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Motivating teacher practices: The role of beliefs and contextual pressures

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Abstract

Teachers are key actors who shape the learning environment and one of their main tasks is to motivate students to learn. Teachers can differ in the way they try to motivate students and their motivational practices can vary from autonomy-supportive to controlling. The present study explored how teachers' personal beliefs and contextual pressures related to their self-reported autonomy-supportive or controlling motivational practices. Nine grade-six teachers at schools with varying student populations were interviewed. Based on their practices, two clusters of teachers were distinguished, teachers who mainly reported autonomy-supportive practices and teachers who mainly reported controlling motivational practices. For the more autonomy-supportive teachers, their practices aligned well with their personal beliefs and preferences, whereas some of the more controlling teachers would actually prefer more autonomy-supportive practices. Underlying reasons for more controlling teaching practices were mainly contextual pressures. Pressures from above such as national standards or high stakes testing were mentioned, but especially pressures from below, referring to negative perceptions of students' abilities, behaviour, background characteristics or motivation, were reasons for more controlling practices. Implications are drawn and suggestions for further research are provided.

Keywords: student motivation; learner autonomy; teacher beliefs; teaching practices; at risk students; teacher expectations of students

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Abstract

Teachers are key actors who shape the learning environment and one of their main tasks is to motivate students to learn. Teachers can differ in the way they try to motivate students and their motivational practices can vary from autonomy-supportive to controlling. The present study explored how teachers' personal beliefs and contextual pressures related to their self-reported autonomy-supportive or controlling motivational practices. Nine grade-six teachers at schools with varying student populations were interviewed. Based on their practices, two clusters of teachers were distinguished, teachers who mainly reported autonomy-supportive practices and teachers who mainly reported controlling motivational practices. For the more autonomy-supportive teachers, their practices aligned well with their personal beliefs and preferences, whereas some of the more controlling teachers would actually prefer more autonomy-supportive practices. Underlying reasons for more controlling teaching practices were mainly contextual pressures. Pressures from above such as national standards or high stakes testing were mentioned, but especially pressures from below, referring to negative perceptions of students' abilities, behaviour, background characteristics or motivation, were reasons for more controlling practices. Implications are drawn and suggestions for further research are provided.

Keywords: student motivation; learner autonomy; teacher beliefs; teaching practices; at risk students; teacher expectations of students; learning environment

Motivating teacher practices: The role of beliefs and contextual pressures

It is increasingly recognized that the learning environment is an important factor in explaining students' motivation for school and their learning outcomes (Eccles & Roeser, 2011; Pintrich, 2004). Teachers are key actors who shape the learning environment (Eccles & Roeser, 2011) and one of their most important tasks is to create a learning environment that enhances and sustains students' motivation and engages students in learning. The present study focuses on the extent to which teachers' motivational practices – referring to all teaching practices that are aimed at encouraging students' learning – are autonomy-supportive versus controlling, and on the reasons behind teachers' motivational practices.

According to Self-Determination Theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000a), autonomy is an innate psychological need for students, and autonomy-supportive motivational practices are believed to foster students' intrinsic motivation (Niemic & Ryan, 2009; Stroet, Opendakker, & Minnaert, 2012; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). However, studies in various countries have demonstrated that many teachers rely on controlling practices using extrinsic rewards and punishments to encourage learning (Pelletier, Se'guin-Le'vesque, & Legault, 2002; Reeve, Jang, Carrell, Jeon, & Barch, 2004; Turner, Christensen, & Meyer, 2009; Turner, 2010). This can partly be explained by teachers' underlying personal beliefs about what motivates students or their preferences toward a certain teaching style, but previous literature has also indicated that contextual conditions, such as school regulations, national standards, or high stakes testing, can pressure teachers towards controlling motivational practices (e.g., Reeve, 2009). These have been referred to as pressures from above (Pelletier et al., 2002). Moreover, teachers' motivational practices may also be affected by pressures from below, i.e., their classroom population. Teacher expectancy literature (e.g., Rosenthal, 1994) has shown that teacher perceptions of their students' ability or background can affect many aspects of teaching and learning outcomes. Yet, little research has

examined how teacher perceptions of their students relate to the type of motivational practices teachers believe to be effective and consequently adopt in their classrooms.

Given the importance of teachers' motivational practices for students' motivation and learning outcomes, the purpose of this small-scale explorative study is to gain more insight into how teachers negotiate their personal beliefs with contextual pressures, and how this influences the extent to which they adopt a more autonomy-supportive or controlling teaching style. As such, this paper will contribute to our understanding of why teachers often rely on controlling motivational practices even though that has been associated with adverse student outcomes.

Autonomy-support versus control

According to Self-Determination Theory (SDT; Ryan & Deci, 1985), motivational practices can vary along a continuum that ranges from very autonomy-supportive to very controlling (e.g., Deci, Vallerand, Pelletier, & Ryan, 1991; Ryan & Deci, 2000b; Vallerand, 1997; Vansteenkiste et al., 2004). Autonomy-supportive motivational practices are aimed at nurturing students' inner motivational resources and volitional intentions to act. Students' autonomy can be facilitated by transferring responsibility of the learning process to students, providing choice, connecting to students' interests, providing explanatory rationales, and by creating meaningful and relevant learning activities. Such practices are aimed at increasing students' own willingness to engage in learning activities. Conversely, controlling motivational practices include pressuring students to think, feel, or act in certain ways, and overruling students' own perspectives. Controlling teachers motivate students by external incentives, pressure, or control instead of relying on students' inner motivational resources. Such practices include the use of external rewards such as grades or directive language (Jang, Reeve, & Deci, 2010; Niemic & Ryan, 2009; Reeve & Jang, 2006; Reeve, Deci, & Ryan, 2004; Vansteenkiste et al., 2004). Although it is often assumed that autonomy-supportive practices and structure are opposites, structure can be delivered in autonomy-supportive ways (Reeve, 2009) by communication of clear expectations, giving directions, providing guidelines, and setting limits. Control is different from structure however, because control implies that teachers exert pressure on students (Reeve, 2009).

Autonomy-supportive teaching has been associated with higher intrinsic motivation and more favourable learning outcomes (Jang et al., 2010; Reeve et al., 2004; Ryan & Deci, 2000a; Vansteenkiste, Lens, & Deci, 2006; Vansteenkiste et al., 2004). Autonomy-supportive teaching in combination with structure has been found to be most beneficial to students' motivation (Sierens et al., 2009). Likewise, research from interpersonal theory demonstrated that teaching styles characterized by high affiliation with students in combination with intermediate levels of control were associated with higher levels of student motivation (Wubbels & Brekelmans, 2005). Moreover, various studies indicated that elements of constructivist teaching which contains elements of autonomy-supportive teaching, such as personal relevance, shared control, and student negotiation positively relate to student motivation (see for example, Fraser, 2012; Henderson & Fisher, 2008; Maulana, Opdenakker, Den Brok, & Bosker, 2012; Ogbuehi & Fraser, 2007). Contrarily, too much dominance or control has been associated with adverse motivational outcomes, such as lower intrinsic motivation, more controlled motivation, or even lack of motivation (Jang et al., 2010; Reeve et al., 2004; Ryan, Deci, 2000a; Vansteenkiste, Lens, & Deci, 2006; Vansteenkiste et al., 2004; Wubbels & Brekelmans, 2005).

In all, these outcomes suggest that autonomy-supportive teaching is beneficial to students' motivation, but these studies have mostly relied on student perceptions of their learning environment (Fraser, 2011; Stroet et al., 2012). Various studies (based on student perceptions as well as teacher perceptions or observations) indicated that in practice teachers often use controlling motivational practices (e.g., Reeve, 2009; Turner, 2010). The choice to use autonomy-supportive teaching practices and its effectiveness may depend on a variety of factors often not taken into account in survey research, such as teachers' personal beliefs, contextual factors, and student characteristics (e.g., Furtak & Kunter, 2012; Iyengar & Lepper, 1999). To gain more insight into these aspects, the present study therefore qualitatively examined the role of teachers' personal beliefs and the contextual pressures teachers may experience in relation to their motivational practices.

Teachers' personal beliefs and their motivational practices

Teachers usually hold very stable long-term beliefs about what motivation is and what type of practices will motivate their students (e.g., Pajares, 1992; Turner et al., 2009; Turner, 2010). Teacher beliefs are developed through teachers' own experiences as learners (Author B and others, 2010; Richardson, 2003), their initial teacher training (Avalos, 2011; Author B and others, 2010; Richardson, 2003), as well as their professional experiences as teachers (Avalos, 2011; Turner et al., 2009).

