Leadership in Sports – Perceived Teacher Student-Congruence in Physical Education

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A pessimist sees the difficulty in every opportunity - an optimist sees the opportunity in every difficulty.

Winston Churchill

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Physical fitness is not only one of the most important keys to a healthy body – it is the basis of dynamic and creative intellectual activity.
John F. Kennedy

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0 Introduction

Physical education (PE) is considered as a natural environment where children and students of all ages can acquire fundamental motor skills that are necessary for sports and physical activity in general. From a more societal perspective, PE includes aspects that refer to the social development of students as well as to their experience of physical abilities and possibilities. PE as a school subject is considered to serve as a catalyst of stress, and *boredom* and motionless activities during class. From a public health point of view, PE is assumed to promote an active and healthy lifestyle and is meant to provide a basis of obesity prevention.
Surprisingly, despite the high hopes that are put onto PE it seems that the school subject of PE is relegated to the margin of education. PE lessons have been more and more reduced over time, and PE has generally been regarded as a nonessential minor subject. In recent times, PE has received a new appreciation in policy and public opinion. Thanks to several reports of the worrying conditions of children's and adolescents' physical constitution and motor abilities a soft awakening of interest in PE has begun in Germany and other countries. In consequence, an adequate and more extensive PE in school is claimed.

Ever since international comparative studies reported students' achievement in the major school subjects as well as in physical education, a special need for research regarding professional standards in teaching in general and teacher education in particular has emerged. Following the alarming results of German pupils considerable efforts were made to identify and develop educational standards and principles for teachers' professional competencies. In research of PE didactics, the endeavors are only at an early stage. Nevertheless, first empirical findings refer to important factors of teaching in PE such as, for example, the importance of adequate feedback. Moreover, a great deal of research was engaged in the benefits of PE and physical activities in general. The role teachers play in the development of those benefits has still not sufficiently been investigated.

The challenge of the present work is to describe a way of making teaching in PE assessable so that the impact of teaching behavior on important student outcome variables can be measured. It is important to define different aspects of relevant PE teaching behavior to meet the various skills of a teacher. On the other

hand, it is necessary to concentrate on superordinate dimensions of teaching to narrow the range of skills on prevalent recognizable behavior patterns. Such behavior has to be distinguishable but needs also to share a common purpose such as promoting the students in general. Only when teaching behavior in PE is tangible it is possible to examine its influence on students' experience and enjoyment of PE. A promising way was identified in using an established approach of research in sports leadership. Chealladurai (1978) developed a multidimensional model of leadership (MML) and an associated questionnaire to investigate leadership behavior in sports: the *Leadership Scale for Sports* (LSS). Studies in that concern focused on the athletes' perception and preference of coaching behavior and on the self-description of the coach. That proceeding enables an examination of a perceived congruence between the athletes and their coaches. The MML postulates that a congruent constellation will lead to higher performance and satisfaction by the athletes. Since the model refers to different leadership styles it is possible to identify different facets of leadership behavior of a coach. The leadership behavior is subdivided into the dimensions *Training and Instruction*, *Democratic Behavior*, *Autocratic Behavior*, *Social Support*, and *Positive Feedback*. This differentiation seems to be very suitable for aspects that are important for teaching in PE.

Since the Leadership Scale for Sport is first of all an instrument for coaches and training, my first concern within the present work was to adapt the LSS for PE in the school context. An examination of this new version of the LSS-PE regarding its reliability and validity was conducted. In addition, I was especially interested in studying whether the measured teacher-student constellations influence the students' satisfaction. The second research question deals with students' satisfaction, interest and self-regulated motor learning strategies in PE when taking into account different congruent or incongruent teacher-student constellations. It seems very promising to analyze those different constellations because of the general assumption that it is important that teachers reach their students adequately. A teacher should supply high quality education, but how is that quality defined? Students' may differ in their preference of specific teaching behavior. Moreover, some behavior considered as generally beneficial can be ineffective or even have a negative effect on students' satisfaction and performance. It is possible that it is more important that teachers

focus not on a single best way of teaching but rather on the best possibility of reaching the individual needs of their students.

The studies conducted in this thesis concentrate on students' satisfaction and interest because these aspects are indispensable preconditions for the students' motivated participation in sports in general. Self-regulated motor learning was included into the research because the ability to acquire self-dependent new sport related skills provides the foundation of further activity and therefore for a healthy and physically active lifestyle. The results of the two questions that were empirically investigated in two studies and relevant implications for current PE and research in the field of teaching in PE are discussed at the end of this work.

1 Theoretical Background - Leadership in Sports and Physical Education

Physical education (PE) is considered to play an important role for the physical and psychosocial development of children and youths. It is the only subject taught at school that offers pupils the experience of dealing with the limits and opportunities of their own physical abilities. In spite of this particular characteristic, PE has been fairly neglected in both educational policy and educational research. In recent times, however, expectations on the functions and benefits of PE have increased, for instance with regard to influencing the physical abilities and the health behavior of children. Here, a major focus of interest lies on the PE teacher, and especially the teacher-student interaction. This first chapter concerns the objectives and the outcome of physical education (1.1), the characteristics of professional teacher competencies and teaching behavior in PE (1.2), and finally, leadership behavior in sports and PE (1.3).

1.1 Physical Education

Nowadays, PE emphasizes the development of a healthy and physically active lifestyle and is no longer fixed on traditional sports training (Sallis & McKenzie, 1991). Moreover, PE enables students to gain general knowledge and skills in sports and physical activities (Allison, Pissanos, Turner, & Law, 2000) by means of education related to movement, through movement and in movement (Arnold, 1979). Finally, for some children PE in school settings presents the only opportunity to learn about the comprehensive health benefits of physical activity and the necessary motor and behavior management skills to effectively participate in a variety of sports, fitness training, and recreational exercises (Sallis et al., 1997; Corbin, 2002).

1.1.1 Objectives and quality criteria of physical education

According to national and international studies, the physical activity level of students is currently in an alarming condition (Centers for Disease Control and Prevention of the USA, 2003; Department of Health of London, 2004). In the case of Germany, an international comparison study of students' fitness revealed disconcerting results (Naul 2001; Naul & Telama 2003) comparable to the PISA

findings (Baumert et al., 2001, Prenzel et al., 2004). As a consequence of the worrying physical status of German students, an initiative issued by the German Government focuses on the promotion of healthy diet and physical fitness (Federal Ministry of Consumer Protection, Food and Agriculture and Federal Ministry of Health, 2007). This campaign is based on a report published by the World Health Organization (WHO, 1998) that emphasized a bundle of advantages of sports and PE, namely (a) the improvement of motor skills and physical fitness, (b) the enhancement of normal physical and social growth and maturation, (c) the improvement of socialization, self-esteem, self-perception and psychological well-being, and (d) the establishment of a basis for a healthy lifestyle and lifelong commitment to physical activity.

Since the contemporary lifestyle is less concerned with physical and more with sedentary activities, researchers hypothesize that this lifestyle has already caused, and will continue to cause, an epidemic of obesity and obesity-related diseases such as coronary heart disease, stroke, and diabetes (Freedman, Khan, Serdula, Galuksa, & Dietz, 2002). Accordingly, a reorganization of the curriculum of PE was requested and several guidelines and recommendations were installed to strengthen physical education programs in school for a better education on physical activity and its health benefits (Centers for Disease Control and Prevention, 1997). In general, educational researchers assume that the curriculum has a powerful influence on the students' motivation because it provides a framework wherein students spend most of their daily lives (Newmann, Marks, & Gamoran, 1996). Most curricular models state that the content of a subject should stimulate interest, curiosity, self-fulfillment, and personal meaningfulness for the learner (Anderman, 1997; Burke, 1995). If a PE curriculum also includes health-oriented elements the physical activity level of the students can be additionally increased (Sallis, 1997; Almond & Harris, 1998). A traditional PE curriculum, however, that risks a too strong emphasis on the competitive characteristics of sports, might influence the students rather negatively than in a positive way.

Besides the aspect of the curriculum, another important facet in PE concerns the quality of education. Even though PE-specific studies regarding the characteristics of good lessons do not exist, results from several longitudinal studies concerning cognitive competencies of students (Kounin 1970; Fend 1998; Weinert & Helmke 1998; Brophy 2002) can be transferred to important aspects of

PE. This is especially true for learning and developing sensory, motor and social skills. For an overview of possible relevant quality criteria for PE, seven important aspects derived from empirical findings are itemized in the following: (1) clear lesson structure (Brophy, 2002), (2) effective utilization of teaching time (König & Zentgraf, 1997), (3) continuing physical activity and motor learning (Kurz, 2002; Müller & Petzold, 2003; Wamser & Leyk, 2003), (4) positive class climate (Jank &Meyer 2002), (5) adequate instruction and practice (Alefsen, Gebken, Schönberg, 1999), (6) teacher feedback (Cloes, Premuzak, & Piéron, 1993; Graham, 1992; Hellison & Templin, 1991; Sharp, 1992), and (7) individual assessment and grading of students (Krug & Kuhlmann, 2005).

1.1.2 Outcomes and students' benefits

The impact of PE on students can be divided into the generic outcome categories of (1) physical, (2) cognitive, (3) social, (4) affective, and (5) lifestyle effects.

Physical benefits: Regular physical activity comprises several beneficial outcomes (WHO, 1995). Physical activity leads to a longer and better quality of life, to a reduced risk of a variety of diseases, and to many psychological and emotional benefits (Sallis & Owen, 1999). In particular, preventive impacts of physical activity were identified for diabetes, blood pressure (Malina & Bouchard, 1991), bone health (Bailey & Martin, 1994), and obesity (Gutin, Barbeau, & Yin, 2004). The acquirement of basic movement skills that can be learned in PE (Gallahue & Ozmun, 1998) constitute the foundation of physical activities and sports engagement. Persons with good movement skills are more likely to be active (Okely, Booth, & Patterson, 2001). In contrast, a lack of basic movement skills can result in avoiding situations related to physical activity such as organized sport or playing (Ignico, 1990).

Cognitive benefits: A popular proverb is that "a healthy body holds a healthy mind". Studies that were concerned with this assumption indicate that an increased time for PE in school can enhance academic performance by increasing the flow of blood to the brain, enhancing mood, increasing mental alertness, and improving self-esteem (Shephard, 1997; Hills, 1998; Sallis et al., 1999). Moreover, achievement in mathematics and reading tests was found to be positively related to physical fitness scores in school children (California Department of Education. 2001). More generally, beneficial relationships have been observed between physical activity and academic grades in the classroom

(Fields, Diego, & Sanders, 2001; Lindner, 2002; Kim, 2003; Coe et al., 2006). In addition, Sallis et al. (1999) showed that results were generally improved when tests followed physical activity.

