

Preferred Teacher-Student Interpersonal Behavior: Differences Between Polish Primary and Higher Education Students' Perceptions

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ABSTRACT

This study investigated differences between students' perceptions of their best teachers in primary and higher education in Poland. Teacher behavior was conceptualized in terms of the teacher-student interpersonal relationship and described in terms of eight behavioral sectors – leadership, helpful/friendly, understanding, student responsibility/freedom, uncertain, dissatisfied, admonishing and strict – and two independent dimensions called Influence (teacher dominance vs. submission) and Proximity (teacher cooperation vs. opposition). Data were gathered from 199 higher education students, 173 students from a higher vocational institute and 26 students from one university, and 105 primary education students. Results indicate that while preferred teaching in Poland is perceived in a similar fashion as in other countries, differences can be found across the educational contexts of interest.

INTRODUCTION

Rationale

All teachers hope that their students are highly motivated, achieve well and are eager to come to their class and learn. Where this is the case, teachers have likely created a desirable learning environment for their students. But what teacher behaviors would be *preferable* in creating such a classroom environment? Researchers have long embarked on a quest to find an answer to this question. Of course, the question of what constitutes good teaching is rather complex because it can be approached from different angles and with various viewpoints on teaching and learning in mind. Moreover, the response to such a question depends on the criteria against which “preferred” is being defined. In the domain of educa-

tional effectiveness research, (e.g. Creemers, 1994; Scheerens & Bosker, 1997; Lowyck, 1994), exemplary teachers have been sought by linking teacher characteristics and behaviors to student achievement and motivation. Research on learning environments (e.g. Fraser, 1998) has approached the question by asking students and teachers for their perceptions of their actual and preferred learning environments (Fraser, 2003; 1998) and by linking these perceptions to various student outcomes, similar to the educational effectiveness domain. Research in this domain has shown that students and teachers have similar perceptions of their preferred environment (Fraser, 1998; Wubbels & Brekelmans, 1998), but that considerable differences exist between students' perceptions of the actual and teachers' perceptions of the preferred learning environment.

Within the domain of learning environments research, a group of researchers has focused on students' and teachers' perceptions of teacher behavior in terms of the teacher-student interpersonal relationship (e.g. Wubbels & Brekelmans, 1998; Wubbels & Levy, 1993; 1991). By asking secondary education students to describe their best teachers and teachers to provide their perceptions of preferred teacher interpersonal communication styles (Wubbels & Levy, 1993), researchers have also been able to find a description of preferred teaching in terms of interpersonal behavior. In short, such teachers are seen by both teachers and students as someone that is a good leader, helps and understands students, provides some responsibility and freedom and is not too strict, is not uncertain, admonishing or dissatisfied with students (Wubbels & Levy, 1993).

Interestingly, research on teacher-student interpersonal behavior has found some differences with respect to gender and countries (Wubbels & Levy, 1991; 1993) in what secondary education students regard as exemplary interpersonal teaching. Such between-country or cultural differences are even more pronounced when student perceptions of actual

interpersonal behavior are the focus (den Brok, Levy, Rodriguez, & Wubbels, 2002; den Brok, Levy, Wubbels & Rodriguez, 2003; Levy, den Brok, Wubbels & Brekelmans, 2003).

These culturally related views on what constitutes good interpersonal teaching were among the reasons the present study investigated students' perceptions of their best teachers in Poland. Most of the prior research on students' perceptions of preferred interpersonal teaching has been conducted in western and European countries such as the Netherlands, United States, Norway, Wales and Australia, or in southeast Asian countries. No such research is known by the authors that has been conducted in eastern European countries. Looking at previous research, it also appears that most of the work on interpersonal preferred teaching has focused on secondary education students; hardly any related studies have been conducted with higher education or primary education students or by comparing such views across these educational contexts. In the present study, university students, higher vocational education students, and primary education students have been asked to report on their best teacher(s). Information on these groups may extend and support prior findings for teachers in more and different educational settings. Knowledge on preferred teaching may help set an agenda for teacher professional development.