Often, teachers use controlling motivational practices that may be at odds with motivational theories (e.g., Reeve, 2009; Turner, 2010). Several reasons may account for this difference between motivational theory and actual teacher behaviours. Teachers' personal beliefs about motivation and learning or their role as a teacher may account for some differences (Eisenhart, Schrum, Harding, & Cuthbert, 1988). Teachers may find controlling strategies more effective, because with pressure or control they can make students work without having to encourage their inner motivational resources (Reeve, 2009). Furthermore, the belief that extrinsic rewards will encourage motivation seems to be deeply rooted for many teachers. Also, some teachers may feel they will more efficiently reach their instructional goals when using controlling strategies (Reeve, 2009). Previous research has also shown that teachers' motivational practices do not always correspond with their own motivational beliefs (Mansour, 2009; Raymond, 1997). Some teachers may have personal beliefs favouring autonomy-supportive motivational practices, but there may be factors in the educational context that constrain teachers from teaching according to those beliefs (Mansour, 2009).

Teachers' perceptions of contextual pressures and their motivational practices

Pelletier et al. (2002) described several contextual conditions that may pressure teachers to teach in controlling ways. Contextual pressures can be understood as 'pressures from above' and 'pressures from below'. Pressures from above, that teachers in many countries are faced with, include performance standards (Deci, Spiegel, Ryan, Koestner, & Kaufman, 1982), high stakes testing (Nolen, 2011; Ryan & Brown, 2005; Ryan & Weinstein, 2009) or pressure from school administrations, colleagues, as well as parents (Reeve, 2009). Contrary to pressures from above, 'pressures from

below' arise from the day-to-day interactions within the classroom and refer to the motivational characteristics of the student population (Pelletier et al., 2002). Pelletier et al. (2002) found teachers to resort to more extrinsically-oriented controlling motivational strategies when students appear unmotivated. When experiencing a lack of intrinsic motivation from students, teachers may try to tell students what to do or motivate them by grades or other forms of rewards or punishments. Furthermore, Oakes (1985), found teachers in low-ability schools to put more emphasis on controlling motivational practices and stress conformity and obedience. Likewise, Solomon, Battistich, and Hom (1996) found that teachers who worked at more disadvantaged schools rated their practices as more controlling, held more positive attitudes toward teacher authority and held less positive attitudes toward student autonomy.

Thus far, research on the relation between pressures from below and teachers' autonomy-supportive versus controlling motivational practices is scarce, even though forty years of research on teacher expectancies has shown that teacher perceptions of individual students are very powerful in shaping teaching behaviours and subsequent learning outcomes (Jungbluth, 2003; Jussim & Harber, 2005; McKown & Weinstein, 2008; Nurmi, Viljaranta, Tolvanen, & Aunola; 2012; Rosenthal & Jacobson, 1968; Author A and others, 2010). Important sources that shape teacher perceptions are students' ability levels (Madon, Jussim, Eccles, 1997), social background (Jussim et al., 1996), or ethnic background (Tenenbaum & Ruck, 2007; Author A and others, 2010). In many western countries, teachers are faced with diverse student populations in terms of abilities and background (Bakker & Denessen, 2011) and perceptions of these characteristics can cause differential teacher behaviours. For example, teachers have been found to show less warmth towards low expectancy students, give fewer opportunities to respond, and provide less feedback, resulting in lower achievement (Rosenthal, 1994). Tenenbaum and Ruck (2007) furthermore showed that teacher behaviours towards students from different ethnic groups differed significantly. Teachers were more friendly and encouraging towards European American students than towards ethnic minority students. A recent study by Nurmi et al. (2012) showed that teachers were more actively involved with low achieving students, providing more structure to guide their learning.

Most teacher expectancy studies have focused on within-classroom differences and subsequent differential teacher practices of teachers towards low versus high expectancy students (Rubie-Davies, 2010). Recently, two studies examined how whole-classroom characteristics affect teachers' instructional strategies, showing teacher perceptions of classroom characteristics affect use of extrinsically or intrinsically oriented motivational strategies (Rubie-Davies, Flint, & McDonald, 2012) and students' learning outcomes (Archambault, Janosz, & Chouinard, 2012). These outcomes suggest that motivational practices may indeed also depend on teachers' perceptions of the whole classroom.

Other than the aforementioned studies, few studies have examined how teacher perceptions of their student population affect teachers' controlling versus autonomy-supportive motivational practices. If teachers' motivational strategies are dependent on their perceptions of the classroom, and teachers in perceived 'at-risk' classrooms resort to more controlling strategies to motivate their students, they may actually be undermining students' intrinsic motivational resources. As such, already existing differences in motivation and learning outcomes may actually be exacerbated.

Research questions

To explore the reasons behind teachers' self-reported motivational practices, the following research questions were addressed:

1. What types of motivational practices do teachers report?
2. What are teachers' personal beliefs towards autonomy-supportive and controlling motivational practices and how do these vary for teachers with different self-reported motivational practices?
3. What pressures from below do teachers experience and how do these vary for teachers with different self-reported motivational practices?
4. What pressures from above do teachers experience and how do these vary for teachers with different self-reported motivational practices?

Method

Participants

Nine grade six teachers (six female, three male) from different primary schools across the Netherlands participated. Pseudonyms are used in this paper. In grade six, students are eleven to twelve years old. It is the last year of primary school. The average age of the participating teachers was 40 years and ranged from 25 to 57. On average, they had 12 years of teaching experience, ranging from 2 to 34 years. The teachers were selected from a sample of 37 teachers participating in a larger quantitative study about innovative teaching methods. Selection of teachers for interviews was based on self-report questionnaires with intention the sample would represent maximum variation from teachers that used mostly innovative to mostly traditional teaching methods. On these questionnaires, teachers indicated the level of innovativeness of their teaching methods (for example, collaborative learning, process-oriented instruction, and authenticity of the learning environment) on five-point Likert scales. Scores on these subscales were averaged and ranged from 2.9 to 4.6. Table 1¹ presents an overview of the characteristics of the teachers, classes and schools. The scores on innovative learning were only used to create a sample with maximum variety in teaching methods and were not taken into account in further analyses. Aspects of innovative teaching, do not necessarily imply that teachers teach in more autonomy-supportive ways. Although innovative learning allows for a more autonomy-supportive motivational style, these aspects (for example collaborative learning) could also be delivered in a controlling way. To illustrate this point: Jane had the highest questionnaire scores, but many of her self-reported motivational practices (as will become apparent later on in the paper) were controlling. For example, she indicated a high degree of cooperative learning on the questionnaire, but in the interview she expressed that her students are motivated to work during group work, because they will be held accountable afterwards, instead of the group work and responsibility in itself being motivating.

We work a lot with cooperative tasks. . . . And each student knows they can get the question afterwards.”(Jane).

¹ Footnote to Table 1. Jenaplan and Dalton schools originate from the same reform movement as Montessori schools. In these types of schools, there is a focus on autonomy, active learning and cooperation.

<<<TABLE 1 HERE>>>

Even though schools in the Netherlands vary in level of innovativeness, all schools are held to national standards and use national standardized tests (developed by the Central Institute for Test Development, “CITO”). In grade six, students take a final CITO test that weighs heavily in determining the track students will be referred to (Driessen, Slegers, Smit, 2008). This test can be considered high stakes, as students’ educational futures are largely dependent on outcomes of these tests and outcomes weigh heavily in how the inspectorate judges quality of schools. The participating schools furthermore varied in their social and ethnic classroom composition, which is typical for the Dutch educational system.

Interviews

A single semi-structured in-depth interview was conducted with each teacher. The advantage of using interviews for this study is that it can provide a deeper understanding of the beliefs underlying teachers’ motivational practices and the contextual pressures that they experience. Halfway through the school year, teachers were interviewed at their own schools by either the main researcher or a trained research assistant. Interviews lasted 45 to 60 minutes.