Social benefits: PE is considered to influence the social development of children and adolescents in a positive way (Weiss & Bredemeier, 1990). The advantages of PE arise in the classroom context, where naturally occurring and contrived social interactions frequently take place (Bailey, 2000), and because the public nature of participation in PE provides socially appropriate and inappropriate behaviors (Miller, Bredemeier, & Shields, 1997). In an environment of structured and defined activities, the development of prosocial behavior can emerge (Svoboda, 1994) and the containment of antisocial and criminal behaviors is likewise possible (Morris et al., 2003). Subject matters focused on moral reasoning (Romance, Weiss, & Bockoven, 1986), fair play and sportsmanship (Gibbons, Ebbeck, & Weiss, 1995), and personal responsibility (Hellison, 1998) generally produced positive results for the students' development. The most promising contexts for developing social skills and values seem to be those mediated by suitably trained teachers who focus on occasions that arise naturally through activities, by asking questions and by modeling appropriate responses through their own behavior (Ewing et al., 2002).

Affective benefits: Regular physical activity can have a positive effect on the psychological well-being of students (Dishman, 1995). Fox (1988; 2000) found a particularly strong relationship between physical activity and children's self-esteem and self-concept. Research suggests that self-esteem is strongly influenced by students' self-concept and self-perception (Harter, 1987). Moreover, positive effects of regular physical activity have been reported concerning reduced stress, anxiety, and depression (Hassmen, Koivula, & Uutela, 2000). Within the school context, PE was shown to promote students' satisfaction and interest in school in general (Fejgin, 1994). However, the popularity of PE and the engagement in sports can differ among particular groups, for example boys and girls (Fuchs et al., 1988; Kirk et al., 2000). Girls seem to lose their interest and enjoyment in sports when moving to secondary school. Nevertheless, the presentation of PE in an attractive and relevant way seems to enhance an enduring and pleasurable participation of boys and girls alike (Sabo et al., 2004).

Lifestyle benefits: PE is regarded as providing opportunities to promote physical activities amongst all students (Fox, 1996) and as a consequence, it is thought to influence the next generation of adults and parents towards leading physically active lives (Shephard & Trudeau, 2000). On the one hand, skills learned by students in PE facilitate health-related behavior which is often maintained into adulthood (Kelder et al., 1994; Telama et al., 1997). On the other hand inactivity in youth can also last into adulthood (Raitakari et al., 1994). In general, PE is considered to create important context situations for promoting the physical activity levels of students (Sallis & McKenzie, 1991). Specific characteristics of PE can contribute to physical activity levels, both during youth and later in life (Trudeau et al., 1999). Among these characteristics are, for example, the combination of classroom study with physical activity (Dale, Corbin, & Cuddihy, 1998), the promotion of students' experience of self-determination and feelings of competence towards physical exercise (Ferrer-Caja & Weiss, 2002), and the emphasis of enjoyment and positive experience in sports (McKenzie et al., 1997).

1.2 Teaching and Physical Education

This chapter is concerned with teaching in school contexts, and especially in PE. The PE teacher is considered as a powerful influence factor on the students' attitudes toward PE (Figley, 1985; Luke & Sinclair, 1991) and on the students' satisfaction, enjoyment and interest in PE (Carlson, 1995; Rice, 1988: Sanders & Graham, 1995; Solmon & Carter, 1995: Tjeerdsma et al., 1996). Research in school teaching has often examined teaching factors as an integral part of an individual person's teaching approach. Some of the most important factors are therefore described in this section. For instance, these include the use of praise, classroom organization and management, type and direction of feedback, and the amount of time that is provided to the students when solving a task. Findings revealed a positive relation between teacher behaviors such as teacher presentation time and teacher knowledge of content and students' achievement (Fisher et al., 1978). Moreover, effective teachers were described as more efficient in management tasks, and they provided more practice time with a higher quality than less effective teachers (McLeish, Howe, & Jackson, 1981). Finally, effective PE teachers were found to show more behavior related to analyzing

student needs, using performance feedback, and providing students more time for tasks than their less effective colleagues (Phillips & Carlisle, 1983).

1.2.1 Professionalization of teacher competencies

The focus of educational research on teachers' professional competencies is oriented toward action competence within the classroom and teachers' pedagogical, content and general knowledge (Bromme, 1997, Baumert & Kunter, 2006; Terhart, 2007). Four domains of teachers' professional competencies are regarded as general factors of successful teaching. *Subject matter competence* or pedagogical content knowledge shows a significant impact on students' academic learning and achievement (Hill et al., 2005; Brunner et al., 2006). The *diagnostic competence* that becomes apparent in performance appraisal and grading of students constitutes a relevant and important competence of a teacher (Spinath, 2005; Abs, 2006) because it is one of the main duties in teaching. Teachers' *instructional competencies* and general *classroom management abilities* offer students a suitable condition for their learning and development (Lankes, 2004; Seidel & Shavelson, 2007). The quality of good instructional behavior is determined by the three dimensions of (1) structure, clarity and efficient classroom management, (2) supportive classroom climate and teacher-pupil-relations, and (3) challenge by cognition-activating tasks and demanding subject matter content (Helmke, 2003; Mahoney, Larson & Eccles, 2005; Klieme et al., 2006). Furthermore, the level of experience plays an important role in teaching. Berliner (2001) shows that teaching experts can organize and apply their knowledge better than their novice colleagues.

1.2.2 Teacher behavior in physical education

Teaching in PE is in some terms comparable to the conditions of classroom teaching. The requirements of a sports-related education, however, exhibit peculiarities and demands of their own. The aforementioned teachers' professional competencies are highly relevant for PE as well. *Classroom management* plays an outstanding role in PE. Teachers have to organize PE classes to provide sufficient physical activity for all students along with maximizing students' opportunities for good practice such as appropriate learning goals, individualized feedback and the experience of success (Rink, 2003). As far as *adequate feedback* is concerned, it is necessary to focus on the praise for effort,

hard work and good strategies because this seems to lead students to an incremental, learning-induced conception of ability (Mueller and Dweck, 1998). Adequate feedback can foster students' belief in their own competence by promoting a perception of ability including the understanding that they have made progress in skill acquisition and the comprehension of a sport (Schunk, 1995). Moreover, informational feedback as a response to students' performance errors can enhance the students' perception of themselves. As a consequence, they can realize future performance outcomes which in turn should then increase the students' level of intrinsic motivation (Horn, 1987; 1992). *Diagnostic competence* in PE is important since it enhances the students' level of motivation by evaluating them on effort and improvement rather than on ability. It is moreover important to emphasize individualized learning, and to provide task related feedback that assists students in their efforts to improve (Ames, 1992; Brophy, 1987). Feedback is considered to meet three important attributes: (1) provision of knowledge, (2) motivation, and (3) reinforcement (Fitts & Posner, 1967). Several findings demonstrated that for the teaching-learning process feedback can serve as a strong source of motivation and it can be a vital factor in students' learning (Cloes, Premuzak, & Piéron, 1993; Graham, 1992; Hellison & Templin, 1991; Sharp, 1992).

Both cognitive and physical efforts are involved in learning in PE. Mitchell (1993), for example, found that cognitive participation in physical activities seems to be comparable to the efforts in mathematic learning (Mitchell, 1993). Neglecting either the physical or the cognitive effort, however, obstructs students' acquisition of new knowledge and skills (Schmidt & Lee, 1998). In contrast, tasks in PE that challenge students to be cognitively involved lead to a mind-body integrated experience that is optimal for acquiring motor skills and related knowledge (Schmidt & Lee, 1998). The cognitive involvement is highly connected to students' interest and motivation for PE (Hidi, 2000) Chen and Darst (2001) examined students' interest associated with cognitive and physical demands in physical activity tasks and they could demonstrate that cognitively demanding learning tasks could foster situational interest. As a consequence, PE teachers should nurture a high individual interest in the subject content as a primary motivator in order to improve learning achievement, (Alexander et al., 1995). Furthermore, it is important that PE teachers concentrate on how students

perceive, feel, and develop their attitudes to improve their disposition toward physical education (Graham, 1995). Thus, PE teachers play an important role by providing the adequate opportunities and experience for students to enjoy physical education which subsequently can improve positive attitudes towards this subject matter (Carlson, 1995; Figley. 1985: Luke & Sinclair, 1991).

1.3 Leadership in Sports

Leadership is defined as the intended influence to direct and coordinate voluntary activities of the members of an organized group toward the accomplishment of group objectives (Jago, 1982). Over the years, further aspects such as individual traits, leader behavior, interaction patterns, role relationships, follower perceptions and influence on task goals were included to specify and broaden the definition (Yukl & Van Fleet, 1992). Leadership can be considered as an important influence factor on attitudes such as motivation, commitment, and satisfaction (Fiedler, 1967; House, 1971, Chelladurai, 1978). As leadership affects attitudes, and attitudes in turn drive behavior, leadership has the potential to change people's behavior. Some of the well-established models of leadership characteristics are, for example, the contingency theory (Fiedler, 1967), the situational leadership theory (Hersey & Blanchard, 1977), the path-goal theory (House, 1971), and the adaptive-reactive leadership theory (Osborne & Hunt, 1975). Those models focus on the interaction of the leader, the situation and the followers. Research in leadership was transferred to the context of sports because of the definite structure of athletic teams, a characteristic which is comparable to the given structures in organizations. More specific, a leader within an organization as well as a coach in the sports context uses a particular style of leadership behavior to influence, motivate and lead the followers or athletes, respectively (Dale & Weinberg, 1989). A sport-specific model of leadership and its relevance for PE will be introduced in this chapter.

1.3.1 Multidimensional model of leadership in sports

Chelladurai (1978, 1993) developed the *Multidimensional Model of Leadership for Sport* (MMLS) which focuses on the athletic context. The model is based on leadership theories such as the contingency model of leadership effectiveness (Fiedler, 1967), the path-goal theory of leadership (House & Dressler, 1974), the

adaptive-reactive theory of leadership (Osborn & Hunt, 1975), and Yukl's (1971) discrepancy model of leadership. Because the transactions among leaders and followers within a particular situational context are of extreme importance for understanding leadership processes (Hollander, 1978), Chelladurai's model focuses on the leader, the followers, and in addition on situational context dimensions of leadership. The MMLS (Figure 1) distinguishes between *situational characteristics* (e.g. team goals, team structure, group task and associated technology, social norms etc.), *leader characteristics* (e.g. personality, ability, experience, etc.), and *member characteristics* (e.g. gender, age, ability, etc.) as antecedents of leader behavior. Moreover, leader behavior can be classified as required, preferred, or perceived, and the congruence of these three factors influences the levels of performance and satisfaction. The outcome variables *performance* and *satisfaction* are considered to be mediated by the required and preferred behavior of the leader.