There are several reasons for focusing on interpersonal behavior, which is only one of the many areas of teacher competence. First, teacher-student interpersonal behavior is a major component of classroom management (e.g. Doyle, 1986) and experienced and beginning teachers experience problems in this domain (Veenman, 1984). Second, research has shown that students' perceptions of teacher-student interpersonal behavior are strongly related to student achievement and motivation in all subject areas (Brekelmans, Wubbels & den Brok, 2002; den Brok, 2001; Wubbels & Brekelmans, 1998; Fraser, 2003) and that healthy teacher-student interpersonal relationships are a prerequisite for engaging students in learning activities (Brekelmans, Slegers & Fraser, 2000; den Brok, Bergen, Stahl, & Brekelmans, 2004; Wubbels & Levy, 1993). Third, research has shown that the theoretical model and instruments used in the present study to investigate preferred teaching can be generalized cross-culturally (e.g. Lonner, 1980; Wubbels & Levy, 1991; den Brok, et al., 2003) and across educational settings (e.g. Fraser, 1998), which make them particularly suitable for adaptation to the Polish context. Fourth, recent research on desirable secondary and higher education teaching practices in Poland indicates that teacher interpersonal behavior plays an important role in students' and teachers' perceptions. This research illuminates that important characteristics of good teaching and teachers are: being open-minded, being gentle in interactions with students, being tolerant, listening, helping students, producing a safe learning environment, smiling, being calm, having a sense of humor, keeping promises, being a good organizer, being understanding, being friendly, teaching clearly, preventing student humiliation, lowering

voice, making no fool out of students, being warm, being demanding, and being firm, among many other characteristics (e.g. Sniezynski, 2002; Soborski, 1989; Albrechcinska, Oleksiuk & Michalska, 1993; Scislawska, 2000; Czakon, 2000; Czepiec & Maczka, 2002). Other research has confirmed links between teacher immediacy and student outcomes (e.g. Szejnberg, 2003; Szejnberg & Hurek, 2003). Immediacy is regarded as an important interpersonal dimension and refers to those behaviors that signal approachability, such as smiling, touching, eye contact, open body positions, close distances, and more vocal animation.

The present contribution investigates and compares Polish students' views of preferred teacher-student interpersonal behavior for primary and higher education students. In this paper, we will start with a discussion of the framework we use to study teacher interpersonal behavior. Next, we will describe in more detail previous work that investigated students' perceptions of preferred teacher interpersonal behavior. Then, we will present our research questions, describe the design of our study and the instruments used. After the presentation and statistical comparison between students' perceptions from the different educational contexts, we will discuss the results as well as the limitations and implications of our study.

Teacher interpersonal behavior

To investigate the teacher-student relationship in the classroom environment we study teaching from an interpersonal viewpoint, that is in terms of the relationship between a teacher and his/her students. In our conceptualization of the interpersonal perspective on teaching some concepts of the so-called systems approach to communication (Watzlawick, Beavin & Jackson, 1967) are important. The systems approach to communication distinguishes different levels of communication. The lowest level consists of messages, one question, assignment, response, gesture, and so forth. The intermediate level is that of interactions, chains of several messages. When the interactions show recurrent patterns and some form of regularity, one has arrived at the pattern level. It is this pattern level that is important in describing the rather stable interpersonal relationships that determine the working atmosphere of classrooms.

In the systems approach to communication the focus is on the effect of communication on the persons involved (pragmatic aspect). This pragmatic orientation is characterized in our conceptualization by means of focus on the perception of students of the behavior of their teacher.

To be able to describe the perceptions students have of the behavior of their teacher, Wubbels, Créton and Hooy-mayers (1985, see Wubbels & Levy, 1993) developed a model. They applied a general model for interpersonal diagnosis of personality designed by Leary (1957) to the context of education. The Leary model has proven to be a rather complete model to describe interpersonal relationships (e.g. Foa, 1961; Lonner 1980). In the Leary model, two dimensions are

important. Leary called them the Dominance-Submission axis and the Hostility-Affection axis. While the two dimensions have occasionally been given other names – Brown (1965) used Status and Solidarity, Dunkin and Biddle (1974) Warmth and Directivity – they have generally been accepted as universal descriptors of human interaction. The two dimensions have also been easily transferred to education. Slater (1962) used them to describe pedagogical relationships and Dunkin and Biddle (1974) demonstrated their importance in teachers’ efforts to influence classroom events.