To first get a general idea of the practices teachers employed in their classes, teachers were presented with several vignettes describing schools with varying teaching methods ranging from traditional to innovative. These were used as a starting point to elicit responses regarding why and how they used certain methods, and how they believed their practices affected student motivation. Teachers were encouraged to give explanations and examples. Furthermore, questions aimed at beliefs about motivating students were asked (‘What do you think is motivating to students?’, ‘Can you describe a student that you feel is very motivated?’ ‘How do you try to keep this student motivated?’, ‘Can you describe a student who is difficult to motivate?’, ‘How do you try to keep this student motivated?’). The vignettes and questions about motivating students explored the extent to

which teachers' motivational practices ranged from controlling to autonomy-supportive as well as their beliefs and reasons behind their practices. Follow-up questions on personal beliefs addressed whether teachers favoured controlling or autonomy-supportive practices. In follow-up questions on reasons behind teachers' motivational practices, themes such as the schools' educational concept, school administration and formal regulations were addressed, as well as teacher perceptions of their student population. Teachers were also asked what types of motivational practices they felt suited their student population and why. We focused on teacher perceptions of the student population, rather than on objective information about classroom composition, because teachers' views of their students probably affect their decision making process more than actual classroom characteristics.

Analysis

All interviews were transcribed for analysis. All interviews were conducted in Dutch and analysed in Dutch. Each unit of meaning, referring to a consistent theme or idea, was given a code, using a content analysis approach (Miles & Huberman, 1994). First, all units were coded into six broad target concepts; 1) self-reported motivational practices, 2) personal beliefs or preferences, 3) pressures from above, 4) perceptions of the student population, 5) pressures from below (relations between perceptions of student population and motivational practices), and 6) other. Data in the category 'other' was not taken into account in further analysis. Next, all statements were coded into the subcategories listed in Table 2. Teachers' self-reported motivational practices were further coded as either autonomy-supportive, controlling, or other. Statements indicative of transferring responsibility of the learning process to students, providing choice, connecting to students' interests, providing explanatory rationales, and creating meaningful and relevant learning activities – in other words, practices are aimed at increasing students' own willingness to engage in learning activities – were coded as autonomy-supportive. Statements were coded as controlling when teachers indicated that they motivated their students by external incentives, pressure, or control, such as the use of external rewards such as grades or directive language. Practices were coded as other when self-reported practices appeared to be in between control and autonomy-support, contained aspects of both types of practices, or when a statement did not contain enough information to be certain whether the practice

was controlling or autonomy-supportive. Likewise all statements referring to personal beliefs or preferences were coded into subcategories with personal beliefs being either autonomy-supportive, controlling, or coded as other. All further subcategories are listed in Table 2.

<<<TABLE 2 HERE>>>

The first author and a trained research assistant who also conducted some of the interviews both coded two interviews independently. Full agreement was initially reached on 64% of individual codes. The statements where full agreement was not reached were discussed. Disagreements were mostly found when it was unclear whether a statement was about a practice or about a belief, for example the statement below.

What appealed to me about this new concept that we now use, is the cooperation between students.
(Gemma)

It was agreed that such statements would be coded in both categories. Also inconsistencies arose with some statements referring to providing structure. It was not always clear whether the way of providing structure was controlling or not. These statements were re-examined and compared to definitions from control and autonomy from the literature and it was discussed what would be coded as control and what would be coded as autonomy-support. These statements were then independently recoded full agreement was then reached on 76% of statements. After examining and discussing disagreements again and refining the coding scheme further, another interview was then independently recoded by both coders and final inter-coder agreement on this interview was 86%. The first author then recoded the initial two interviews and the remaining interviews accordingly. Table 2 provides the final coding scheme.

To answer the research questions, it was examined how many statements referred to self-reported autonomy-supportive and controlling practices. Based on the percentage of autonomy-supportive and controlling practices reported by each teacher, two distinct clusters of teachers were

identified (the clustering is further explained in the results section). Thereafter, these two clusters of teachers with distinct practices were compared on their beliefs and the contextual pressures they experienced, as well as on how these beliefs and pressures affected their self-reported practices.

Results

Below, the results are presented separately for each research question.

1. What types of motivational practices do teachers report?

A total of 159 statements (13 to 27 statements per teacher) referred to teachers' self-reported motivational practices. Statements indicative of transferring responsibility of the learning process to students, providing choice, connecting to students' interests, providing explanatory rationales, and creating meaningful and relevant learning activities were coded as autonomy-supportive. This was the case for 30% ($N=47$) of the statements referring to self-reported motivational practices. A similar amount of statements, 31% ($N=50$ statements) were coded as controlling and included statements in which teachers indicated that they motivated their students by external incentives, pressure, or control. Statements that did not clearly belong to either category (39%, $N=62$) were coded as 'other' and were most frequent. All teachers reported practices that were coded as 'other', this varied from 22,7% of statements to 53,8% of statements. This category contained statements that were in between or formed a combination of autonomy-support and control, or did not contain enough information to code them as either autonomy-supportive or controlling, for example "*It is not like I don't give them instruction, or I don't have moments I'm in front of the class, because I do*" (Gemma). In this example referring to Gemma's practices, it is not clear whether Gemma teaches in a controlling or autonomy-supportive way when she is in front of the class. The percentage of controlling and autonomy-supportive statements per teacher are displayed in Figure 1. The table below Figure 1 also displays the percentages of motivational practices coded as 'other'.

<<<FIGURE 1 HERE>>>

When comparing the number of statements referring to autonomy-supportive or controlling practices, two clusters of teachers could be distinguished. The first cluster includes teachers who reported more controlling than autonomy-supportive statements. This cluster (*‘Controlling’*) includes the teachers Bert, Cathy, Rachel, and Jane (the four teachers on the left in Figure 1). The second cluster includes teachers who reported more autonomy-supportive than controlling statements. This cluster (*‘Autonomy-supportive’*) includes Ella, Gemma, Anne, Tom, and Sam. In the paper teachers from the two clusters are referred to as controlling or autonomy-supportive teachers, but it is important to note that these clusters do not refer to different types of teachers with stable teaching styles, but it refers to teachers who differed in their self-reported practices at the time of the interview, with their particular class, and in a particular context. These practices most likely arise from teachers’ personal beliefs as well as interactions with the context and can therefore not be generalized to other contexts.

As expected, there was variation within the clusters. Bert from the controlling cluster was a clear example of a consistently controlling teacher, who explained that his students have to do as they are told. Cathy and Rachel also reported a majority of controlling practices, but contrary to Bert they also reported some autonomy-supportive practices. Finally, Jane was also classified as controlling, since she reported more controlling than autonomy-supportive practices, but most statements by Jane were classified as ‘other’ and were often in between autonomy-supportive and controlling practices. Variation was also found in the autonomy-supportive cluster. Sam did not mention any controlling practices, whereas the other teachers in the autonomy-supportive cluster also mentioned some controlling practices. In line with previous research (e.g., Reeve, 2009), teaching practices were thus found to vary from autonomy-supportive to controlling. Even though literature suggests that autonomy-supportive practices are more favourable for student outcomes, all teachers except Sam reported using some controlling motivational practices, such as using extrinsic rewards and directing students without providing choice or rationale.

2. What are teachers' personal beliefs towards autonomy-supportive and controlling motivational practices and how do these vary for teachers with different self-reported motivational practices?

A total of 103 statements (7 to 16 statements per teacher) referred to teachers' beliefs regarding autonomy-supportive versus controlling teaching practices. A statement in which teachers expressed a preference towards any aspect of autonomy-support or expressed an opinion that students would benefit from such an aspect, was coded as autonomy-supportive. This was the case for 54% ($N=56$) of statements, 24% ($N=25$) were coded as controlling, and 21% ($N=25$) as 'other'. Table 3 shows the percentage of statements expressing a belief towards autonomy-supportive or practices separately for the two clusters: the teachers who reported mainly autonomy-supportive motivational practices and the teachers who reported mainly controlling practices.

<<<TABLE 3 HERE>>>

As expected, teachers in the autonomy-supportive cluster more frequently expressed beliefs in favour of autonomy-support (66%) compared to the teachers in the controlling cluster (37%). Ella (autonomy-supportive cluster) for example believes students become motivated when they feel responsible and when the rationale for what they are learning is explained.