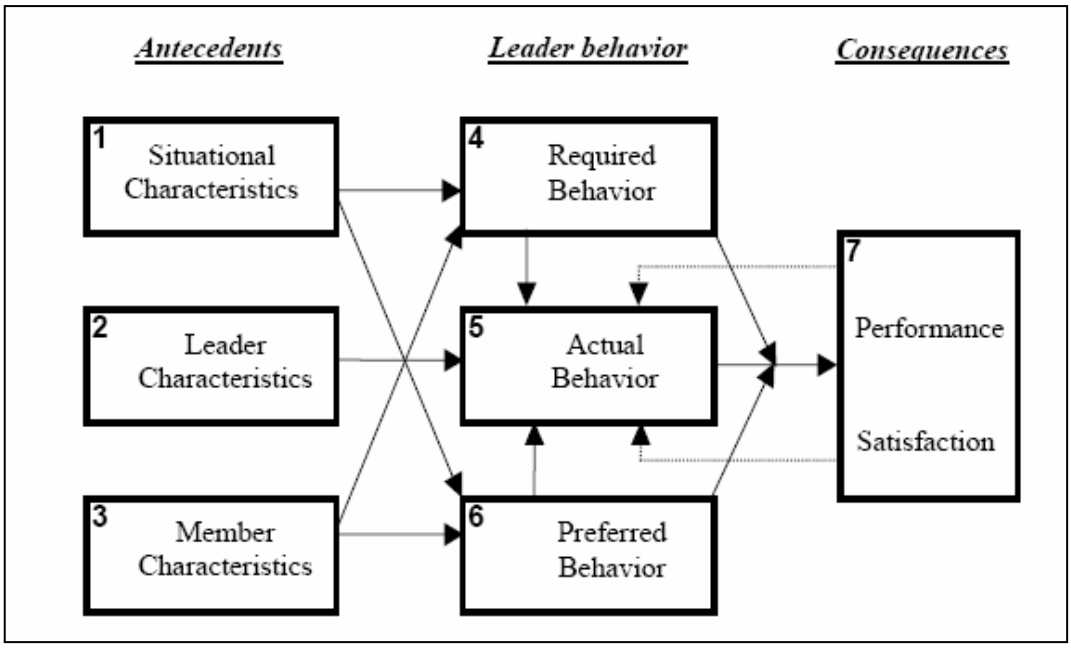


Figure 1. The Multidimensional Model of Leadership for Sport

Chelladurai, P. (1999). *Human resource management in sport and recreation*. (p.163).

An additional feedback loop is assumed between performance and satisfaction outcomes and perceived leader behavior that in turn eventually influences the perception of the actual behavior.

For testing the MMLS, Chelladurai and Saleh (1980) developed the Leadership Scale for Sports (LSS). The LSS consists of five factors: *Training and*

Instruction, *Democratic Behavior*, *Autocratic Behavior*, *Social Support*, and *Positive Feedback*. Training and Instruction aim at the structure and management of the training session and at the improvement of the athletes' achievement and learning. The opportunity for the athletes to participate in decision-making is termed *democratic behavior*. On the other hand, *autocratic behavior* indicates the extent to which a coach emphasizes his or her authority. *Social support* refers to the involvement of the coach in satisfying the interpersonal needs of the athletes. Finally, *positive feedback* describes the extent to which the coach compliments the athletes for their performance and contribution. Translated versions of the LSS were successfully implemented and tested in several countries (Chelladurai et al., 1988; Iseberg & Chelladurai, 1990; Kim, Lee & Lee, 1990; Iordanoglou, 1990). Even though the subscale *autocratic behavior* was not replicated in all studies (Alfermann, Saborowski & Würth, 1997; Lee, Williams, Cox & Terry, 1993), the LSS can be classified as an instrument that is both reliable (Riemer & Chelladurai, 1995; Gardner et al., 1996; Price & Weiss, 2000; Trail, 2004; Hollembeak & Amorose, 2005) as well as valid (Iordanoglou, 1990; Isberg & Chelladurai, 1990; Kim, Lee, & Lee, 1990; Chelladurai & Riemer 1998). For the German speaking area a translated four factor version of the LSS (without the dimension of *autocratic behavior*) was established by Würth, Saborowski, and Alfermann (1999). With regard to the LSS measurement, it is important to note that the instrument exists in three different versions: (1) athletes' perceptions of their coaches' leader behavior, (2) athletes' preferences of their coaches' leader behavior, and (3) coaches' perceptions of their own leader behavior. According to the *congruence hypothesis* of the multidimensional leadership model (Chelladurai, 1978), the concordance of the different LSS versions can be used as a predictor of the athletes' satisfaction and performance.

1.3.2 Leadership behavior in sports and physical education

Findings in the context of the multidimensional model of leadership in sport primarily concerned the athletes' satisfaction (Chelladurai, 1984; Chelladurai et al., 1988; Dwyer & Fischer, 1990; Eichas, 1992; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Riemer & Toon, 2001; Schliesman, 1987; Sriboon, 2001). The model suggests that the discrepancy between athletes' perceived and preferred leadership style and the discrepancy between the perceived leadership style by the athletes and the self-described leadership style of the coach have a

strong influence on the athletes' level of satisfaction. Weiss and Friedrichs (1986) analyzed which particular leadership style had the highest impact on the satisfaction of athletes and they found that the perceptions of all five-leader-behavior dimensions were significantly predictive of team and individual satisfaction scores, with *positive feedback* serving as the best predictor of team satisfaction, and *democratic behavior* and *social support* as the best predictors of individual satisfaction. Furthermore, Alfermann and Würth (2005) described the dimensions *training and instruction* and *Positive Feedback* as the most important coach behaviors which had a positive impact on athletes' satisfaction. Similar findings were reported by Chelladurai and Riemer (1998) and Smith and Smoll (1996) who demonstrated the influence of perceived coach behavior on athletes' satisfaction. Moreover, a corresponding perception of leadership behavior by athletes and their coaches leads to high satisfaction and better performance (Chelladurai, 1984; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987). These results support the congruence hypothesis formulated by Chelladurai (1978).

Teachers' competencies and behavior are in some aspects comparable to leadership behavior. As mentioned in the previous chapter, teachers play an important role in the development and achievement of the students. Teachers can influence students' attitudes (Petiy & Cacioppo, 1986; Tinker, 1991; Zimbardo & Leippe, 1991) even if this sometimes seems to be quite difficult and demanding (Eagly & Chaiken. 1993; Fazio & Zanna. 1981; Mohsin, 1990). It is possible that an individual changes from an unfavorable attitude to a favorable one and vice versa on the basis of a situational context (Judd et al,. 1991; Oppenheim, 1997; Tinker, 1991; Zimhardo & Leippe, 1991). This means that when the situation provides positive experience, favorable attitudes such as satisfaction and intrinsic motivation can develop. Unfavorable attitudes such as dissatisfaction and disfavor emerge when the situation offers no positive experience (Oppenheim, 1992; Tinker 1991; Zimbardo & Leippe, 1991). Teachers should create an environment that encourages students to achieve effective motivational patterns that consequently enable them to learn (Shuell, 1986). Students' interest arises from their interaction with the environment and particular contexts (Hidi. 2000). Thus, teachers have to organize and shape the conditions and contexts by their behavior in order to reach their students.

In conclusion, Table 1 shows the identifiable accordance between the LSS dimensions and teachers' professional competencies.

Table 1. Accordance of LSS dimensions and PE teachers' competencies

LSS Dimension	PE teachers' competencies
Training and Instruction	Classroom management Instructional competence Subject matter competence
Democratic Behavior	Classroom management Positive class climate Individual and adaptive teaching
Positive Feedback	Adequate feedback Informational feedback Task related feedback
Social Support	Supportive classroom climate Teacher-student-relations Individual and adaptive teaching

Research in German physical education didactics is still at an early stage. Generally speaking, there is a call for all school subjects to identify standards for different school class levels and to find feasible superior professional teacher competencies. The comparison of the LSS dimensions with professional teacher competencies constitutes a first approach toward the investigation of teaching behavior in PE by means of empirical methods. The following chapter describes the objectives and research questions of the present work in detail.

2 Problem Statement

First, a link between the theoretical background and the objectives of the empirical studies presented in chapter 3 will be established. The second part of the chapter describes the starting point and rationale for the research questions of the two studies we conducted.

2.1 Background of the Problem Statement

In the theoretical background (chapter 1), the objectives, qualities and effects of PE were demonstrated. We emphasized that students can benefit from PE in general and from the behavior of their teachers. Moreover, the possibilities and opportunities of research on teachers' professional competencies were highlighted and the relations and similarities to professional teaching in PE were demonstrated. Finally, the conjunction of leadership behavior in sports contexts and teacher behavior in PE was highlighted. The description of the current situation of PE revealed that the expectations of PE are extremely high. Both parents and politicians set high hopes in school PE to take responsibility for the physical, social and health education of the children. Especially for children with a low socioeconomic status and/or an immigrant background, school PE is often the only opportunity to get a basic motor skills education. Motor skills are indispensable for the acquisition of new sports. Moreover, motor skills are very important for leading a physically active and healthy life. Insofar, it is substantial to find an empirical access to PE in general and particularly to the teacher-student-relation.

In Germany, empirical research in PE plays only a secondary role. Sports science is more concerned with achievement and performance in competitive sport than with pedagogical and didactical issues. On the other hand, current educational research focuses on the development of standards for the teacher education and on the formulation of educational standards for the main school subjects. In sports science, however, the efforts to set up standards are at an early stage, one reason perhaps being the lack of empirical findings in the field. As a consequence, more research concerned with PE is required to identify relevant factors for the best possible conditions of students' education in school. Here, research is necessary to ensure a high quality PE teacher education for all school types and age groups. The present work can be considered as one of the first steps

toward entering empirical research into PE in German schools, dealing with the assessment of teacher behavior and its impact on relevant student attitudes.

2.2 Open Questions

As noted in the last paragraph, it is important to assess relevant factors and processes of effective PE in school settings. The teacher-student interaction seems to provide an adequate angle for understanding the conditions of successful and influential PE. Therefore, two empirical studies were conducted to introduce and apply a PE-adapted instrument. The objectives of the studies are described in more detail in the next sections.

2.2.1 Research Questions for Study 1

The first aim of this work was to design an appropriate measurement of PE teacher behavior. To focus the interaction between teacher and students, an instrument was chosen that included the perspectives of both the teachers and their students. Therefore, the LSS was adapted to the PE context and arranged into the three versions: (1) students' preference for specific teacher behaviors, (2) students' perception of their teachers' behavior and the (3) teachers' perception of their own behavior. We had to make sure that all three versions of the instrument satisfied reliability and validity. Another challenge was to examine the influence of the different behavior styles on students' satisfaction and the effect of congruence between the different LSS versions. Finally, a comparative analysis was necessary to reveal which constellation was most successful to predict students' satisfaction. Owing to this proceeding, we aimed to establish a suitable instrument for the assessment of PE teacher behavior. The use of such a measurement might serve as an entrance approach to make teacher behavior in PE tangible. A two-sided assessment of teacher behavior from the students' as well as the teachers' perspective is of focal interest. Moreover, the request of students' preferred teaching behavior further allows for of gaining valuable information concerning the needs of students in PE.

2.2.2 Research Questions for Study 2

The second study of this work deals with the influence of teaching behavior on students' self-regulated motor learning (SRML). Because of the crucial impact of SRML on physical activity, it seems very important to find aspects of teaching

behavior that foster and maintain students' SRML. As mentioned in the introductory words of this chapter, one superior goal of PE is to provide students with the opportunity for an independent and natural contact with sport and physical activities in life. Teachers in PE are in the position to exert a vital influence on their students' SMRL strategy use. Therefore, one goal of this study was to analyze the differential impact of congruent and incongruent teacher-student fit-constellations on students' use of SRML-strategies in relation to students' satisfaction and interest in PE. The reviewed versions of the PE-adapted LSS questionnaires from study 1 were used to measure the different constellations of teacher-behavior perception in relation to the extent of students' SRML strategy usage and their satisfaction and interest in PE. This approach enables a comparison of the different constellations of preferred and perceived teaching behavior and their influence on the described outcome variables. The question was whether the different constellations had a comparable impact on students' SRML and on students' satisfaction and interest in PE, respectively.