Adapting the Leary Model to the context of education, Wubbels et al. (1985) used the two dimensions which they called Influence (Dominance-Submission) and Proximity (Opposition-Cooperation) to structure the perception of eight behavior segments: leadership, helpful/friendly behavior, understanding behavior, giving students freedom, uncertain, dissatisfied, admonishing and strict. Figure 1 is a graphic representation of the model of Wubbels et al. (1985), the Model for Interpersonal Teacher Behavior.

The sections are labelled DC, CD, and so forth according to their position in the coordinate system (much like the directions on a compass). For example, the two sectors “leadership” and “helpful/friendly” are both characterized by Dominance and Cooperation. In the DC sector, the Dominance aspect prevails over the Cooperation aspect. A teacher displaying DC behavior might be seen by students as enthusiastic, a good organizer, and the like. The adjacent CD

sector, however, includes behaviors of a more cooperative and less dominant type; the teacher might be seen as helpful, friendly, considerate.

Data about the perceptions of students on the teacher-student relationship have been gathered by means of the Questionnaire on Teacher Interaction (QTI). The Dutch version¹ of the QTI consists of 77 items which are answered on a five-point Likert scale. These items are divided into 8 scales which conform to the 8 sectors of the model. Table 2 presents a typical item and the number of items for each scale.

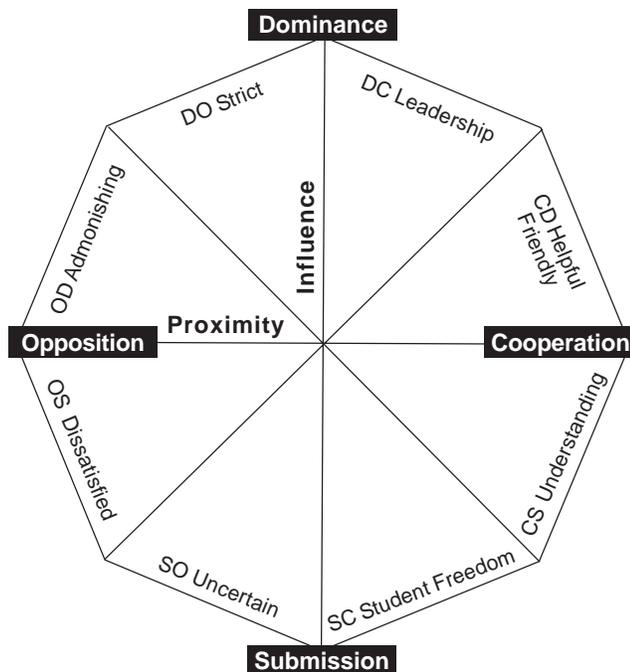
TABLE 1

Typical items for the QTI scales.

Scale	Typical item
DC Leadership	S/he is a good leader
CD Helpful / Friendly	S/he is someone we can depend on
CS Understanding	If we have something to say s/he will listen
SC Student Freedom	S/he gives us a lot of free time in class
SO Uncertain	S/he seems uncertain
OS Dissatisfied	S/he is suspicious
OD Admonishing	S/he gets angry
DO Strict	S/he is strict

FIGURE 1

The Model for Interpersonal Teacher Behavior



Each completed questionnaire yields a set of 8 scale scores. Scale scores equal the sum of all item scores and are reported in a range between 0 and 1. In this study, we also analyze the teacher-student relationship on the basis of dimension scores. To summarize the scale scores by means of dimension scores, we use linear combinations of the scale scores.² We designate the two linear combinations of the 8 scores as an Influence (DS)-score and a Proximity (CO)-score. The higher these scores are, the more dominance (DS) or cooperation (CO) is perceived in the behavior of a teacher.

¹ The QTI has been translated into several languages and has been used in the USA, Australia, the United Kingdom, Canada, Singapore, Brunei, the Philippines, Israel, Hong Kong, Korea, Fiji, Indonesia, Sweden, Finland, Slovakia, Russia, Germany, Spain, Korea and France (den Brok, Fisher, Brekelmans, Rickards, Wubbels, Levy & Waldrup, 2003).

² To this end the eight scores are represented as vectors in a two-dimensional space, each dividing a section of the model of interpersonal behaviour in two and with a length corresponding to the height of the scale score. We then compute the two coordinates of the resultant of these eight vectors.