[I think it's motivating] when you give them the feeling that they are responsible, that they are engaged with the learning materials. If you'll tell them, already during instruction, why they are learning this. And because of that they want to learn it, not because they have to. (Ella)

Likewise, teachers in the controlling cluster more frequently expressed beliefs in favour of control (44%) compared to the teachers in the autonomy-supportive cluster (11%). It is however surprising to note that even for teachers in the controlling cluster, less than half of the beliefs they expressed included a preference for control. Moreover, they mentioned a preference for control almost as frequently a preference for autonomy-support. A more detailed examination of the beliefs expressed by each teacher is depicted in Figure 2. The four teachers on the left are teachers in the controlling cluster, and this cluster shows great variety in personal beliefs. Bert and Cathy seem very much in

favour of controlling practices, whereas Jane and especially Rachel appear to be much more in favour of autonomy-supportive teaching. For the five teachers in the autonomy-supportive cluster, their beliefs seem much more aligned with their practices.

<<<FIGURE 2 HERE>>>

According to Reeve (2009), one of the reasons controlling motivational practices are common is because many teachers have personal beliefs favouring such practices. This indeed seems the case for Bert and Cathy, but not for Rachel or Jane. Especially Rachel expressed very clear preferences towards autonomy-supportive motivational practices, stating the importance for students to be responsible for their own learning and the importance of creating relevant and authentic learning experiences.

I would love it if we had corners in class, like a real ‘fractions corner’ and that it would be like: ‘Go ahead, there’s a pizza laying there’ or ‘Go ahead and cut this pancake today’. That they would be interested what is laying there and then start to think ‘Aha, you can divide it in four pieces’ and they would suddenly get it. (Rachel)

Contrarily, Bert and Cathy expressed preferences towards a more controlling teaching style.

The teacher decides. A rule is a rule, simple! (Bert)

I believe they are really motivated by grades. They want tests and grades. (Cathy)

Another reason besides personal preferences for teachers to resort to controlling motivational strategies according to Reeve (2009) is that many teachers confuse structure and control, and they hold the personal belief that they need to be directive or emphasize external rewards to provide students with sufficient structure. This ambiguity between structure and control can come about as structure can be delivered in both controlling and autonomy-supportive ways (Jang et al., 2010; Reeve, 2009; Sierens, Vansteenkiste, Goossens, Soenens, & Dochy, 2009). In a few teacher

statements that were indicative of a preference for controlling practices, structure and control indeed appeared to be entangled. This was found for teachers from both clusters, although most frequently among the controlling teachers.

You're not going to offer ten strategies to the weaker students, they'll crash. They have to be told one way, very directive. You'll do this, this fits you. (Tom)

In the statement above, Tom prefers to limit the choices of his weaker students to provide them with structure, but Tom provides this structure by directing students without offering a rationale. A few statements, especially of teachers in the autonomy-supportive cluster, report more autonomy-supportive ways of providing structure.

Some children, you'll keep them closer, because you know that's what they need. You'll talk to them about 'what steps are you taking', but that really depends on their level. (Anne)

Although there were a few statements referring to autonomy-supportive ways of providing structure, controlling ways of providing structure seemed more common for teachers in both clusters.

3. What pressures from below do teachers experience and how do these vary for teachers with different self-reported motivational practices?

Teachers were asked to describe the characteristics of their student population. Some teachers in the autonomy-supportive cluster (Ella, Sam) describing their students to be from middle to higher class families were positive about their students' abilities, while others (Tom, Anne) mostly emphasized differences within the classroom.

On average, these are children with highly educated parents, high social status absolutely. . . . What you notice is that when children come from a family where mom and dad went to college, they are

people who perceive life in a different way. They are more explorative, more philosophically oriented. (Sam)

You have the extremes. And well, some are average some are . . . Some are just doing fine, others tend to fluctuate, some do well, and others are below average. Well, it differs. (Tom)

Contrary to the other autonomy-supportive teachers, Gemma described that she was dealing with a more at-risk student population. That year she was assigned a class that was known to be difficult.

When they came in, their achievement was low, a difficult group. . . . Difficult children, a lot of bullying, bad results. Almost beat the . . . out of each other, so to speak. (Gemma)

Except for Jane, who described her student population as average, the other three teachers in the controlling cluster (Rachel, Cathy, and Bert) considered their student population to be at-risk, indicating that their students were either of low ability, from a disadvantaged background, or having behavioural difficulties.

Their socio-emotional behaviour was like . . . Let's just say, it was pretty bad. That's why we decided to seat the students individually, because they were attacking each other with pencils and scissors. (Rachel)

This neighbourhood is socially pretty weak. The nickname of this neighbourhood is vale of tears, that says enough. . . . A lot of people from socially disadvantaged backgrounds came here. The number of ethnic minority children at this school is quite large. All those people, they bring their own culture, their own way of life, and ehm, yes, socially, together . . . doing things by themselves, it's not as well developed here. (Bert)

Especially when there were many ethnic minority students in the class, and when there were few opportunities for these students to come into contact with Dutch children – which was especially the case in Cathy's class, which consisted of only ethnic minority students – students' language ability levels were considered problematic.

They live in this neighbourhood, where they have a lot of family. They visit each other but don't have any contact with Dutch children. . . . If you ask them to read a text and indicate which words they don't know, they'll give you a huge list. You think, o my, I didn't expect there to be so many. So when you tell them you want them to read the text and answer the questions by themselves, you know in advance there's no use. They just don't know enough. (Cathy)

In Figure 3, teachers' perceptions of their student population are summarized. An interesting pattern thus emerged with most of the autonomy-supportive teachers perceiving their classrooms in more positive ways (with regard to ability level, behaviour, motivation) or indicating that their students were from more privileged backgrounds in comparison to the controlling teachers who described their students to be more at-risk.

<<<FIGURE 3 HERE>>>

An interesting exception to this pattern was Gemma who described her students to be at-risk in terms of ability levels and behaviour when they first entered her class, yet she reported a teaching style that could be considered autonomy-supportive. Gemma explained that the characteristics of her students did not determine her motivational practices. In her opinion, the characteristics of the classroom population do not have to define motivational practices, as long as sufficient structure is offered.

For years now, I am the grade six teacher at this school, so you hear, that [difficult] group is coming. Well, I actually did not care about that from day one. Yes, well, I do of course, but you try to shape that, to work on that and results are shooting up. . . . You have to be consistent and strict. . . . That's when they can learn by themselves or together. (Gemma)

Hence, Gemma considered the at-risk characteristics of her group something that could be turned around. On the contrary, most controlling teachers (Bert, Cathy, Rachel) explicitly expressed that

their students lacked the characteristics necessary for autonomy-supportive teaching, and considered this to be a given. Perceptions of their students' background and abilities were indeed described as one of the main reasons behind their controlling motivational practices.

Most of the students, they cannot handle responsibility. . . . Responsibility is something far out of reach. I doubt whether these children will ever develop that. They don't even learn that at home.
(Rachel)

Some are like 'okay, I can decide for myself and not everything gets checked? O, then I'll just say I've finished. Fine!' They see it is a perfect way to get away with it. Well, then you'll be like, maybe it's a process of learning for them too, but it's not exactly what we envisioned. . . . A bit too loose and independent and they don't know how to handle freedom (Cathy)

According to Pelletier et al. (2002), teachers who perceive their students as unmotivated are more likely to rely on controlling motivational practices, referred to as pressures from below. In addition to motivation, it seems that when the teachers in this study perceived their class to include many low ability, low SES, ethnic minority, or many behaviourally difficult students, they also experienced significant pressures from below towards controlling teaching methods. For example, Cathy felt her class, which consisted of only ethnic minority students with Dutch as their second language, had such severe delays in language and other areas that she had to resort to controlling motivational practices.

They lag behind in so many areas, that you just pump as much information into them as possible. . . . They'll drown when they have to do anything by themselves. It's like 'I don't know' or 'I don't get it'. (Cathy)

Interestingly, both Cathy and Bert had experiences with more autonomy-supportive motivational practices. Based on these previous experiences and what they believed would best suit their student population, both Cathy's and Bert's schools changed to more controlling practices, which was something both teachers seemed to agree with.

We used to be a Jenaplan² school. . . . But the school population cannot handle it. Many children are not used to working independently. So we abandoned that Jenaplan idea a couple of years ago. (Bert)

Before, we intentionally introduced independent learning, planning their own work. . . . For many students it did not lead to the results we had hoped for, because they don't seem to pick up on it. So now there was a conscious decision that, in this last year, we would try to cram as much into them as possible and hope they'll reach a nice level. And working independently, how useful it may be, it's not a priority. Well, at least they've worked with it. . . . The choice really was 'the teacher decides and the students have to follow'. (Cathy)

On the contrary, after some negative evaluations by the inspection, Rachel was among a group of teachers hired specifically to implement autonomous teaching methods to improve results. But even though Rachel personally strongly favoured autonomy-supportive teaching methods and felt supported by her school administration, she experienced difficulties implementing that with her current class.