3 Empirical Studies in Physical Education

3.1 Study 1: "The Impact of Perceived Teacher-Student Congruence in Physical Education on the students satisfaction"[1]

Abstract

Objectives: The purpose of this study was to adapt the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) to physical education (PE) classes, as a suitable instrument for measuring teacher behavior by consideration of the perspectives of students and teachers. Moreover, the influence of teacher behavior and perceived teacher-student congruence on the satisfaction of students was examined.

Design: Two cross-sectional studies, an online survey with PE teachers and a grammar school study where students responded to a questionnaire assessing students' perception and the preferred teacher behavior and teachers fill in a self-description form regarding their own behavior.

Methods: Participants for study 1 were 527 (254 females and 273 males) PE teachers, age 21-64 years (M= 42.11; SD = 11.21). Participants in study 2 were 1452 students (625 females, 798 males and 29 unstated), age 9-17 years (M = 13.31; SD = 1.49) and 18 PE teachers (8 females and 10 males), age 28-60 years (M= 49.87; SD = 14.99).

Results: Conducted confirmatory factor analysis and the examination of the reliability coefficients indicate that the LSS is adequate for the usage in PE. Hierarchical regression analyses demonstrated that teacher behavior directly influences the satisfaction of students. Moreover, perceived teacher-student congruence has a positive effect on students' satisfaction in the case of the teaching styles of instruction and positive feedback.

Conclusions: The findings support the assumption that the LSS is a suitable instrument for the application in PE. Teachers should be concerned with the perceptions of students and their preferred teaching behavior in order to adapt to their needs and to foster satisfaction and interest in PE.

[1] This chapter based on a manuscript submitted to the journal "Psychology of Sport and Exercise" (Lindberg, Belz, Schmitt & Hasselhorn, *submitted*)

Introduction

More than other school subjects, physical education (PE) is concerned with demands and objectives that are directed at the students' welfare, health and lifestyle (Hagger et al. 2003; Biddle, 2001). Moreover, PE is believed to influence the physical activity of students outside of school and to provide a basis for their future health-related engagement (Jessor, 1984; Aarø *et al.*, 1986; Wold, 1989; Perry *et al.*, 1990). Apart from the influence of peers and family, PE teaching constitutes the major factor for learning, acquiring and developing physical activity habits (Kenyon and McPherson, 1973; Gee, 1987; Sallis and McKenzie, 1991). The challenge of a PE teacher is to provide students with the behavioral skills needed to regulate their own exercise behavior (Dishman *et al.*, 1985; Sallis, 1987) by adequate education and instruction. As a result, PE ought to contribute to the establishment and maintenance of a healthy and physically active life-style (Simons-Morton, 1994).

It is generally assumed that PE teachers can use different teaching styles to influence exercise behavior and physical activity levels outside of the classroom (e.g., Marsh & Peart, 1988). In research, a variety of teaching styles have been recommended, which range from the implementation of only one style, such as cooperative learning, to a broad variety of applied options (Joyce & Weil, 1986; Johnson, 1994; Slavin, 1990). Furthermore, students differ with regard to their abilities, for instance intelligence (Armstrong, 1994), self-regulation (Zimmerman, 1990) or learning style (Curry, 1999). As a consequence, it is indispensable that a teacher acquires and uses different teaching styles adaptively (Bellanca, 1998) to meet the needs of all students and to increase their performance (Doolan & Hongsfeld, 2000).

It has often been reported that PE promotes the students' further interest in physical activity and sports (Almond & Harris, 1998) and that adolescents who had positive attitudes toward PE were more likely to exercise in their future lives (Ferguson *et al.,* 1989). In contrast, research has shown that over time, the interest and participation in PE can decrease (Anderssen, 1993; Van Wersch, Trew & Turner, 1992). Therefore, teachers should aim at feedback-related teaching styles which focus on motivation, interest and improvement. Moreover, it is important to emphasize individualized learning and task related instructions that assist efforts towards improvement (Ames, 1992; Brophy, 1987). Teacher styles concerned

with a feedback component were linked to providing knowledge, motivation and reinforcement (Fitts & Posner, 1967). Accordingly, feedback behavior can operate as a strong source of motivation and as a crucial factor in learning (Cloes, Premuzak, & Piéron, 1993; Graham, 1992; Hellison & Templin, 1991; Sharp, 1992).

Furthermore, adequate teaching behavior can bear a significant impact on the students' level of intrinsic motivation (Ryan, Connell, & Deci, 1985). Motivation in PE, in turn, is linked to a number of important outcomes, such as participation in optional PE (Ntoumanis, 2005) and after-school sports (Goudas, Dermitzaki, & Bagiatis, 2001). Finally, the students' satisfaction with PE seems to be the foundation for a high and motivated engagement in sports (Carlson, 1995; Graham et al., 1998; Portman, 1995; Siedentop, 1991).

It is therefore essential to find an appropriate way of defining adequate teaching behavior, to render it assessable and applicable. In this sense, the multidimensional leadership model (Chelladurai, 1978) can serve as a convenient framework for investigating teaching behavior in PE. This model was originally developed for sports related situations which involve a coach as well as a team. More specifically, the model focuses on the individual behavior of the coach. This behavior can be examined according to (a) the *requirements* of a particular situation, (b) the athletes' *preferences* for the coachs' behavior and (c) the *perception* of the coachs' behavior. Several studies show that a congruence between the perception of coaches and athletes regarding leadership behavior leads to higher performance (Gordon, 1986; Serpa, Pataco, & Santos, 1991; Weiss & Friedrichs, 1986), and satisfaction of the team members (Chelladurai et al., 1988; Chelladurai & Riemer, 1998; Dwyer & Fischer, 1990; McMillin, 1990; Riemer & Chelladurai, 1995; Schliesman, 1987; Summers, 1983; Weiss & Friedrichs, 1986). In addition, further elements have to be considered: the characteristics of the coach, the situation, and the team members can all influence the leadership behavior (Chelladurai & Carron, 1983; Chelladurai, Imamura, Yamaguchi, Oinmuma, & Miyauchi, 1988; Chelladurai, Malloy, Imamura, & Yamaguchi, 1987).

The results within the multidimensional leadership framework are obtained by conducting the *Leadership Scale for Sports* (LSS), a questionnaire developed for the assessment of the different aspects of leadership behavior (Chelladurai &

Saleh, 1980). The LSS consists of five factors: (1) *training and instruction,* (2) *democratic behavior*, (3) *autocratic behavior*, (4) *social support*, and (5) *positive feedback*. In several countries, translated versions of the LSS have been successfully implemented and tested (Chelladurai et al., 1988; Iseberg & Chelladurai, 1990; Kim, Lee & Lee, 1990; Iordanoglou, 1990). Even though the subscale *autocratic behavior* was not replicated in all studies (Alfermann, Saborowski & Würth, 1997; Lee, Williams, Cox & Terry, 1993) the LSS can be classified as a reliable (Riemer & Chelladurai, 1995; Gardner et al., 1996; Price & Weiss, 2000; Trail, 2004; Hollembeak & Amorose, 2005) as well as a valid instrument (Iordanoglou, 1990; Isberg & Chelladurai, 1990; Kim, Lee, & Lee, 1990; Lacoste & Laurencelle, 1989; Serpa, Lacoste, Pataco, & Santos, 1988; Chelladurai & Riemer 1998). As the present study was conducted in Germany, the translated and established four- factorial version of the LSS by Würth, Saborowski & Alfermann (1999) was adapted to the usage in PE.

In order to provide a suitable instrument for measuring teacher behavior in PE, an adequate reformulation of LSS items was conducted for three versions: *students' preference* for specific teacher behaviors, *students' perception* of their teacher and the *teachers' perception* of their own behavior. Subsequently, all three versions were tested concerning reliability and validity. Moreover, the influence of the different behavior styles on students' satisfaction and the effect of congruence between the different LSS versions were examined. Finally, a comparative analysis was conducted to reveal which constellation was most successful to predict students' satisfaction.

Method

This research report refers to two independent studies. The first study addressed PE teachers and it was conducted as a nationwide online-survey. In the second study an extensive questionnaire-based investigation was applied in German grammar schools. The latter study was divided into two sub-studies: *Study 2a: Student-Perspective* is concerned with students' perception/students' preference of teaching behavior and *Study 2b: Student/Teacher-Perspective* regarding students' perception/teachers' perception and students' preference/teachers' perception of teaching behavior.

Participants

In study 1 a complete dataset of 527 (254 females and 273 males) physical education teachers was obtained. The age of the participants ranged from 21 to 64 with an average of 42.11 years (SD = 11.21). The sample of study 2a consisted of 1452 students (625 females, 798 males and 29 unstated). Their age varied from 9 to 17 with a mean of 13.31 years (SD = 1.49). Finally, the sample of Study 2b consisted of 696 students (374 females, 312 males and 10 unstated) and 18 physical education teachers (8 females and 10 males). In this sample, the age differed from 9 to 17 with an average of 13.11 years (SD = 1.54) for students and from 28 to 60 with a mean of 49.87 years (SD = 14.99) for teachers.

Materials

For this project the items of the German version of the LSS were rephrased in reference to school context and transferred to the three versions teacher perception (LSS-Teacher), students' perception (LSS-Student) and preference (LSS-Preference) of physical education behavior, respectively. The instruments were designed as 21-item questionnaires that measured four dimensions of physical education behavior: *education and instruction* (7 items), *democratic behavior* (5 items), *positive feedback* (5 items), and *social support* (4 items). All three versions of the LSS had a unique preface to initiate the single items. In this respect, the LSS-Teacher started with "I show this behavior…", the LSS-Student started with "My teacher..", and the LSS-Preference started with "In physical education classes it is important for me that my teacher…". The items, however, were comparable in all LSS versions. In order to assess the behavior of teachers that is concerned with enhancing the students' sportive and social performance, the dimension *education and instruction* was established (e.g. "Explains to each student the techniques and tactics of the sport"). The second dimension, *democratic behavior*, focused on behavior that allows students to participate in making decisions that refer to the arrangements of the lesson and other activities (e.g. "Lets the students share in decision making". *Positive feedback* was the dimension that measured behavior relating to the reinforcement of students' good performance and behavior (e.g. "Compliments a student on good performance while others are present "). The forth dimension, *social support*, concentrated on behavior that endeavors to reach and maintain a good relationship with the

students and to establish a convenient class climate (e.g. “Helps students with their personal problems“). Participants could rate the items on 5-point, Likert-type scales ranging from *never* (1) to *always* (5). A high score represented a strong perception of the teachers’ behavior, whereas a low one represented a low perception of their behavior.