Previous research on preferred interpersonal teacher behavior

In order to be able to describe perceptions of preferred teacher-student interpersonal behavior, prior research has gathered data on students' perceptions of their *best* teachers in terms of the interpersonal relationship (Wubbels & Levy, 1993).

Research on students' perceptions of their best teachers has been conducted in various countries such as the Netherlands, United States and Australia (Levy, et al., 1993; Wubbels & Levy, 1991). Table 2 provides results on these student perceptions. As can be seen in Table 2, secondary education students in all three countries have a similar perception of their best teachers. These teachers can be described as strong leaders, friendly and understanding, but hardly uncertain, admonishing or dissatisfied. The best interpersonal teacher provides some freedom to students and can sometimes be strict. Interestingly, students in the Netherlands perceive their best teachers as displaying a little less leadership, helpful/friendly, understanding and strict behavior than students from the U.S. and Australia. On the other hand, Dutch students ascribe their best teachers slightly more uncertain and admonishing behavior.

According to Wubbels and Levy (1993) teachers and students in secondary education have pretty similar views on what constitutes good teaching in terms of the teacher-student interpersonal relationship.

A more elaborate analysis of students' preferred perceptions showed two distinct types of "ideal" teachers. Students' perceptions could be divided into preferred dominant teachers and preferred student-oriented teachers (see Figure 2). The preferred dominant teacher displays a lot of cooperative behavior, but also fair amounts of leadership and strictness. The student-oriented teacher provides a fair amount of student freedom compared to the dominant teacher. According

TABLE 2

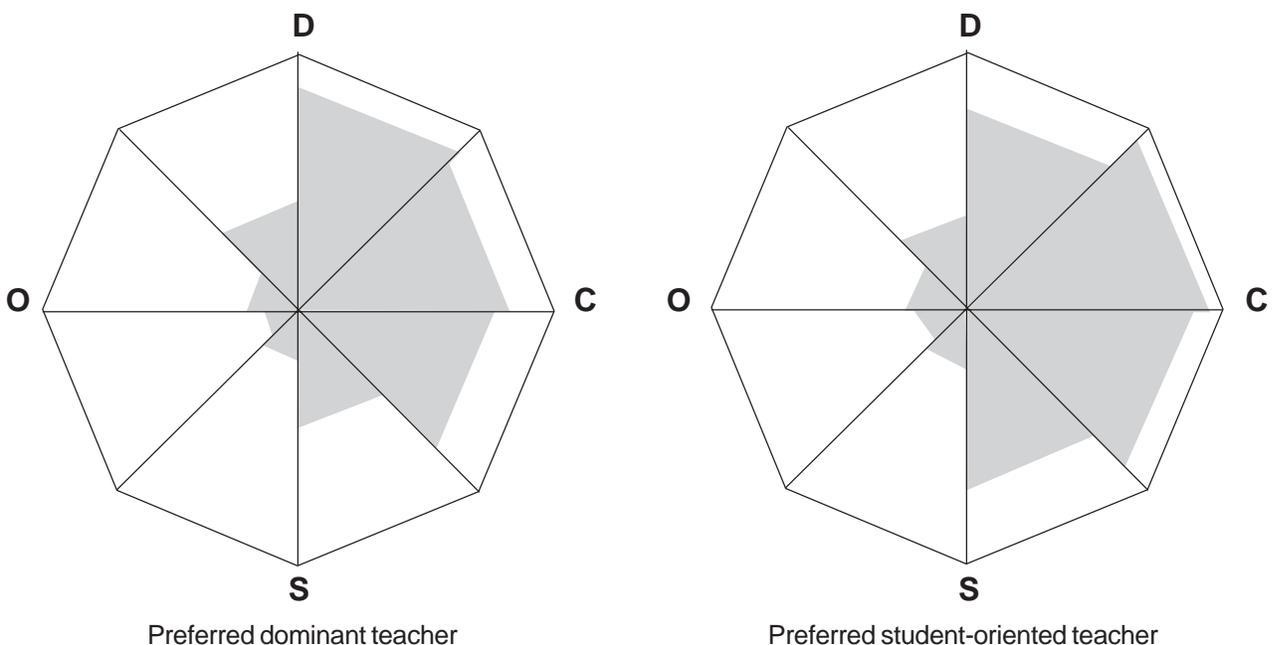
Students' perceptions of their best teachers in terms of interpersonal behavior in three countries. (Source: Wubbels & Levy, 1993)

Scale	U.S.	Neth.	Austral.
DC Leadership	.82	.70	.84
CD Helpful / Friendly	.84	.75	.87
CS Understanding	.81	.76	.84
SC Student Freedom	.48	.50	.46
SO Uncertain	.16	.20	.13
OS Dissatisfied	.19	.15	.15
OD Admonishing	.25	.27	.19
DO Strict	.46	.33	.45
Sample (n)	117	357	792

Note: Scales scores range between 0 and 1.