We hope to work towards [more independent learning], but we are very realistic. We don't think we'll ever reach the same level as in our old school. (Rachel)

Like Cathy and Bert, Rachel often felt she could not use autonomy-supportive motivational practices with her students, suggesting that these controlling teachers felt severe pressures from below. For Bert and Cathy who preferred controlling ways of teaching, these pressures corresponded with their personal beliefs, but for Rachel, who preferred more autonomy-supportive methods, the experienced pressures from below were the main reason she relied on controlling strategies. Anne from the autonomy-supportive cluster, had previously worked at a more disadvantaged school and described being more controlling with those students. She felt her current student population with more privileged backgrounds was more suited to autonomy-supportive teaching methods than the students at her previous school.

² see previous footnote.

Last year, I taught at ... an “educational opportunities school”. The majority had ethnic minority parents or were from unstable homes. ... You have to adjust to that.... The kids I have now, I can let them work independently, just because I see that they can do that and they are able to manage that. I just have to check, support them, and guide them. And if I look back at last year, that was not possible. I really had to take them by the hand, I had to keep a close eye on them, and just tell them what to do, all the time. (Anne)

Especially Bert, Cathy, and Rachel considered their students to be an at-risk group, but they also experienced additional pressures from below from individual students that were perceived even lower in ability, motivation, or more difficult in behaviour, resulting in more controlling, extrinsically orientated, motivational practices. In the case of Bert, who already described his own overall practices as rather controlling, it appeared that when he experienced additional pressures from below, he became even more controlling, even to a point where harsh practices, sometimes even involving students receiving penalties in front of their peers, were mentioned.

... sometimes it works best to motivate [students] in a harsh way. By really having a go at them. Take for example this one boy. I really had a go at him in class, while the whole class was there. I got really angry at him, because he point-blank refuses to hand in his assignment. ... For some students, that motivates. (Bert)

Most of the other teachers (Jane, Tom, Ella, Sam, Anne) did not experience pressures from below from their whole class, but all of them experienced differences within their classes that affected their motivational practices. In their experience, some students in their class, mostly those lower in ability, less motivated, or more difficult in behaviour, needed to be offered more structure than other students in order to motivate them. This was mostly offered in controlling ways.

We focus very much on ‘learning to learn’, our text books are also like that. For some students that’s difficult. I’ll just tell them ‘This is how you must do it’, otherwise they’ll get confused. They barely understand one approach and then something else comes up, that confuses them. ... I offer multiple

strategies, that's just in the text books, and you'll say to those children just pick that one and forget about the others. Other children are able to do that, they don't find that difficult. (Jane)

With learning stuff it's hard [to motivate him]. But if you say 'Come on, then you can go play soccer outside for ten minutes' then he might go on for a bit. (Ella)

Contrarily, only Sam and Tom seemed to have found ways to motivate their at-risk students in more autonomy-supportive ways, such as appealing to students' own responsibility or addressing their interests.

He is almost impossible to motivate. We'll try every trick in the book to get him involved. We try to relate to his interests. He is for example crazy about the Muppets and making puppets, so he can write a story about the Muppets. He loves Alice Cooper, so we did that with music lessons. (Sam)

That unmotivated student, I talk with him. What is going on? Why is that? And also address it: Okay, here we are, I'd like to see change. So you'll know what I want, how are you going to do that? (Tom)

In all, the paragraphs above seem to suggest a pattern that indicates that teachers who perceive their class as more at-risk find controlling motivational strategies more suitable for those students. This corresponds to research by Solomon et al. (1996), suggesting that teachers at more disadvantaged schools are more inclined towards more controlling ways of teaching. Moreover, when teachers considered individual students within their class to be at-risk they found controlling motivational strategies more suitable for those students, feeling that not all students have similar needs for autonomy or that some students lack the skills necessary to handle any autonomy.

During the interviews, relatedness emerged as an important theme. According to SDT, students have an innate need to feel cared for, to feel a sense of belonging, and to form strong and enduring interpersonal relationships with others and this need has to be fulfilled in order for students to be intrinsically motivated (Stroet et al., 2012). Accordingly, most teachers (Ella, Tom, Gemma, Rachel, Bert, and Cathy) talked about the crucial importance of creating a good relationship with their students and creating a positive learning climate in order to be able to motivate students.

They only learn when they are in a nice environment. Nice is nice. Just having a good atmosphere and everybody is themselves. . . . You got to have that flair of teaching, being a fun teacher. I'll only have to do this [blinks] and they'll do everything. (Gemma)

Especially those teachers who considered their classroom population to be at-risk emphasized the importance of relatedness (Rachel, Cathy, Gemma, and Bert). It is important to note that this also refers to self-reported practices. Especially in the case of Bert, one might wonder whether he actually succeeded in creating a good relationship with his students given his harsh practices. However, regardless of whether or not teachers succeeded in creating a warm relationship with their students and between students, it appeared that to them a high level of control went alongside a high level of relatedness. Several reasons may account for that. Teachers with a more controlling teaching style may also focus more on relationships to compensate, as they may feel that learning activities are not intrinsically motivating to students. Establishing good relationships may be more important under such conditions.

Some students just learn for me. Because the teacher has got to have a high grade for the inspector, so that's what I'll work for. . . . I build a good relationship with them. The jokes I pull, the things we are able to say to each other. . . . Because of that they are more motivated to do the work. (Bert)

They like to relax in between, just to talk and we make time for that. Like 'guys, who has something nice to talk about?' or 'Has anything happened?' and if somebody has a story, we make time for that or just for a joke. And after that, it's 'Let's go again! Back to work!' (Cathy)

Moreover, creating a warm classroom climate may be more urgent and a bigger challenge to teachers with more difficult classrooms. Because teachers with more difficult classes have to invest more effort in establishing good relationships with students, they may focus more on supporting students' relatedness.

That bond I feel with them, especially now. . . . The first three weeks it was a battle, that bond had to develop, but now I just feel it's coming from both sides. When I'm enthusiastic, they are. (Rachel)

Finally, teachers with students from more disadvantaged backgrounds seemed to experience a greater need for relatedness from their students, as illustrated below.

You just feel that this student is all alone. At the beginning of the year he was a real bully ... but that totally turned around. I feel like he has to do everything by himself, all alone. ... The first thing he does in the morning is wave until I see him. Just now he came in for his football, but without the ball he would've been here too. [He is] just looking for contact. Well, if I can be the safe haven in his rough life, I'm happy to do that. ... And there are more students... (Rachel)

The teachers in our sample that considered their students to be an at-risk population (Bert, Cathy, Rachel, and Gemma) seemed to experience a greater need for relatedness and addressed this by focusing more on establishing a good relationship and a pleasant classroom atmosphere. Most teachers in the autonomy-supportive cluster did not mention building a good relationship with their students and among students as a way of motivating them. This could indicate that relatedness is taken for granted by these teachers, but it could also be that relationships with their students are already quite good in these classrooms. Teachers may therefore focus more on issues they consider to be more urgent for their population.

4. What pressures from above do teachers experience and how do these vary for teachers with different self-reported motivational practices?

As discussed in the previous paragraphs, pressures from below were important reasons for controlling practices for most teachers in the controlling cluster (Bert, Cathy, and Rachel). The other controlling teacher, Jane, mentioned pressures from above as a reason for controlling practices. She expressed that controlling practices are sometimes more effective when performance standards need to be reached.

It would be good if lessons related more to students, but that has to fit within the allocated time ... But like today, it cannot be all fun and games and sometimes there are rules, and that's it. (Jane)

Not only Jane, but all nine teachers discussed factors that could invoke pressure such as meeting performance standards set by the inspectorate, high stakes testing, having to follow textbook methods used at the school, or adapting to the broader school educational philosophy. The degree to which these factors were also experienced as pressuring, conflicting with personal beliefs, or affecting their motivational practices differed between teachers. Especially the autonomy-supportive teachers experienced clear friction between these pressures from above and their personal beliefs.