In order to assess the satisfaction of students, a scale of four items was developed according to the proceeding of Riemer & Chelladurai, 1995. All items started with the term “How satisfied are you with…” and continued with PE related content (e.g. “the structure and the arrangement of the physical education classes?”). Responses were provided on a 7-point, Likert-type scale ranging from *not at all satisfied* (1) to *extremely satisfied* (7).

Procedure

In the present paper, two studies were accomplished. For study 1 an online questionnaire was applied to test the LSS-Teacher in a large sample. To measure the importance and adequacy of the LSS-Teacher, control items for each of the four subscales were added. The control items were initiated by the expression “This aspect is important for my physical education classes” and could be rated on a 4-point, Likert-type scale ranging from *unimportant* (1) to *very important* (4). For example, a control item for the dimension *positive feedback* was “direct award and approval of good student performance”. A mailing list was composed in order to contact various schools, using a public register of German grammar schools (www.schulweb.de). Moreover, a hyperlink connecting to the online-survey was placed on websites relevant for PE teachers (for example the federation of physical education teachers www.dslv.de and the teacher information platform www.teachersnews.net). In addition, a short description of the project was distributed via e-mail and presented on the websites. The completion of the questionnaire took approximately 10 minutes.

Study 2 addressed secondary level students in German grammar schools. Seven schools and over 49 classes were recruited in order to obtain a sufficient sample size. The questionnaires were administered in close collaboration with the PE teachers. Following an intensive briefing and the supply of a handout instruction, the cooperating teachers applied the LSS-Perception, the LSS-Preference and the satisfaction scale to all classes. Moreover, the participating teachers were asked to

fill in the LSS-Teacher. A complete dataset could only be accomplished for 27 classes so that the sample is divided, as mentioned before, into the sub-studies 2a), full sample for LSS-Perception and LSS-Preference and 2b), sub-sample with all versions of the LSS.

Results

Study 1

Reliability and descriptive statistics

Table 1 presents the internal reliability, means, standard deviations, and scale ranges. The means of the four control items show that all categories can be considered as important for PE to some degree. For internal reliability Cronbach's alpha coefficient is used. All subscales reached an appropriate level: the LSS-Teacher dimensions *education and instruction* and *positive feedback* were acceptable (α = 0.74 and α = 0.78, respectively) and the dimensions *democratic behavior* and *social support* are considered as good (α = 0.84 and α = 0.83, respectively). Moreover, the mean scores illustrate that most teachers believed that the behavior pattern described by the items of the LSS-Teacher frequently occurs in their own educational habits.

Table 1
Internal consistencies and descriptive statistics for each measure

Measure	α	M	SD	Scale range
Control Item 1 (Instruction)	-	3.37	0.70	1-4
Control Item 2 (Democratic)	-	2.92	0.77	1-4
Control Item 3 (Positive Feedback)	-	3.69	0.58	1-4
Control Item 4 (Social Support)	-	2.90	0.81	1-4
LSS-Teacher (Instruction)	0.74	3.83	0.51	1-5
LSS-Teacher (Democratic)	0.84	3.49	0.68	1-5
LSS-Teacher (Positive Feedback)	0.78	4.20	0.56	1-5
LSS-Teacher (Social Support)	0.83	3.65	0.71	1-5

An overview of Pearson's correlations of all variables is illustrated in Table 2. The four dimensions of the LSS-Teacher were all correlated significantly (rs > 0.45). Thus, it seems that all subscales shared an overlapping content beyond the aspect that was specifically addressed. This overlap seems due to behavior that positively influences and promotes the students' abilities and welfare. Correlation

analyses between the control items and the corresponding LSS-Teacher dimensions were conducted to estimate the importance of the instrument for PE classes. Following our assumption, the control items were related to the distinct subscales. The highest correlation always appeared in conjunction with the matched LSS-Teacher dimension. Hence, the content of the LSS seems to be suitable for PE.

Table 2
Pearson's correlations between all variables

Factor	1	2	3	4	5	6	7
1. Control Item 1 (Instruction)							
2. Control Item 2 (Democratic)	0.07						
3. Control Item 3 (Positive Feedback)	0.27**	0.25**					
4. Control Item 4 (Social Support)	0.7	0.31**	0.34**				
5. LSS-Teacher (Instruction)	0.40**	0.26**	0.50**	0.30**			
6.LSS-Teacher (Democratic)	0.08	0.64**	0.35**	0.35**	0.45**		
7. LSS-Teacher (Positive Feedback)	0.24**	0.31**	0.57**	0.30**	0.63**	0.54**	
8. LSS-Teacher (Social Support)	0.11**	0.40**	0.42**	0.63**	0.54**	0.61**	0.57**

**p<0.01, *p<0.05

Construct Validity

Chelladurai and Riemer (1998) already confirmed the subscale structure of the LSS with a confirmatory factor analysis. They referred to the fit index RMSEA (root-mean-square error of approximation) as an indicator for the appropriateness of the model. Even though the χ^2 goodness of the fit index is a widely accepted index, it is closely related to the size of a sample, and it fails to estimate a large sample size (Marsh, Balla, & McDonald, 1988). Consequently, the χ^2 index does not seem to be the appropriate type of measure for our study. The applied model (χ^2 = 761.51, df = 183) reflected the postulated four dimensional structure of the LSS. The software AMOS 7.0 was used for testing the model (Arbuckle, 2006). According to current standards (Hu & Bentler, 1998; 1999; MacCallum & Austin, 2000), the present study determined the goodness of fit by the standardized root-mean-square residual (SRMR) and the root-mean-square error of approximation (RMSEA, Steiger, 1989; Steiger & Lind, 1980). Literature states that a SRMR below 0.10 indicates a good model fit (Quintana & Maxwell, 1999). Furthermore, a RMSEA below 0.05 is considered to be a very good fit and values between 0.06 and 0.08 are regarded as a good fit (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996). In line with the

aforementioned indices the model proved to be a good fit to the data of our study (SRMR = 0.07 and RMSEA = 0.07, respectively). Moreover, the examination of the model's parameters showed that all item loadings on the four assigned factors were significant, positive, and exceeded the defined minimum of 0.40 (Ford, McCallum, & Tait, 1986). The standardized loadings ranged from 0.50 to 0.83. Based on these findings, it seems reasonable to apply the LSS to PE.

Study 2

Reliability and descriptive statistics

Internal reliability and descriptive statistics for the measures administered in study 2 are presented in Table 3. Reliability was good for all scales of LSS-Student and LSS-Preference and acceptable for the LSS-Teacher. The examination of the mean scores revealed that students required more teacher behavior in all domains but *social support*. In general, students perceived and mostly desired a moderate or high level of the specific teacher behavior. Interestingly, the mean scores of teachers' perception of their own behavior were higher than the perception scores of the students. The teachers' self-rated behavior values exceeded the students' preference values in all subscales but not in the scale *democratic behavior*. Finally, students' satisfaction seemed to be moderate to high.

Table 3
Internal consistencies and descriptive statistics for each measure

Measure	α	M	SD	Scale range
LSS-Student (Instruction)	0.86	3.46	0.85	1-5
LSS- Student (Democratic)	0.84	3.04	0.96	1-5
LSS- Student (Positive Feedback)	0.84	3.41	0.96	1-5
LSS- Student (Social Support)	0.87	2.97	1.04	1-5
LSS- Preference (Instruction)	0.84	3.68	0.79	1-5
LSS- Preference (Democratic)	0.83	3.74	0.85	1-5
LSS- Preference (Positive Feedback)	0.81	3.80	0.87	1-5
LSS- Preference (Social Support)	0.84	3.59	0.92	1-5
LSS- Teacher (Instruction)	0.65	4.22	0.36	1-5
LSS- Teacher (Democratic)	0.76	3.44	0.52	1-5
LSS- Teacher (Positive Feedback)	0.83	4.39	0.36	1-5
LSS- Teacher (Social Support)	0.74	3.87	0.60	1-5
Students' Satisfaction	0.91	4.61	1.74	1-7

The correlations of the three LSS versions and the students' satisfaction are listed in Table 4. As shown in Table 2 the LSS items seem to share common aspects. Consequently, significant positive correlations were observed for the LSS-Student (rs > 0.68), LSS-Preference (rs > 0.66), and LSS-Teacher (rs > 0.26). The subscale *social support* of the LSS-Teacher, however, was not correlated with the subscale *democratic behavior*. Furthermore, the students' perception and their preference of teacher behavior were positively correlated. In contrast, the teachers' perception of their own behavior was unrelated to the preference of the students, although it was correlated to their perception. Overall, the students' satisfaction was almost always associated with all variables. As an exception, the LSS-Teacher subscale *social support* bore no correlation with the satisfaction of the students.

Table 4
Pearson's correlations between all variables

Factor	1	2	3	4	5	6	7	8	9	10	11	12
1. LSS-Student (Instruction)												
2. LSS- Student (Democratic)	0.72**											
3. LSS- Student (Positive Feedback)	0.75**	0.68**										
4. LSS- Student (Social Support)	0.73**	0.79**	0.70**									
5. LSS- Preference (Instruction)	0.38**	0.30**	0.36**	0.31**								
6. LSS- Preference (Democratic)	0.31**	0.28**	0.32**	0.26**	0.74**							
7. LSS- Preference (Positive Feedback)	0.33**	0.25**	0.38**	0.28**	0.73**	0.71**						
8. LSS- Preference (Social Support)	0.33**	0.29**	0.35**	0.40**	0.71**	0.73**	0.66**					
9. LSS- Teacher (Instruction)	0.25**	0.20**	0.22**	0.31**	0.04	0.01	0.00	0.06				
10. LSS- Teacher (Democratic)	0.11**	0.10**	0.11**	0.13**	0.07	0.04	0.01	0.04	0.38**			
11. LSS- Teacher (Positive Feedback)	0.28**	0.21**	0.25**	0.31**	0.05	0.01	0.02	0.07	0.71**	0.26**		
12. LSS- Preference (Social Support)	0.68**	-0.03	0.07	0.08	0.06	0.01	0.03	0.06	0.70**	0.05	0.48**	
13. Students' Satisfaction	0.58**	0.56**	0.51**	0.56**	0.24**	0.18**	0.21**	0.22**	0.25**	0.26**	0.30**	-0.07

**p<0.01, *p<0.05

Construct Validity

For the LSS-Student and the LSS-Preference a confirmatory factor analysis was applied. Both models showed an acceptable fit to the data: SRMR = 0.06 and RMSEA = 0.08 for LSS-Student (χ^2 = 2130.13, *df* = 183) and SRMR = 0.05 and RMSEA = 0.08 for LSS-Preference (χ^2 = 2176.14, *df* = 183). According to Table 3 the instruments can be considered as reliable and valid.

Study 2a

Hierarchical multiple regression analyses

The sample for study 2a) included all participating students because all of the administered LSS-Students and LSS-Preference questionnaires were filled in. Hierarchical multiple regression analyses (HMRA) were conducted to examine the predicting effects of the LSS. In Table 5 an overview of the four HMRAs concerning all subscales of the LSS-Preference, LSS-Student and LSS-Interaction (LSS-Preference X LSS-Student) is presented. Each HMRA included three steps: the students' preference was entered first (step 1) followed by the addition of the students' perception (step 2) and finally the interaction term was included (step 3). We chose these predictors since we assumed that the LSS-Preference was able to predict students' satisfaction and that the LSS-Student served as a stronger predictor. Moreover, the interaction term was entered in order to examine concurrent effects of the LSS-Preference and LSS-Student.