FIGURE 2

Interpersonal preferred profiles according to students. (Source: Wubbels & Levy, 1993)



to Wubbels and Levy (1993: 36), the dominant teacher might say: “Students will not initiate learning activities if teachers do not control their work and demand a lot”; in contrast, the student-oriented ideal teacher might say: “Students have to enjoy the class before they learn anything. If there is a pleasant atmosphere they will be motivated to study, which is an important prerequisite for learning. It is more important to reward students for their efforts and the things they do well than it is to correct their mistakes.” Apparently, some students prefer a stricter teacher whereas others would like to have freedom.

In one Australian study, a slightly different approach was chosen to find desirable interpersonal teacher behavior as viewed by primary education students (Waldrup, Fisher & Chuarch, 2003). Based on students’ perceptions of actual teacher behavior, those teachers were selected that scored more than one standard deviation above the general mean on the Leadership, Helpful/Friendly and Understanding scales while at the same time scoring one standard deviation below the general mean on Uncertain, Admonishing and Dissatisfied. The researchers typified these teachers as exemplary teachers and conducted open-ended interviews with their students. The data from these interviews indicated that exemplary teachers provided clear instructions, viewed students as capable, had a caring attitude and engaged them actively in classroom activities.

Researchers have also investigated students’ perceptions of preferred teacher-student interpersonal behavior in secondary international schools (van Oord & den Brok, 2004). International schools are particularly interesting settings, because they are made up of students and teachers from different cultural and ethnic settings. This research has shown that differences in preferred perceptions exist between students from international schools in two different countries: students in Norway regard their best teachers as more strict than students in Wales, while the latter regard their best teachers as providing more freedom. Apart from gender-related differences in students’ perceptions of their best teachers – males preferred more strictness, dissatisfaction and admonishing behavior than females – the study also showed differences in perceptions between students within schools, related to their cultural background. It was found that students from South and Central America rated their best teachers lower on helpful/friendly behavior than students from other continents.

On the whole, prior research (Wubbels & Levy, 1993; 1991) has shown that there is considerable agreement in preferred interpersonal teaching. The profile of the “ideal” teacher may vary slightly between countries and hence be subject to cultural influences. Of course, most of the described research was conducted in regular secondary education schools. Moreover, most of the countries involved were Western (European) countries, which might have led to more agreement between countries than would have been the case if non-Western countries had also been included.

Research questions

For the present study, research on preferred teacher-student interpersonal behavior was transferred to the Polish context. The following research questions were investigated:

- How do Polish university students perceive their best teachers in terms of teacher-student interpersonal behavior?
- How do Polish higher vocational education students perceive their best teachers in terms of teacher-student interpersonal behavior?
- How do Polish primary education students perceive their best teachers in terms of teacher-student interpersonal behavior?
- What differences exist between university, higher vocational education and primary education students with respect to teacher-student interpersonal behavior?

METHOD

In Poland, students start with primary education at age seven. Primary education has a duration of six years, which means that students are approximately 13 years old when they are presented a competence test that admits them to the first phase of secondary education, called Gymnasium. Gymnasium has a duration of three years and at age 16 students have a final exam. Following this examination, they have three options for further (secondary) education: supplementary lyceum (two years), vocational education (two years) or Lyceum (three years). At age 19 students complete a National Maturity Exam. Those students that do not enter a profession directly then pursue their studies in either higher vocational schools or in higher academic schools (universities). In both higher education tracks, students can do bachelor degree studies (3-4 years) and master degree studies (another 2-3 years). This study was conducted with students from three different samples, representing the primary and higher education contexts of the Polish educational system.