I believe that authentic learning experiences are really important. So, I try to invest time and effort in that, but daily reality shows that it's not always possible, because you're restricted to certain teaching methods or certain standards set by the inspectorate. (Sam)

According to SDT, high stakes testing can undermine students' autonomous motivation and promotes a controlling instructional approach (Ryan & Weinstein, 2009). As such testing is often mandatory, and teachers held accountable for the outcomes, it can be one of the main reasons for teachers to rely on controlling teacher practices (Reeve, 2009). Across both clusters, teachers were forced to administer high stakes tests, but most teachers did not experience this as pressuring. In fact, it was mostly considered a helpful way to monitor student progress.

I think it [testing] is important. You keep track of a student, how he or she is doing. (Sam)

We use these tests to monitor their progress, see where there are gaps in their knowledge, where extra help is needed. And results are very clear for parents. (Cathy)

We talk about [test results] with the kids . . . We have to, partly because of pressure by the inspector. But well, I don't think it's a bad thing. (Bert)

According to the literature, high stakes testing and rewarding students with grades are believed to undermine students' intrinsic motivation (for example, Ryan & Weinstein, 2009), but their impact tends to depend on the way they are delivered (Deci & Ryan, 1985). Gemma perceived formal assessment to be a pressure from above, but used the tests in such a way that students could reflect

own on their progress. Hence, she used the external outcomes of formal testing, the grades in an autonomy-supportive way.

We are obliged to do formal assessments three times a year. It gives an impression. Fine. I'll look at it. I'll have to look at it. But, if it were up to me, we'd be throwing out all of those tests. I know it already. . . . Children reflect on their progress, why did I get a ten on that test and a four on the other on? It's because of this or because of that. . . . Children have to look at themselves and progress through that. My children know that pretty well, why am I struggling with language and succeeding at math? (Gemma)

Ella also considered formal assessment to be a pressure from above, dealing with that by putting a greater emphasis on alternative ways of evaluating student progress.

We have the children write us [the teachers] a letter, we respond to it. We mention a couple of topics that need to be addressed in the letter: 'How do you feel in the class, who do you like to spend time with, what are you good at, and what would you still like to learn?'. We have a sort of registration book, with a lot of things in it. Which books have you read, what presentations did you do, yes, it also contains their achievement outcomes. Their letters are also included in that. (Ella)

Across both clusters, teachers mostly felt comfortable with the educational concept, policies, or textbook methods used at their schools. Teachers in the autonomy-supportive cluster were mostly working at rather innovative schools, supporting autonomy-supportive motivational practices. As such, pressures from above can also be pressures toward more autonomy-support.

Our teaching methods already connect to students' worlds pretty well. But other than that, you think of extra examples, or have it coming from the kids. (Anne)

Well, group work is motivating for example. . . . That's what's really appealing about the 'BAS' project [reform trajectory the school is in]. (Gemma)

We are using textbook method M. That's with real examples. And with language, we use method P. It's not like a method, it's playful, a lot of doing, experiencing. So they learn, not just by books, but you can really connect to children. (Ella)

Cathy and Bert were working at schools supporting controlling ways of teaching as their school administrations also felt controlling ways were more suitable to their student population.

We are doing 'modelling', it's part of a trajectory we have been doing for a while. It means that we show the best way to perform a task. Here is a text, what are you looking at? No, you don't just start reading it, you first check the title. (Bert)

Rachel personally preferred an autonomy-supportive teaching style which she was supported in developing at her school. Her difficulties in actually realising more autonomy-supportive ways of teaching were mostly attributed to pressures from below.

Overall, national standards, high stakes testing or the textbook methods were sometimes considered pressuring, especially by the autonomy-supportive teachers, but most teachers also found ways to deal with these pressures in ways corresponding with their beliefs. National standards, high stakes testing or textbook methods were not considered pressures by most teachers in the controlling cluster. In both clusters, teachers felt supported by their schools to teach according to their personal beliefs, so the educational concept of the school was not considered a pressure by any of the teachers in our sample.

Discussion

The purpose of this study was to gain a more thorough understanding of the reasons behind teachers' motivational practices, as teachers' motivational practices shape students' learning environment. Two clusters of teachers were distinguished. One cluster included teachers who mainly reported autonomy-supportive practices and the other cluster included teachers who reported mainly controlling practices. The underlying reasons that were reported for autonomy-supportive and controlling practices are

summarized in the model displayed in Figure 4. Autonomy-supportive teachers mostly held personal-beliefs in favour of autonomy-support, for example that their students would benefit most from autonomy-supportive practices. Their beliefs aligned well with their practices and were mentioned as a main reason for their autonomy-supportive practices. Also pressures from above, such as performance standards or high stakes testing, could be a reason for autonomy-supportive practices. Reasons for controlling practices were more diverse. Some teachers held personal beliefs in favour of control and these could be reasons for more controlling practices, but teachers also reported controlling practices despite personal beliefs in favour of autonomy-supportive practices. Pressures from above were experienced by all teachers and pressured some, but not all, teachers towards more controlling practices. Negative perceptions of students' ability, background, motivation or behaviour seemed to be an even stronger weighing pressure for controlling practices. Teachers in both clusters experienced such pressures from below. For teachers in both clusters this could refer to negative perceptions of individual students, which led to more controlling practices with these students. For most teachers in the cluster with mostly controlling practices, pressures from below also referred to negative perceptions of whole-class characteristics. These teachers felt that their class lacked the abilities necessary for autonomy-supportive teaching.

<<<FIGURE 4 HERE>>>

Furthermore, Figure 4 also shows another theme that emerged during the study and that was the role of interpersonal relatedness. Controlling practices as well as pressures from below appeared as a reason for teachers to create a stronger affective bond with their students and a warm classroom climate. These outcomes contribute to our understanding of the reasons behind teachers motivational practices and how they try to create a motivating learning environment for their students. Below, a number of key issues that need further discussion will be addressed. Below, a number of key issues that need further discussion will be addressed.

The crucial role of teacher perceptions of their students in explaining motivational practices

While previous literature has emphasized how pressures from above may explain teachers' controlling motivational strategies (e.g., Reeve, 2009; Niemiec & Ryan, 2009; Ryan & Weinstein, 2009), the outcomes of the present study suggest that pressures from below weigh more heavily for teachers. In many countries, teachers are faced with diverse student populations, and some schools are mostly populated by at-risk students (Bakker & Denessen, 2011). A concerning finding of this study is that especially when teachers considered their students to be at-risk (i.e., low-ability, unmotivated, difficult in behaviour, or from disadvantaged backgrounds), they relied much more often on controlling strategies. All teachers indicated the importance of structure, especially for at-risk students. Structure can be delivered in either autonomy-supportive or controlling ways, but previous literature has suggested that many teachers confuse providing structure with control (Reeve, 2009). Accordingly, in this study, teachers reported mostly controlling ways of providing structure for at-risk students. Even autonomy-supportive teachers described being more controlling with the at-risk students in their class. As autonomy-supportive practices are believed to encourage intrinsic motivation (Jang et al., 2010; Vallerand, 1997), increase deep learning strategies and promote self-regulated learning (Deci et al., 1991; Vansteenkiste et al., 2004; Vansteenkiste et al., 2006), the controlling strategies used by these teachers could thus prevent at-risk students from actually becoming motivated and independent learners. This may actually cause already existing differences in motivation, learning and achievement to be exacerbated. This is especially concerning as previous research suggests that teacher perceptions of their students can be based on biased beliefs rather than actual information about students' ability levels (Author A and others, 2010).

Within teacher expectancy literature, it has been suggested that teachers' perceptions of individual students can explain a wide variety of teaching behaviours (e.g., Rosenthal, 1994). Accordingly, the outcomes of the present study show that teachers are more controlling students that they perceive to be more 'at-risk'. Moreover, not only perceptions of individual students matter. The extent to which teachers adopt an autonomy-supportive or controlling teaching style in general seemed to depend on their perceptions of their student population as a whole.

Our results also suggest that the model presented in Figure 3 may be cyclical in nature. Teachers' prior experiences appeared to inform their personal beliefs and preferences towards either controlling or autonomy-supportive motivational practices. Prior experiences of success or failure of their motivational practices with certain student populations seemed to confirm or dismiss previously held beliefs about the extent to which they felt autonomy-supportive motivational practices were suitable for their students. Teacher perceptions of their students as well as their prior experiences with other student populations thus seem very important to take into consideration when examining teachers' motivational practices.

Are students' needs universal?

