and between groups A and B, the high control/affiliation matches and the high control/affiliation mismatches ($p = .011$). The effect sizes for these analyses ($d = 1.35$ and $d = 1.59$) exceeded Cohen's (1988) convention for a large effect ($d = .80$).

In addition, a Kruskal–Wallis test was used to calculate the differences between the three groups of high control/affiliation matchers (A), high control/affiliation mismatches (B) and the low control/affiliation (mis)matchers (C). This test also showed statistically significant differences for instructional strategies (self-efficacy), $H(2) = 10.52, p < 0.01$. Pairwise comparison between the groups showed statistically significant differences between group A, the high control/affiliation matchers, and group C, the low control/affiliation (mis)matchers ($p = 0.03, r = 0.57$) and between groups A and B, the high control/affiliation mismatches ($p < 0.01, r = 0.60$). For the other variables, no statistically significant differences were found.

Both the ANOVA's and the Kruskal–Wallis test show that the teachers with a high control/affiliation match scored significantly higher on instructional strategy efficacy than the participants with an low control/affiliation (mis)match and that teachers with a high control/affiliation match scored significantly higher on instructional self-efficacy than teachers with a high control/affiliation mismatch.

In the interviews with the respondents, similar results can be found. For instance, Dutch language teacher Lucy (high control/affiliation matcher) is quite confident about her teaching abilities. She says: 'My expertise is subject matter knowledge and pedagogical knowledge. I am able to explain clearly and to offer a proper lesson structure'. In contrast, physics teacher Patrick (high control/affiliation mismatch) states: 'I have no pedagogical background at all'.

Chemistry teacher Andrew (low control/affiliation mismatch) states: 'I do not want it [my lessons] to go like this but I do not know how or what to change'.

However, for none of the other variables involved in this study, statistically significant differences from the questionnaire data or large differences from the interview data were found between the different groups of teachers.

7. Discussion and conclusion

In this study, we explored the relationship between teachers' interpersonal role identity (consisting of their interpersonal identity standards and their appraisals of specific classroom situations) and teachers' self-efficacy, burnout and work engagement. We investigated this relationship via three groups of participants: teachers with a high control/affiliation interpersonal identity standard and matching appraisals (group A, 'high control/affiliation matchers'); teachers with a high control/affiliation interpersonal identity standard with mismatching appraisals (Group B, 'high control/affiliation mismatches'); and teachers with an low control/affiliation interpersonal identity standard and either matching or mismatching appraisals (Group C, 'low control/affiliation (mis)matchers').

7.1. Self-efficacy

Teachers with a high control/affiliation match (group A/high control/affiliation matchers) scored statistically significantly higher on instructional strategies and compared to teachers with a high control/affiliation mismatch and compared to teachers with a low control/affiliation (mis)match (group C/low control/affiliation (mis)matchers). The results of the relationship between teachers' interpersonal role identity and self-efficacy underline previous research which defines self-efficacy as a relevant aspect of professional identity (Canrinus *et al.* 2011) or who stress the importance of self-efficacy for beginning teachers who are developing their teacher identity (Day and Gu 2007). Different from previous research was that in the present study the focus was on a specific part of teacher identity, the interpersonal role. This implies that concerning self-efficacy and teacher–student relationships, this specific interpersonal role identity is of great importance.

7.2. Burnout

Considering burnout, we expected that teachers with a matching interpersonal identity standard (matchers) would score lower on burnout than the teachers with a mismatching interpersonal identity standard, since matchers would have a more balanced interpersonal role identity and thus might feel more at ease while teaching. However, this was not confirmed by our results, as both the high control/affiliation -ness and the match/mismatch were unrelated to teachers' scores on burnout, even though a small trend in the expected direction was visible. Possibly, with a bigger sample, this relation might become statistically significant.

7.3. Work engagement

Within the current sample, mean scores on work engagement for high control/affiliation matchers (A) seemed somewhat higher than low control/affiliation (mis)matchers, suggesting that teachers with a high control/affiliation interpersonal identity standard and matching appraisals might be more engaged in their work than teachers with low control/affiliation interpersonal identity standards. However, none of the differences between groups for work engagement were statistically significant. Again, research with a larger and more diverse sample might show different results.

7.4. Self-efficacy, burnout, work engagement and teachers' interpersonal role identity

While not the first study in teachers' interpersonal role identity or teachers' self-efficacy, burnout and work engagement, this study has explored the relation between these two constructs in more detail. The results show that the nature of the interpersonal identity standards (whether high control/affiliation or low control/affiliation) matters for some aspects of self-efficacy (e.g. instructional) and that it possibly makes a difference whether the appraisal of certain specific situations matches with the interpersonal identity standards (i.e. whether identity verification takes place). The results partially confirmed our expectations in the sense that the three groups differed in terms of instructional self-efficacy, but not on other constructs. The results thus indicate a relationship between a high control/affiliation interpersonal identity standard and matching appraisals of specific classroom situations for teachers' instructional self-efficacy. Furthermore, the results from our study indicate that for the (self-efficacy part of) well-being of teachers, a high control/affiliation interpersonal identity standard and matching appraisals are preferable over low control/affiliation interpersonal identity standards and mismatching appraisals. However, the nature of this relationship still remains unclear.