Our first sample consisted of 173 first-year students (37 males, 136 females) from the Institute of Pedagogy in Walbrzych Higher Vocational College (1100 students), located in the southwestern part of Poland. Students were on average 19 years old and conducted their studies as part of a bachelor’s degree. Students completed the QTI during a course on protective-educational pedagogy, taught by the first author of this manuscript.

Our second sample consisted of 105 primary education sixth grade students (45 males, 60 females) from a public primary school in Stronie, a city located in southwest Poland near the Czech border. Students were on average 13 years old. The school is a big school, consisting of 44 teachers and 593 students. The average number of students in a class at this school is 23. All students in the sixth grade of this school were selected and participated in the study.

The third sample consisted of 26 students (1 male, 25 females) from the Institute of Chemistry of the University of Opole. Opole is located in the southwest part of Poland and is a city of approximately 100,000 people. The students are fifth-year students and have an average age of 23. After their study, students have chemistry teacher qualifications for secondary education.

Given the fact that our samples are relatively small and no information was available regarding the larger Polish population, results should be regarded as tentative and need to be explored further in future research on larger samples.

In this study, we used a 64-item version of the QTI. The 64-item American version of the QTI was translated into Polish (and backtranslated) by the two Polish authors.

Several studies have been conducted on the reliability and validity of the QTI. They have included Dutch (e.g. Brekelmans, Wubbels & Créton, 1990; den Brok, 2001; Wubbels, Créton & Hooymayers 1985), American (Wubbels & Levy, 1991), Australian (Fisher, Fraser & Wubbels, 1992) and Eastern European (den Brok, et al., 2003) samples. Homogeneity of each of the eight groups of items can be regarded as considerable. The internal consistencies (Cronbach's α) at class level are generally above .80. The agreement between the scores of students in a single class met the general requirements for agreement between observer scores. The mean of the internal consistencies in previous studies was .92 (Cronbach's α ; students' scores in one class were considered as repeated measures). From a generalizability study (Shavelson, Webb & Burstein, 1986), it was concluded (Brekelmans, Wubbels & Créton, 1990) that the QTI should be administered to at least 10 students in a class for the data to be reliable. The QTI does not need to be administered more than once per year, since interpersonal style remains relatively stable. A minimum of two classes should complete the questionnaire for each teacher to achieve a reliable measure of overall style. Factor analyses

on class means and LISREL analyses (den Brok, 2001; den Brok, et al., 2003; Wubbels & Levy, 1991) determined that the two-factor structure did indeed support the 8 scales. Brekelmans, Wubbels and Créton (1990) demonstrated that both factors explain 80 percent of the variance on all the scales of the Dutch QTI. Similar results were obtained for the American version (Wubbels & Levy, 1991).

Reliability and validity analyses on the Polish QTI for the present study indicated that the instrument conformed to most scientific requirements. Coefficient Alpha for reliability of the scales ranged between .80 and .95 at the class level. Exploratory factor analyses on the scale scores showed

that two independent factors with an eigenvalue larger than one could be extracted, explaining almost 80 percent of the variance. Factor loadings suggested a circular ordering of scales, with most of the scales roughly in positions hypothesized in Figure 1. However, the scales Dissatisfied and Admonishing displayed more overlap than was expected in terms of the Model for Interpersonal Teacher Behavior. Correlations between dimension scores based on the scale factor loadings (Influence, Proximity) appeared to be statistically non-significant, which is in line with model expectations. In sum, it could be decided that the Polish QTI was suitable for use in the present study.

Students were asked to complete the QTI questions with their best (or ideal) teacher in mind. Answers were entered into Excel, and also prepared for further analyses in Statistical Package for the Social Sciences (SPSS) for Windows. To answer the research questions, scale (sector) and dimension scores were computed for each of the three samples. Next, an analysis of variance was conducted (ANOVA) with the educational context (primary education, university education, higher vocational education) as independent variable and the sector and dimension scores as the dependent variables. To explore the nature of differences found between context groups, post-hoc Scheffé tests were conducted. All analyses were conducted with SPSS for Windows.