SDT suggests that students' needs for autonomy, competence and relatedness are cross-cultural universal needs that apply to all students (Reeve et al., 2004; Ryan & Deci, 1985). However, most teachers in this study expressed a different view and felt that students can differ in the strength of their needs. At-risk students were perceived to have less need for autonomy, but a greater need for relatedness in comparison to other students. Whereas SDT emphasizes the disadvantageous effects of a controlling approach on students' motivation, teachers using controlling motivational practices were often well intentioned, believing that such practices suited their students' needs better. Teachers expressed the view that more controlling strategies actually nurtured the specific needs of their at-risk students. To them, this was an adaptive approach, based on their assumption that not all students had similar needs for autonomy.

Moreover, teachers in more disadvantaged classes were more concerned with the socio-emotional climate of the classroom as they experienced a greater need for relatedness from these students for whom a good relationship with the teacher may act as a buffer to protect them from negative motivational outcomes for which they are more at-risk. Contrary to SDT that emphasizes the universality of needs (Ryan & Deci, 1985), Hamre and Pianta (2001) suggest that students from more disadvantaged backgrounds may have a greater need for relatedness. Especially for students from more disadvantaged backgrounds, school culture may be different from what they are accustomed to at home. A good relationship with teachers may be essential in preventing this disparity between the

home and school environment from being harmful. Moreover, these students are at greater risk for disengagement and good relationships with teachers may have a preventative, ‘buffering’ effect (e.g., Hamre & Pianta, 2001).

Several studies, especially cross-cultural studies, have addressed the issue of universality, suggesting that the strength of students’ needs may depend on students’ background characteristics. Depending on the parenting style, students may differ in the extent they are accustomed to deal with autonomy. In cross-cultural studies, it is argued that autonomy is a value of Western, individualistic societies and that it may not be as beneficial to students who have a background from more collectivistic cultures (Kitayama, Snibbe, Markus, & Suzuki, 2004; Markus & Kitayama, 2010). Iyengar and Lepper (1999) for example showed higher levels of autonomy increased motivation of Anglo-American children, but Asian children were more motivated when trusted authority figures made choices for them. Sheldon, Elliot, Kim, and Kasser (2001) showed that members from collectivistic cultures find relatedness more fulfilling than members from other cultures. Moreover, Deci, Ryan, Gagné, Leone, Usunov, and Kornazheva (2001) found that people from Bulgaria were less negatively affected by a controlling climate.

In all, the outcomes of these studies do not claim people from some cultures or backgrounds lack the need for autonomy, competence, or relatedness, *but* they do suggest – in line with beliefs expressed by teachers in our study – that there may be differences between students in need strength and that there may be different ways to meet those needs. The issue of differences in need strength has hardly been examined and even though research shows overall positive effects of autonomy-support or relatedness (e.g. Stroet et al., 2012), that does not exclude the possibility that some students may benefit more than others. The views held by teachers also suggest that students’ needs or the ways to fulfil them not only depend on their ethnicity or culture, but that these may also depend on other characteristics, such as ability levels, SES, or behavioural characteristics.

Interaction between control and relatedness

Another interesting issue emerged from our study. Particularly the controlling teachers thought it was important to create a warm classroom climate and to develop a good relationship with their students.

Also other studies have shown that higher levels of control appear to go alongside higher levels of relatedness (Nichols, 2006). The controlling teachers experienced a greater need for relatedness from their students, but they also indicated they needed that bond to encourage students to engage in learning activities they may not autonomously want to engage in. As controlling teachers rely more on extrinsic strategies (such as ‘learning for the teacher’), a well-established affective relationship with their students may thus be more important. Abundant research has shown that students’ affective relationship with their teacher (e.g., Cornelius-White, 2007; Roorda, Koomen, Spilt, & Oort, 2011) is crucial to their motivation. That may especially be so when teachers use controlling motivational strategies. None of the teachers in the controlling cluster thought their students felt controlled or pressured, particularly because of the strength of the teacher-student relationship. According to these teachers, this indicates that when students experience an affectionate bond with their teacher, yet experience controlling practices, they may not perceive these as frustrating their needs. A certain degree of control, when delivered in a highly affectionate way, may perhaps not necessarily undermine students’ motivation. Although SDT has not specifically addressed the issue of potential interactions between relatedness and control, this has been described in interpersonal theory (Leary 1975 in Wubbels & Brekelmans, 2005). According to this theory, a teaching style which involves both intermediate levels control and affiliation is most beneficial for students’ engagement.

Implications for teacher education

This study also has implications for teacher education. First, the study shows that teachers find it harder to teach at-risk students in autonomy-supportive ways. This highlights the need for pre- or in-service teachers to develop understandings about motivating students in classrooms with diverse student populations. Second, teacher education programs have the potential to provide experiences where pre- or in-service teachers can examine the factors that influence their beliefs about students (for example, SES, ability levels, ethnic background). Building awareness of how such beliefs are formed and influence teacher behaviour may provide a grounding with which future teachers may exercise some caution in their own practice.

Future directions

Before discussing implications for further research, a number of limitations of the present study need to be addressed. First, only teachers' self-reported motivational practices were taken into account. Although leading to a deeper understanding of teachers' experiences, self-reports may not fully reflect the actual motivational practices they employ in their classrooms. Future research could address this by including classroom observations of teacher behaviours. Also, specific characteristics of the Dutch educational context and the small sample size – however representing a broad diversity of teaching practices and school populations – may limit the generalizability of our findings. Further research is needed to examine whether similar patterns can be observed across different educational contexts. Due to its explorative nature, only a small sample of teachers was included. Larger studies are needed to further confirm the framework that resulted from this study. Nevertheless, the outcomes of the study provide a useful framework which can serve as a starting point for further research and point to a number of important implications for future research and practice.

The outcomes show that theoretical notions and teacher views of how to create a motivating learning environment for students are clearly distinct. The beliefs held by teachers suggest that controlling motivational practices – for some students and under certain conditions – may not be as harmful as suggested in literature. As this study focused on teacher perceptions, more research is needed to unravel whether different student characteristics actually relate to the strength of students' needs and the ways teachers can meet students' needs. Moreover, future research is especially needed to uncover how socio-emotional aspects of the teacher-student relationship may interact with controlling motivational practices. It thus seems important to not only consider *what* motivational practices teachers use to shape the learning environment, but also *how* these practices are enacted.

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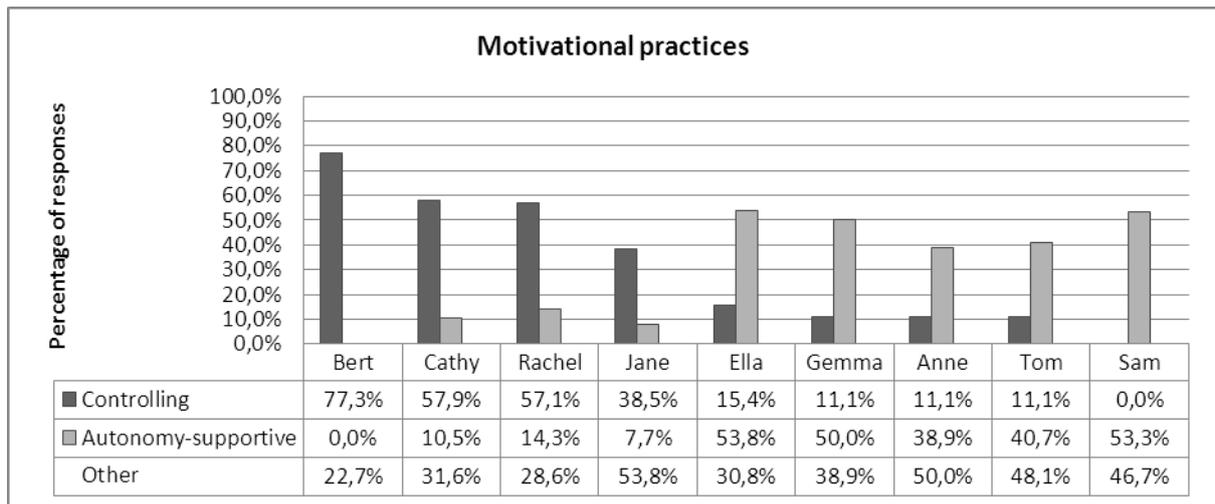


Figure 1. *Percentage of controlling and autonomy-supportive practices per teacher.*