Table 5
Predicting Students' Satisfaction by the LSS- Preference and LSS- Student – Study 2a

Step	Variable	β	R^2	R^2 change	*F* change	*F*
LSS-Preference (P) & LSS-Student						
1	LSS-P Instruction	0.24***	0.05	0.05	85.03***	85.03***
2	LSS-P Instruction	0.01	0.34	0.28	593.51***	357.84***
	LSS-S Instruction	0.58***				
3	LSS-P Instruction	0.03	0.35	0.00	9.46**	243.20**
	LSS-S Instruction	0.57***				
	LSS-P x LSS-S Instruction	0.07**				
1	LSS-P Democratic	0.18***	0.03	0.03	48.61***	48.61***
2	LSS-P Democratic	0.02	0.31	0.28	561.76***	315.25***
	LSS-S Democratic	0.55***				
3	LSS-P Democratic	0.36	0.31	0.00	2.38	211.17***
	LSS-S Democratic	0.54***				
	LSS-P x LSS-S Democratic	0.03				
1	LSS-P Positive Feedback	0.20***	0.04	0.04	62.00***	62.00.***
2	LSS-P Positive Feedback	0.01	0.26	0.21	401.357***	240.86***
	LSS-S Positive Feedback	0.50***				

3	LSS-P Positive Feedback	0.04	0.26	0.00	9.91**	164.94***
	LSS-S Positive Feedback	0.49***				
	LSS-P x LSS-S P. Feedback	0.07**				
1	LSS-P Social Support	0.22***	0.04	0.04	70.14***	70.14***
2	LSS-P Social Support	-0.09	0.32	0.27	546.36***	322.37***
	LSS-S Social Support	0.57***				
3	LSS-P Social Support	0.00	0.32	0.00	2.01	215.75***
	LSS-S Social Support	0.56***				
	LSS-P x LSS-S Social Support	0.33				

*p<0.05, **p<0.01, ***p<0.001

The LSS-Preference subscales all had a significant influence on students' satisfaction (β ranging from 0.18 to 0.24). The explained variance ranged at a low level (3% to 5%). When the LSS-Student was included, LSS-Preference was no longer predictive. Thus, the effect seemed to be mediated by the LSS-Student (β ranging from 0.50 to 0.58). Furthermore, at step 2 the explained variance ranged from 26% to 34%. The interaction term, added in step 3, was significant for the subscales education and instruction and positive feedback. According to Riemer and Chelladurai (1995) the significance of the interaction term but not the size of the change in R^2 is important. They refer to McFarlin and Rice (1991) who stated that, "The critical point, however, is not how much variance is explained but whether the increment provided by the interaction term is statistically reliable" (p.34).

Study 2b

Hierarchical multiple regression analyses

Since it was not possible to gain a complete dataset for all versions of the LSS, study 2b included only data of students that could be combined with self-description data of their PE teachers assessed by the LSS-Teacher. For study 2b eight HMRAs were conducted: four concerning the teacher and the student perception, and four focusing on student preference and teacher perception. In analogy to the data analysis reported for study 2a, the LSS-Teacher scores were entered first (step 1), followed by the LSS-Student (step 2) that was presumably the more powerful predictor. Finally, the interaction term (LSS-Teacher x LSS-Student) was included (step 3). As shown in Table 6, all subscales of the LSS-Teacher revealed a significant influence on students' satisfaction (β ranging from -0.07 to 0.30). Explained variance ranged at a low level from <1% to 9%. The inclusion of the LSS-Student enhanced the explained variance (ranging from 32% up to 41%). Interestingly, the LSS-Teacher remained significant at step 2 (β

ranging from -0.13 to 0.20) but seemed to be partly mediated by the LSS-Student (β ranging from 0.49 to 0.61). The interaction term added at step 3 did not increase the explained variance and was not significant for any subscales.

Table 6
Predicting Students' Satisfaction by the LSS-Teacher, LSS-Student and LSS-Preference – Study 2b

Step	Variable	β	R^2	R^2 change	*F* change	*F*
LSS-Teacher (T) & LSS-Student (S)						
1	LSS-T Instruction	0.25***	0.06	0.06	47.33***	47.33***
2	LSS-T Instruction	0.11***	0.38	0.32	349.74***	210.96***
	LSS-S Instruction	0.58***				
3	LSS-T Instruction	0.11***	0.39	0.01	0.71	140.82***
	LSS-S Instruction	0.59***				
	LSS-T x LSS-S Instruction	0.26				
1	LSS-T Democratic	0.26***	0.07	0.07	50.65***	50.65***
2	LSS-T Democratic	0.20***	0.41	0.34	387.06***	238.94***
	LSS-S Democratic	0.59***				
3	LSS-T Democratic	0.20***	0.41	0.00	0.25	159.20***
	LSS-S Democratic	0.59***				
	LSS-T x LSS-S Democratic	0.15				
1	LSS-T Positive Feedback	0.30***	0.09	0.09	70.02***	70.02***
2	LSS-T Positive Feedback	0.17***	0.32	0.22	224.46***	159.00***
	LSS-S Positive Feedback	0.49***				
3	LSS-T Positive Feedback	0.17***	0.32	0.00	1.77	106.72***
	LSS-S Positive Feedback	0.49***				
	LSS-T x LSS-S P. Feedback	0.04***				
1	LSS-T Social Support	-0.07*	0.00	0.00	3.80*	3.80*
2	LSS-T Social Support	-0.13***	0.37	0.37	397.17***	201.62***
	LSS-S Social Support	0.61***				
3	LSS-T Social Support	-0.13***	0.37	0.00	0.32	134.39***
	LSS-S Social Support	0.61***				
	LSS-T x LSS-S Social Support	0.01				
LSS- Preference & LSS-Teacher						
1	LSS-P Instruction	0.25***	0.06	0.06	45.73***	45.73***
2	LSS-P Instruction	0.25***	0.13	0.06	50.78***	49.98***
	LSS-T Instruction	0.25***				
3	LSS-P Instruction	0.25***	0.14	0.00	5.84**	35.51***
	LSS-T Instruction	0.25***				
	LSS-P x LSS-T Instruction	0.08**				
1	LSS-P Democratic	0.18***	0.03	0.03	23.35***	23.35***
2	LSS-P Democratic	0.17***	0.09	0.06	46.14***	35.55***
	LSS-T Democratic	0.25***				
3	LSS-P Democratic	0.17***	0.10	0.00	1.74	24.31***
	LSS-T Democratic	0.25***				
	LSS-P x LSS-T Democratic	0.04				
1	LSS-P Positive Feedback	0.18***	0.03	0.03	22.69***	22.69***
2	LSS-P Positive Feedback	0.17***	0.12	0.09	68.62***	46.83***
	LSS-T Positive Feedback	0.30***				
3	LSS-P Positive Feedback	0.17***	0.13	0.01	7.62**	34.08***
	LSS-T Positive Feedback	0.29***				
	LSS-P x LSS-T P. Feedback	0.10**				
1	LSS-P Social Support	0.25***	0.06	0.06	44.07***	44.07***
2	LSS-P Social Support	0.25***	0.07	0.00	4.77*	24.55***
	LSS-T Social Support	-0.08*				
3	LSS-P Social Support	0.25***	0.07	0.00	0.41	16.49***
	LSS-T Social Support	-0.08*				
	LSS-P x LSS-T Social Support	0.02				

*p<0.05, **p<0.01, ***p<0.001

Consistent with the procedure used before, the LSS-Preference was entered first (step 1) followed by the LSS-Teacher (step 2) that was considered to be the stronger predictor. In a final step, the interaction term (LSS- Preference x LSS- Teacher) was inserted (step 3). As indicated in Table 6, all subscales of the LSS- Preference have a significant influence on students' satisfaction (β ranging from 0.18 to 0.25). Explained variance ranged at a low level from 3% to 6%. The added LSS-Teacher improved the explained variance (ranging from 7% up to 13%). Moreover, the LSS- Preference and LSS-Teacher were both significant at step 2 (β ranging from 0.17 to 0.25, and -0.08 to 0.30, respectively) and appeared to have an equal influence on students' satisfaction. Finally, the interaction term entered in step 3 was again significant for the subscales *education and instruction* and *positive feedback*.

Discussion

The purpose of this study was to explore whether the Leadership Scale for Sports (LSS) is a suitable instrument to measure teacher behavior when considering the perspectives of students and teachers, respectively, in physical education (PE). We were further interested in the impact of different teaching styles on students' satisfaction, and further, which version of the instrument might be the best to predict students' satisfaction. Finally, according to the congruence hypothesis of the multidimensional leadership model (Chelladurai, 1978), the interaction of the different LSS versions and its impact on students' satisfaction were examined.

Reliability and Validity of the LSS

The confirmatory factor analysis and examination of the reliability coefficients in all studies revealed that the three versions of the LSS seem adequate for the use in school contexts for measuring teaching behavior that can influence students' satisfaction. Since teachers were asked to judge the importance of the behavior measured by the subscale of the LSS, the content of the instrument is considered as highly relevant for PE.

Prediction of students' satisfaction by the three LSS versions

The applied HMRAs and the correlations showed that all versions of the LSS and all subscales substantially contribute to students' satisfaction. Since

study 2 analyzed combined effects of the LSS versions a closer inspection of the predictive power was possible. In general, the students' perception of the teacher behavior (LSS-Student) emerged as the strongest factor on students' satisfaction followed by the teachers' perception of their own behavior (LSS-Teacher). Finally, the students' preference of a specific teacher behavior (LSS-Preference) seemed to have the least impact on students' satisfaction and its influence is highly mediated by the LSS-Student. Hence, the perception of actual teacher behavior outperformed the description of preferred teacher behavior in predicting students' satisfaction. Almost the same statement applies to the relation of the LSS-Student and the LSS-Teacher. Here, however, the LSS-Teacher continued to be predictive. In contrast, when LSS-Preference and LSS-Teacher were regarded in combination, their influence on students' satisfaction was comparable. Thus, among all versions and all subscales of the LSS, the LSS-Student appeared to be the most important instrument for predicting the satisfaction of students in PE.

Examination of the interaction effects – congruence hypothesis

As mentioned before, the congruence hypothesis is a crucial element of the multidimensional leadership model (Chelladurai, 1978). Therefore, an interaction term was entered in the last step of the applied HMRAs. For study 2a) the interaction was significant for the subscales *education and instruction* and *positive feedback*. Low and high scores of the LSS-Student and LSS-Preference were plotted in order to interpret these interactions. The constitution of the interactions is illustrated in Figure 1, exemplary for the factor *positive feedback*.