Interestingly, the results of the present study are drawn from a sample of teachers who voluntarily participated in this research. Even participants with a low control/affiliation interpersonal identity

standard participated voluntarily. The number of low control/affiliation (mis)matchers might in reality be larger than one would expect based on this research. With a larger sample, this might become even more prominent and would enable us to distinguish the low control/affiliation from the high control/affiliation high control/affiliation mismatches, which would make it possible to tailor support specifically to these groups. Literature often suggests that teacher well-being is related to teacher behaviour and workload (Schaufeli *et al.* 1994, Spilt *et al.* 2011).

Our research shows that the personal side of teaching, in our case the teacher interpersonal role identity, is to some degree important for self-efficacy, burnout and work engagement. This being said, it seems worth considering the development of teachers' interpersonal role identity (including a high control/affiliation interpersonal identity standard and matching interpersonal appraisals) in professional development programmes and teacher education programmes. Working on the teacher interpersonal role identity will affect teachers' self-efficacy (Canrinus *et al.* 2011) which is a start because teachers need self-efficacy to grow.

8. Limitations

Due to the small sample size and the exploratory nature of the study, the results must be seen as only a first indication and have to be interpreted with caution. For instance, potentially because of the sample size, many of our results were not statistically significant, which means that the results presented should be seen as trends rather than a strong/large difference between groups. In addition, next to the small sample size, the subsample sizes of the different groups of teachers were unequal, affecting the homogeneity of variance. A larger sample with equal subsamples might give a more distinct answer to the research question.

This study focused on the interpersonal role or interpersonal domain of a teacher's professional identity in relation to self-efficacy, burnout and work engagement. Other role identities or domains of identity might also be of importance for teachers' self-efficacy, burnout and work engagement. In addition, the appraisals of the specific situations were limited to three fixed situations per participant, selected by the researcher (Van der Want *et al.* 2015). The appraisals might be biased due to their limited number or by the selection of the researcher. More appraisals to be selected by the participant might give a more comprehensive view into the appraisals of various situations a teacher encounters during the lessons, which might affect/relate to teachers' interpersonal role identity. Also, the effect of having a matching interpersonal identity standard and appraisal on teachers' general professional development during their career was not taken into account.

The reliability of one of the scales of burnout (cynicism/depersonalisation) was quite low (.42). Deleting specific items from the scale did not result in a remarkable change and therefore we decided to include all the original items of this scale. This being said, the results concerning burnout, and especially with cynicism/depersonalisation, should be interpreted with care.

9. Suggestions for further research

The scores of high control/affiliation mismatches (B) and low control/affiliation (mis)matchers (C) point out that these teachers can possibly face difficulties with their teacher–student relationship and/or their self-efficacy, burnout and work engagement. This raises the question of what to do with these teachers who are low control/affiliation in terms of their professional development and how to stimulate them to develop towards a 'high control/affiliation matcher'. An opportunity for future research might be to investigate the causal relationship between teachers' interpersonal role identity and teachers' self-efficacy, burnout and work engagement. Also, the relation with other professional development activities of the school could be explored as a possible influential factor for teachers to develop towards a match between appraisal of specific situations and interpersonal identity standard. Therefore, future research should include a larger and representative sample. Such research could also include a more in-depth exploration of the qualitative

interview data and could, for example, focus on investigating (possible) associations between the (number of) affective appraisals (positive/negative/irrelevant) and self-efficacy, burnout and work engagement.

10. Practical implications

High control/affiliation interpersonal identity standards and matching appraisals could possibly be helpful for both student teachers and teachers' professional development at different phases during their career to feel at ease in the classroom and might prevent them from burnout. Teacher educators at teacher training institutes and coaches at schools can (support) student teachers by (1) helping student teachers discover and making them aware of their interpersonal identity standard, (2) stimulating student teachers to develop a high control/affiliation interpersonal identity standard, (3) paying attention to the appraisals of specific situations and (4) facilitating student teachers to grow towards a match between their high control/affiliation interpersonal identity standard and their appraisal of classroom situations. In addition, similar to what is suggested by other researchers (Pillen *et al.* 2013), it would be helpful for coaching and training programmes to make student teachers aware of their teacher interpersonal role identity, their (un)high control/affiliation (mis)match and what the consequences of this might be for teachers' self-efficacy, burnout, and work engagement and its career impact. To investigate the relation between the constructs longitudinally and with a larger sample will offer possibilities to gain insight into how both constructs develop and how they possibly influence each other.

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