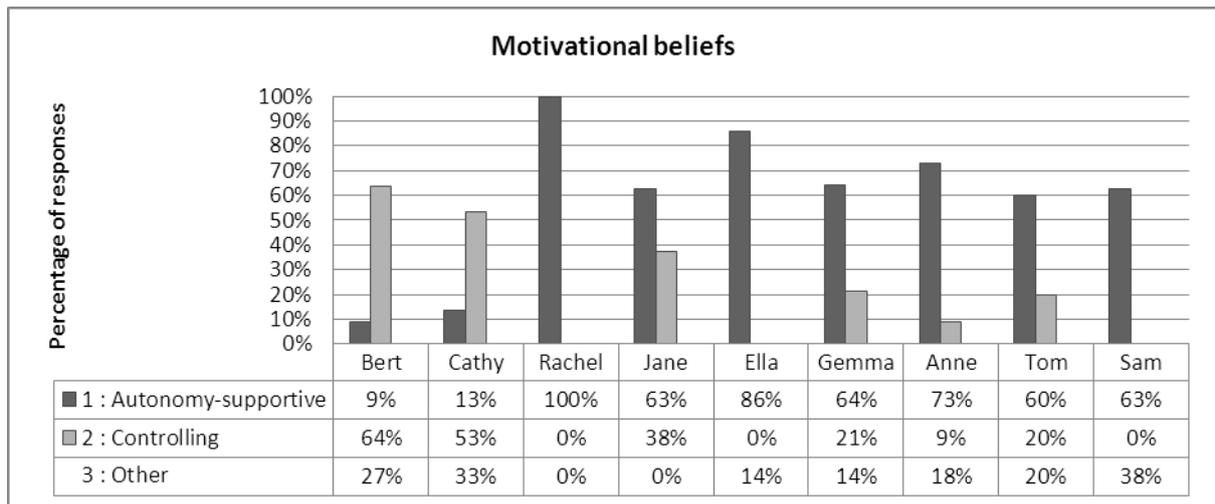


Figure 2. Percentage of controlling and autonomy-supportive beliefs per teacher.

Figure 3.

Teachers' perceptions of student population by cluster.

		Cluster	
		Controlling practices	Autonomy-supportive practices
↑	Negative perceptions of student ability, background characteristics, behaviour, and/or motivation	Bert Cathy Rachel	Gemma
	Average perceptions of student population or focus on within-group differences	Jane	Tom Anne
	Positive of student ability, background characteristics, behaviour, and/or motivation		Ella Sam

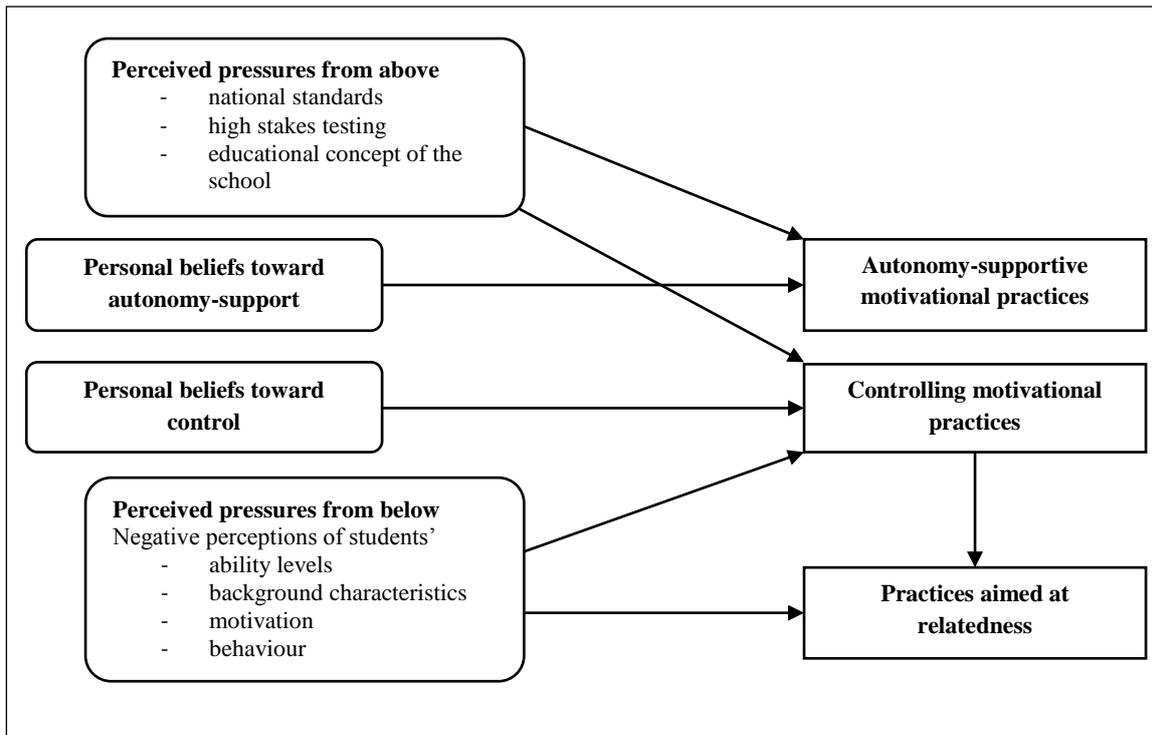


Figure 4. Conceptual model showing underlying reasons for autonomy-supportive and controlling motivational practices.

Table 1.
Teacher, class, and school characteristics.

Teacher	Background characteristics of school	Number of students in the class	Self-reported level of innovativeness (scale 1-5)
Cathy (female, 31)	Public school in a large town; the school population consists of only ethnic minority students, almost all with low SES. The inspectorate judged the school as “very weak” during multiple inspections, and forced the school to close. The school year in which the interviews were held, was the last year before closure.	10 (+ around 8 grade 5 students)	2.9
Bert (male, 50)	Christian school. The school was originally a Jenaplan school but decided to change to more traditional teaching methods. The school is in a neighbourhood that is known to be a bit disadvantaged. Mostly medium SES students. There are about 10% ethnic minority students.	24	3.0
Rachel (female, 35)	Public school in a small town. The population consists of mostly low SES students and around 40% ethnic minority students. The inspectorate judged the school as “weak” during the last inspection.	14	3.1
Tom (male, 29)	Protestant school in a small to middle sized town. SES of the students is mostly medium or high, few ethnic minority students.	20	3.9
Sam (male, 38)	Public school in the centre of a middle sized town. SES of the students is mostly medium to high, few ethnic minority students.	28	4.1
Gemma (female 55)	Public school in a small town, it is in a trajectory to become a “BAS” school (“building an adaptive school”). The school has mostly low and medium SES students. There are no ethnic minority students.	24	4.2
Anne (female, 25)	Catholic school in a larger town. The school is in progress of becoming a Dalton school. Population consists of students of low, medium and high SES. There are a few ethnic minority students attending this school.	17 (+ around 10 grade 5 students)	4.3
Ella (female, 57)	Protestant school in a middle sized town. Jenaplan school. Mostly high SES students, some average SES students.	24	4.4
Jane (female 36)	Catholic school in a small town. The school consists of students of low, medium and high SES and very few ethnic minority students.	31	4.6

Table 2.

Final coding scheme.

Target concepts	Subcategories
Self-reported motivational practices	Autonomy-supportive motivational practices Controlling motivational practices Other
Personal beliefs or preferences	Beliefs towards autonomy-supportive motivational practices Beliefs towards controlling motivational practices Other
Pressures from above	Pressure from national performance standard/inspectorate Pressure from high stakes testing Pressure from school administration Pressure from teaching methods used at the school Pressure from parents Other pressures (logistics, time management)
Perceptions of the student population	Statements related to at-risk characteristics (low ability, disadvantaged/ethnic-minority backgrounds, difficult behaviour, low motivation) Neutral/average comments about students Statements related to high ability, motivation, good behaviour or high social background Differential perceptions (focus on within-group differences)
Pressures from below	Pressures referring to whole-class characteristics Pressures referring to individual students

Table 3.

Percentage of beliefs of teachers with autonomy-supportive and controlling practices

Beliefs	Cluster (practices)		Total
	Autonomy-supportive	Controlling	
Autonomy-supportive beliefs	66%	37%	54%
Controlling beliefs	11%	44%	24%
Other/mixed	23%	20%	21%