RESULTS

In Table 3, mean scores on the QTI scales and dimensions are presented for the university, higher vocational education and primary education sample. As can be seen, the profile of the best or preferred teacher for all groups follows a similar pattern. According to Polish students, good interpersonal

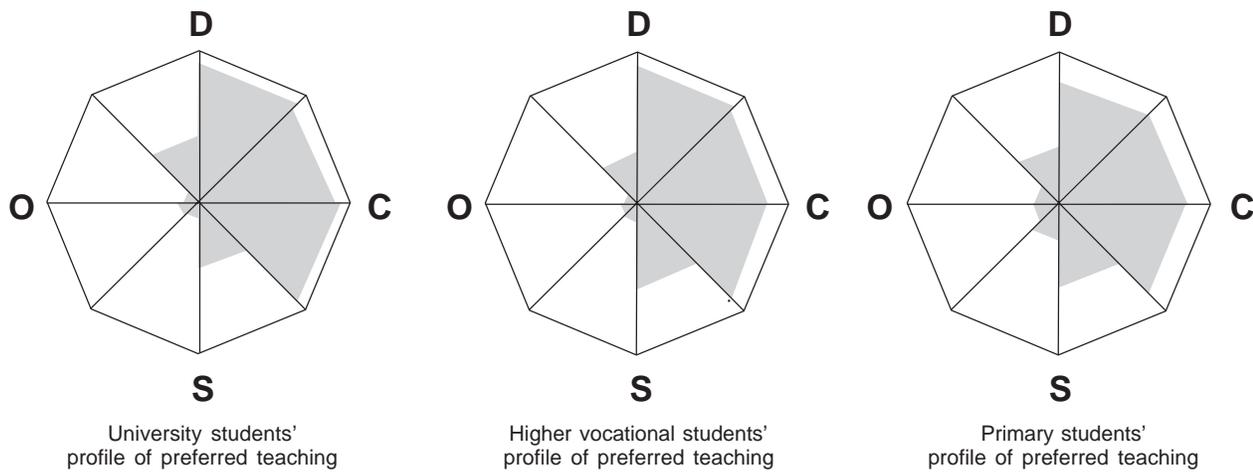
TABLE 3

Mean scale scores (standard deviations) for the university, higher vocational education and primary education samples.

Scale	University (n = 26)	Higher Voc. (n = 173)	Primary (n = 105)	F-value (sig)
DC – Leadership	.94 (.06)	.88 (.10)	.80 (.17)	20.18 (.00)
CD – Helpful / Friendly	.89 (.07)	.89 (.09)	.82 (.20)	9.37 (.00)
CS – Understanding	.92 (.05)	.90 (.08)	.82 (.19)	16.66 (.00)
SC – Student Freedom	.45 (.09)	.55 (.13)	.57 (.19)	6.32 (.02)
SO – Uncertain	.12 (.09)	.13 (.11)	.26 (.22)	22.99 (.00)
OS – Dissatisfied	.14 (.11)	.11 (.10)	.19 (.17)	10.30 (.00)
OD – Admonishing	.09 (.09)	.09 (.10)	.18 (.19)	16.63 (.00)
DO – Strict	.44 (.11)	.33 (.14)	.37 (.17)	7.09 (.01)
DS – Influence	.72 (.16)	.46 (.27)	.31 (.39)	19.44 (.00)
CO – Proximity	1.78 (.25)	1.84 (.35)	1.45 (.74)	19.28 (.00)

FIGURE 3

Graphical representation of Polish preferred interpersonal teachers.



teachers display leadership, helpful/friendly and understanding behavior, provide considerable amounts of student freedom, are hardly uncertain, dissatisfied or admonishing and moderately strict. The profiles that display the scores of each of the groups resemble those of the preferred student-oriented teacher. In all, this means that teachers, according to Polish students, should display moderate amounts of influence, but much proximity or cooperation.

Figure 3 provides a graphical representation of the preferred interpersonal teacher in the university education, higher vocational education and primary education samples.

When the profiles of the Polish preferred teacher for higher vocational education students are compared to previously found ideals, it seems there are only minor differences. Polish teachers should provide a little more freedom and be a little less strict than teachers should be in other countries (e.g. U.S., Australia and the Netherlands). The same conclusion holds for preferred teaching according to primary education and university education students.

Table 3 suggests that the three samples rate preferred teacher interpersonal behavior differently, both in terms of each of the behavior sectors as well as in terms of the two interpersonal dimensions. The amount of variance explained by group membership (educational context) ranges from 4 percent (Student Freedom) to 13.3 percent (Uncertain) for the interpersonal sectors, while 11.4 percent of the variance is explained in the two dimensions.