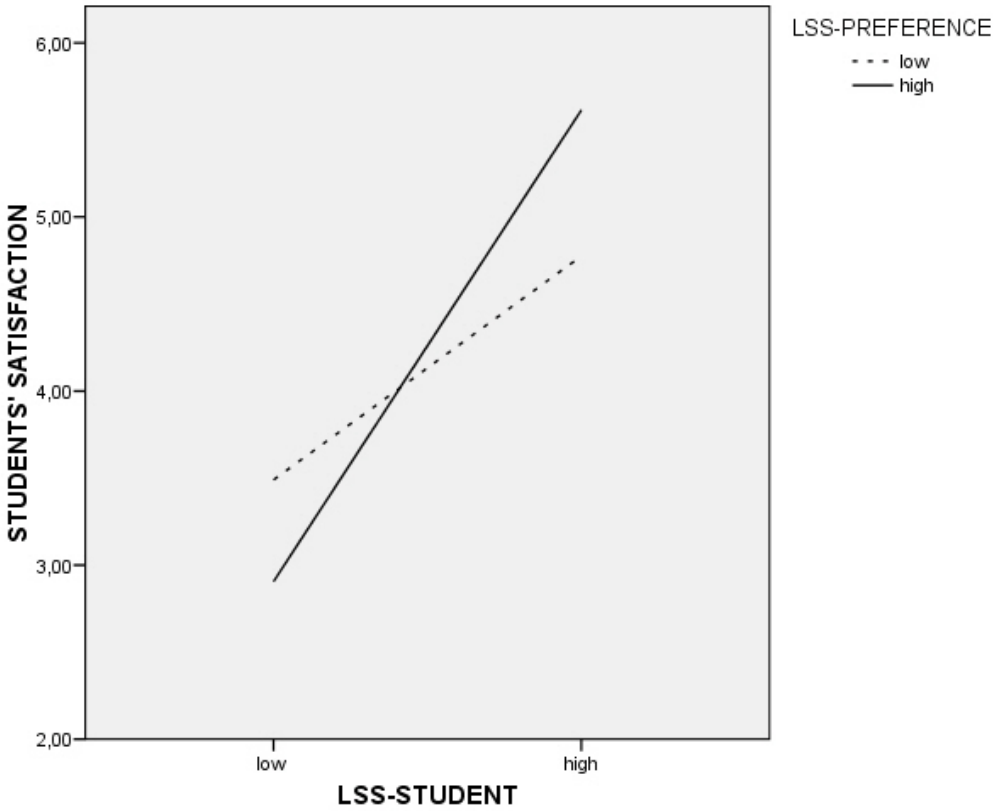


Figure 1. Interaction of LSS-Student and LSS-Preference

Considering the disordinal interaction displayed here, the satisfaction of students with a preference for a high rate of positive feedback was apparently negatively affected if they perceived their teachers as diverging from their own needs. Students, however, who had a preference for a low rate of positive feedback benefit from a perceived teacher behavior that showed more positive feedback. In summary, students perceiving low positive feedback were less dissatisfied than the students who required a high level of that behavior. This indicates a slight effect of congruence as well.

Figure 2 exemplarily demonstrates the interactions found in study 2b) again for positive feedback. For a better understanding, the low and high scores of the LSS-Teacher and LSS-Preference were plotted. Considering the displayed ordinal interaction it is evident that among all students, the satisfaction was higher when the teachers perceived their own behavior as highly. Students, however, who preferred a low positive feedback were in general less satisfied. In contrast, students who preferred a high level of positive feedback benefit from a fit-constellation with their teachers' self-description. In addition, the latter students'

satisfaction was negatively affected when the student-teacher constellation was incongruous. In this respect, the congruence hypothesis was confirmed.

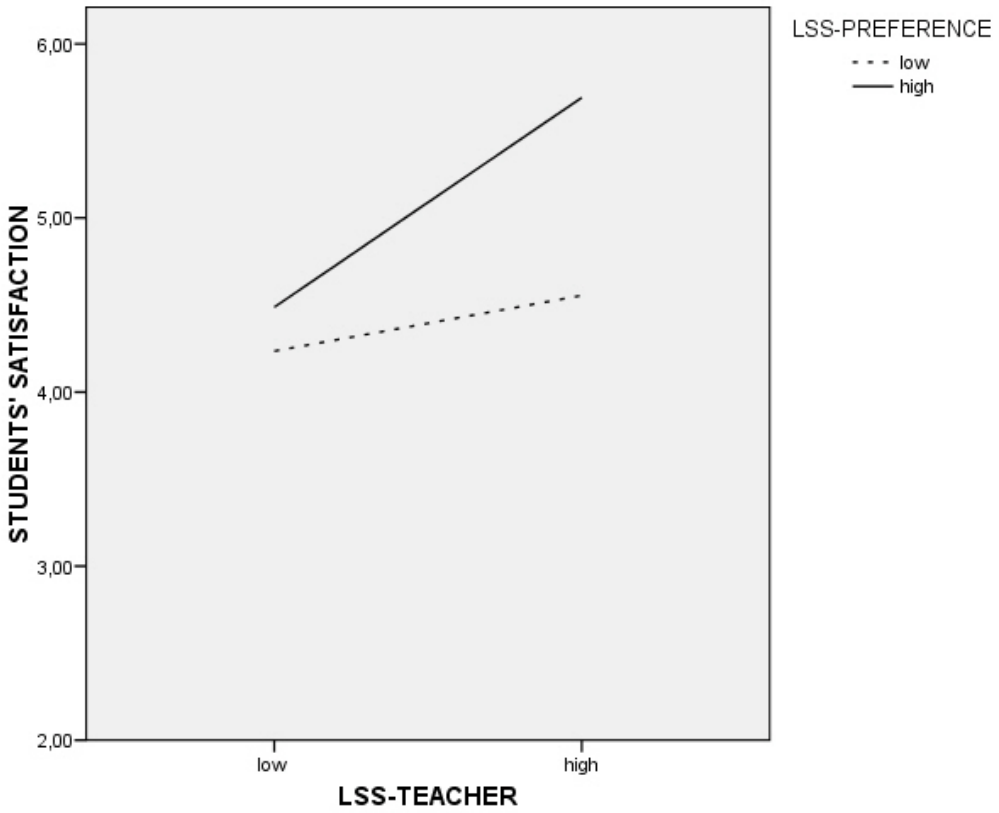


Figure 2. Interaction of LSS-Teacher and LSS-Preference

Further perspectives - congruence hypothesis

With regard to the congruence hypothesis, there is an ongoing discussion about the best way of analyzing the fit-constellation. As Johns (1981) criticised discrepancy scores for being unreliable, we conducted HMRAs with interaction terms to avoid inaccuracy measures here. So far, only a few studies have used this kind of analysis and when they did so, the results were not consistent (Riemer & Chelladurai, 1995; Riemer & Toon, 2001). Nonetheless, the findings of this study encourage the idea that the applied approach was both an appropriate and a successful way of analyzing the data.

The interaction effects found in study 2a) and 2b) are restricted to the subscales *education and instruction* and *positive feedback*. These dimensions of the LSS seem to have the most important influence on students' satisfaction regarding fit-constellations between perception and preference of teaching behavior. Clearly, students who preferred and perceived a high level of that kind

of teaching behavior were generally more satisfied. In contrast, students who preferred a low level of that behavior were in general less satisfied. A possible explanation could be that those students were also less interested in PE. In our study, interest was measured by a 14-item questionnaire based on the procedures of Thomas (1987) and Wigfield et al. (1997). We found high correlations between satisfaction and interest ($r = 0.51$). Hence, students who displayed low scores in the subscales *education and instruction* and *positive feedback* presumably attached little importance to PE in general.

General discussion

The aforementioned results are consistent with other findings regarding leadership in sports (for a detailed overview: Chelladurai, 1990; Chelladurai 2007). In detail, Alfermann and Würth (2005) considered the dimensions *instruction* and *feedback* as important coach behaviors which had a positive impact on athletes and their satisfaction. These assumptions were in line with the results of Chelladurai and Riemer (1998) as well as those of Smith and Smoll (1996) who analyzed the influence of perceived coach behavior on athletes' satisfaction. Furthermore, other studies reported that leadership behavior-congruency is related to satisfaction (Chelladurai, 1984; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987). There is additional emphasis that a leader (coach or teacher) has to be active in the role of instruction and guidance (Pescosolido, 2001) and that a leader has to ensure that the needs of the entrusted persons (students) are satisfied and that their objectives can be reached (Carron & Hausenblas, 1998). Accordingly, the LSS dimensions *education and instruction* and *positive feedback* represent behavior that is concerned with the enhancement of students' sportive and social performance and the reinforcement of students' good performance and behavior. Several researchers (Allen & Howe, 1998; Black & Weiss, 1992) emphasized that coaches who frequently provide positive and encouraging feedback enhance the development of intrinsic motivation in their athletes. Moreover, Weiss (1987) and Feltz (1988) noted that it is important that a teacher enables students to develop positive attitudes regarding their progress in PE to improve the students' intrinsic motivation. In addition, athletes who perceived their coaches to be high in frequency of positive feedback felt more competent and were more interested in and satisfied with sports

(Amorose & Horn, 2000). As a consequence, constantly perceived success will lead to a high level of satisfaction and increased self-esteem (Mitchell, 1996). In contrast, the perception of failure causes a lack of intrinsic motivation, whereas the continuing feeling of success increases the intrinsic motivation of students (Bandura and Schunk, 1981). The motivation of students for PE is highly related to beneficial outcomes, such as participation in voluntary sports groups and recreational exercises and sports (Goudas, Dermitzaki, & Bagiatis, 2001; Ntoumanis, 2005). In conclusion, the students' satisfaction with PE can provide long-term motivation and engagement in sports and exercise outside school (Carlson, 1995; Graham et al., 1998; Portman, 1995; Siedentop, 1991). It can therefore establish and maintain a healthy and physically active life-style (Simons-Morton, 1994).

Conclusion

In summary, the results of our study support the assumption that the LSS is a suitable instrument for the usage in PE to measure teaching behavior that can influence students' satisfaction. Moreover, the students' perception of their teachers' behavior highly influences students' satisfaction. With regard to student-teacher congruence, *education and instruction* and *positive feedback* seem to be the most important behavior styles. Thus, teachers should provide these behaviors in an appropriate way to adapt to the needs of theirs students. It is nevertheless important that students are promoted regarding their interest in PE and physical activities in general, so that a basis is established for physical education teachers to reach and foster their students.

3.2 Study 2: "Overregulation in Physical Education – Teaching Behavior Effects on Self-Regulated Motor Learning" [2]

Abstract

This study examines students' use of self-regulated motor learning strategies in relation to a congruent or incongruent teacher-student fit-constellation of perceived and preferred teaching behavior. Over 1450 students and 18 physical education teachers participated in a cross-sectional study in German grammar schools. In order to analyze different fit-constellations we applied the three versions of the Leadership Scale for Sports and Physical Education (LSS-PE) that concern students' perception and their preference of specific teaching behavior and teachers' self-perception of their own behavior. The results of the study indicate that a congruent perception of teaching behavior is beneficial for students' satisfaction and interest in physical education. Moreover, students apply more self-regulated motor learning strategies when the fit-constellation is congruent or when they perceive or prefer more teaching behavior than the teachers actually supply. In addition, when teachers supply more teaching behavior than perceived or preferred by the students, satisfaction and interest in physical education as well as self-regulated motor learning is affected by this overregulation.