Post-hoc Scheffé tests indicate significant differences between the primary education and higher vocational education samples for all sectors except Strict, as well as for Influence and Proximity. Primary education students rate their best teachers lower on Leadership, Helpful/Friendly, Understanding and Student Freedom, while they rate them higher on Uncertain, Dissatisfied and Admonishing than higher

vocational education students. As a result, primary education students also rate their best teachers lower on both Influence and Proximity.

Differences between the primary and university education sample were significant for Leadership, Understanding, Uncertain and Admonishing; university students rated their best teachers higher on the first two sectors and lower on the latter; they also rated their best teachers higher on both Influence and Proximity than did primary education students.

Finally, significant differences were found between university education students and higher vocational education students for Uncertain (lower ratings by higher vocational education students) and for the Influence dimension (lower ratings by higher vocational education students).

DISCUSSION

The aim of our study was to investigate and compare students' views of preferred teacher interpersonal behavior between Polish primary, university and higher vocational education students. It was the first study in Poland and the first to compare students' preferred perceptions across various educational contexts.

The outcomes display some interesting patterns. First, general outcomes seemed to suggest that cultural differences in students' perceptions of preferred interpersonal teacher behavior are minimal. The results of our study in Poland only marginally differed from previous studies conducted in the Netherlands, Australia and the U.S. Similar to students in those countries, the majority of the students prefers a student-oriented teacher, that displays high amounts of both Influence and Proximity. These findings are not completely unsurprising: previous work with the QTI indicates that

although (minor) differences exist in preferred teacher interpersonal behavior between countries and in terms of ethnic background of students and teachers (van Oord & den Brok, 2004), such differences are much more prevalent when perceptions of actual teacher behavior are the focus of study (e.g. Levy, et al., 2003). These small differences in preferred teacher behavior cannot be attributed to measurement differences, since the QTI has been able to measure actual and preferred interpersonal behavior in different countries and cultures in a similar manner (e.g. den Brok, et al., 2003).

Second, the study suggested that there are distinguishable differences in preferred interpersonal behavior according to educational context. Unfortunately, it is very hard to explain these differences. One explanation might be that teacher behaviors displayed by the best teachers in university education are somewhat different from behaviors displayed by the best teachers in primary education, which in turn are somewhat different from behaviors displayed in higher vocational education. On the other hand, these differences may also reflect differences in values and norms as to what constitutes good teaching in each of these educational settings. For example, university students might expect less strictness and more student freedom from their teachers than do primary education students. Similar explanations have been provided for culturally related differences in students' perceptions of teacher behaviors of "average" teachers (den Brok, 2001; den Brok, et al., 2002, 2003).

Unfortunately, the study was subject to a number of limitations. Sample size was relatively small, especially for the university education group, and no information was available on how these samples resembled their larger populations. Also, it remains unknown to what extent findings are related to age-related differences in the ability to distinguish and discern between teacher behaviors that are displayed in the classroom. It may well be that older students (that have been exposed to more teachers and more educational settings) are better able to distinguish between teacher behaviors and can make a better judgement with respect to

the teacher behaviors that might be profitable to them.

Our study has implications for both teachers and researchers. First, it may help in providing teachers – in Poland as well as in other countries – with a road map for professional development. If teachers compare their own perceptions of their interpersonal behavior with students' perceptions of their (actual and preferred) behavior, differences between these perceptions can be used as a tool of reflection. As soon as teachers have some sense of how they are being perceived, they can use this knowledge to adapt their teaching and alter towards the direction of preferred behavior (e.g. Wubbels & Levy, 1993). Second, this study could be seen as the first in a line of research on interpersonal behavior in Poland. Future research could include larger samples, also in secondary education, in order to confirm present findings. Such research could also focus on qualitative data such as interviews with teachers and students. Combinations of quantitative and qualitative data may help in explaining some of the differences found between the three educational contexts of the present study. Additionally, research could try to uncover to what degree perceptions of preferred and actual behavior differ between countries, to what degree the QTI is suitable for uncovering such differences and to what degree QTI scales and items have different meaning and structures in different countries. Currently, the authors are conducting their research in these directions. With such endeavours, they hope to uncover new knowledge in the domain of interpersonal teacher behavior.

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