[2] This chapter based on a manuscript submitted to the journal "Learning and Instruction" (Lindberg, Lehmann, Schmitt & Hasselhorn, *submitted*)

Introduction

Physical education (PE) is challenged to have a sustained impact on students' physical activity and health behavior outside of school (Hagger et al. 2003; Biddle, 2001). PE should enhance the physical habits of students and provide further health related activities (Jessor, 1984; Aarø *et al.*, 1986; Wold, 1989; Perry *et al.*, 1990; Weir, 2000). To achieve this objective the development of physical-motor skills is a crucial educational goal in PE (O'Sullivan, 2004) and physical motor learning is considered as a core curriculum for school PE (Arnold, 1991). In this regard, a PE teacher is in charge of instructing students the relevant motor skills they need to handle their own exercise behavior, and to consequently teach them how to acquire new sports or physical skills (Dishman *et al.*, 1985; Sallis, 1987).

Self-regulation in school and sport context

Motor learning and achievement is closely connected to self-regulation abilities (Clark, 1995; Glencross, 1994; Lavisse, Deviterne, & Perrin, 2000; Lidor, Tennant, & Singer, 1996; Luke & Hardy, 1999; Masson, 1990; Singer, Flora, & Abourezk, 1989). Self-regulated learning is defined as a constructive process that incorporates cognition, motivation and volition (Boekaerts, 1999; 1989; Zimmerman & Martinez-Pons, 1988, 1990). A self-regulated learner is concerned with active goal-setting and the pursuit of monitoring, regulating and controlling cognition, motivation and behavior to reach a particular result or improvement (Elbe et al., 2005; Martin, 2004; Pintrich, 2000). Students can be considered as self-regulated learners if they participate metacognitively, motivationally, and behaviorally active in learning conditions (Flavell, 1985; Nisbet & Shucksmith, 1986; Zimmerman, 1989, 1990). Progress in self-regulated learning depends on the willingness of students to define goals, to focus on essential steps, to be active, to deal in an appropriate way with success and failure, to realize concepts and to avoid internal and external distraction (Weinert, 1994). In addition, the combined use of goals, strategies, and metacognitive knowledge is determining for students' self-regulated actions (Davidson & Stenberg, 1985; Lefebvre-Pinard & Pinard, 1985). Beneficial effects of self-regulated learning were consistently reported both in the verbal and cognitive learning domain (Boekaerts, 1999; Pintrich & Schrauben, 1992; Schunk & Zimmerman, 1994; Zimmerman, 1990), and from a

sport science, and exercise psychology perspective in the domain of self-regulated motor learning (SRML). SRML seems to improve students' lesson comprehension and motor performance (Scantling, McAleese, Tietjen, and Strand, 1992; Bouffard and Dunn, 1993; Singer, Lidor, & Cauraugh, 1993; Schunck & Zimmerman, 1996). Moreover, SRML supports a continuing learning and performance process and it is a precondition for persevering and intensive training (Elbe et al., 2005). On the other hand, SRML emphasized the interrelation between individual and contextual characteristics and achievement and performance (Zimmerman & Kitsantas, 1996), and the role of cognitive, emotional and motivational efforts (e.g. Lavisse et al., 2000; Lidor, 2004; Luke & Hardy, 1999; Singer et al., 1989; Zimmerman & Kitsantas, 1996). Finally, knowledge about strategies is indispensable for students to regulate their own learning (Zimmerman & Martinez-Pons, 1990). In PE conducted learning strategies have a positive effect on the accuracy of performance (Lidor, 2004).

Measurement of self-regulation for motor-skills

The measurement of self-regulated learning ranges from the observation of overt behavior (Turner, 1995; Corno, 2001) to the analyses of interviews (Perry, 2002; Zimmerman & Martinez-Pons, 1988) and diaries (Randi & Corno, 1997). From the perspective of quantitative research, the most common instrument for assessing self-regulated learning is the *Motivated Strategies for Learning Questionnaire* (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1993). The MSLQ assesses reported cognitive and metacognitive strategy use in consideration of students' motivational beliefs and their techniques for managing resources in specific situations. Based on the conception of the MSLQ, a sport-specific instrument (StraBL - *Strategien beim selbstgesteuerten Bewegungslernen*; possible translation: „Strategies of Self-Regulated Motor Learning") was developed by Bund and Wiemeyer (2005) to assess learning strategies during the self-controlled learning of motor skills. The questionnaire consists of five subscales: (1) *Cognitive Strategies*, (2) *Metacognitive Strategies*, (3) *Management of Internal Resources*, (4) *Management of External Resources*, and (5) *Motor Strategies*. In order to encourage the imagination of the participants, a learning-specific context story is presented as a framework for the instrument (Leopold & Leutner, 2002).

Influence on self-regulation and teacher behavior

Generally speaking, research of the teaching-learning interaction focuses rather on the learner than on the teacher (Dansereau et al., 1979; Weinstein & Mayer, 1986; Weinstein & Underwood, 1985). Nevertheless, several studies have demonstrated the efficiency of self-regulation training and strategy teaching on motor learning (Singer & Cauraugh, 1985; Singer, DeFrancesco, & Randall, 1989; Singer & Gerson, 1979). The effectiveness of those trainings is based on imparting learning strategies concerned for example with labeling (Winter & Thomas, 1981), rehearsal (Gallagher & Thomas, 1984), organization (Gallagher & Thomas, 1986), and imagining (Feltz & Langer, 1983). Moreover, the teaching of self-regulated learning that comprises goal setting, self-monitoring, and self-reflection processes improves motivation and achievement (Schunk, 1996; Wood, Bandura, & Bailey, 1990).

Boekaerts (1999) found that teachers have to consider that students need a certain degree of autonomy for the development of active self-regulated learning. While SRML can be negatively affected by an overdirective teaching behavior (De Grave et al., 1999), an active and explicit communication style seems to increase both the students' motivation to learn and their interest (Bergen et al., 1994) and might additionally influence their satisfaction (Brekelmans et al., 1989). Hence, the behavior of the teacher seems to be a strong factor regarding students' opportunities to develop SRML (Levy et al., 1992). Accordingly, problem-based learning environments assumingly enhance the students' ability to acquire and apply knowledge (Choi & Hannafin, 1995). Interesting and challenging learning tasks are more likely to be recognized and they can lead to an increased strategy use. Thus, for the development of and advances in SRML the major task of the teacher is to initiate, guide and encourage students' autonomy in learning (Vermunt, 1998). In this regard, teachers are more comparable to coaches or mentors (Van Velzen, 2003) and they are requested to advise and motivate their students rather than to regulate or "drill" them (Boekaerts, 1999).

A suitable instrument for measuring teacher behavior is provided by Lindberg, Belz, Schmitt and Hasselhorn (*submitted*). Aa LSS version adapted for PE was developed on the basis of the multidimensional leadership model provided by Chelladurai (1978) and the *Leadership Scale for Sports* (LSS; Chelladurai & Saleh, 1980). The LSS-PE consists of four factors: (1) *Education and Instruction,*

(2) *Democratic Behavior*, (3) *Social Support* and (4) *Positive Feedback. It* is obtainable in three versions: *students' preference* for specific teacher behaviors, *students' perception* of their teacher and *teachers' perception* of their own behavior. Alfermann and Würth (2005) considered the dimensions *education and instruction* and *positive feedback* as important coach behaviors that have a positive impact on athletes and their satisfaction. These assumptions were in line with the results of Chelladurai and Riemer (1998) as well as with those of Smith and Smoll (1996) who analyzed the influence of perceived coaches' behavior on athletes' satisfaction. According to Chelladurai's (1978) congruence hypothesis a corresponding perception of leadership behavior by athletes and their coaches leads to high satisfaction and better performance (Chelladurai, 1984; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987). This hypothesis is also supported by our own findings within the PE context where the interaction of the different LSS-PE versions was examined (Lindberg et al., *submitted*).

Research has shown that PE promote students' further interest in physical activity and sport (Almond & Harris, 1998) and that adolescents who are interested and satisfied with PE were more likely to be physically active in the future (Ferguson *et al.,* 1989). On the other hand, it was noted that over time, interest and participation in PE can decrease (Anderssen, 1993; Van Wersch, Trew & Turner, 1992). For this reason, the promotion of students' motivation, satisfaction and interest should be aimed at. Adequate teaching behavior can have a significant impact on students' level of intrinsic motivation (Ryan, Connell, & Deci, 1985). Motivation in PE is a crucial influence factor for important outcomes, such as participation in optional PE (Ntoumanis, 2005) and after-school sports (Goudas, Dermitzaki, & Bagiatis, 2001). Finally, students' satisfaction and interest in PE seem to be indispensable for the development of a high and motivated engagement in sports and recreational exercise (Carlson, 1995; Graham et al., 1998; Portman, 1995; Siedentop, 1991).

Objectives of this study

This study examines the influence of teaching behavior on students' SRML. Because of the crucial impact of SRML on PE, it seems very important to find aspects of teaching behavior that foster and maintain students' SRML in order to provide the opportunity for an independent and natural contact with

sports and physical activities in life. As demonstrated in the aforementioned paragraphs, teachers can have a decisive influence on students SMRL strategy use. Moreover, our own findings indicate that teachers' and students' perceptions of teaching behavior play an important role for the satisfaction of students with PE. One of our main goals was to explore the differential impact of congruent versus incongruent teacher-student fit-constellations on the students' use of SRML-strategies and to identify its differentiation to students' satisfaction and interest in PE. For this purpose we applied the three versions of the LSS-PE that concern students' perception and their preference of specific teaching behavior and the teachers' self-perception of their own behavior.

Method

This paper is divided into three sections that refer to the corresponding constellations of the LSS-PE versions. In the first part, we analyze whether there was a congruence between the students' perception and preference of their PE-teachers' behavior. For these analyses the LSS-PE-Student and the LSS-PE-Preference questionnaires were filled in by all students. As it was not possible to gain a complete dataset for all versions of the LSS-PE, the other two sections included only data of those students who could be matched with the particular self-description data of their PE teachers (assessed by the LSS-PE-Teacher). In these sections the focus was set on the congruence of different aspects in the students' and teachers' relationships. In the second section we analyze the congruence of students' and teachers' perception of the actual teaching behavior. Yet, the third section addresses the congruence of the teachers' perception of their own behavior and the students' preference for a particular teaching behavior.

Participants

This study was addressed to secondary level students in German grammar schools. In order to obtain a sufficient sample size seven schools with over 49 classes were recruited. For section 1 a complete dataset of 1452 students (625 females, 798 males and 29 unstated) was obtained. Age varied from 9 to 17 with a mean of 13.31 years (SD = 1.49). The sample to be used in sections 2 and 3 consisted of 696 students (374 females, 312 males and 10 unstated) and 18 physical-education teachers (8 females and 10 males). In this sub-sample the age

differed from 9 to 17 with an average of 13.11 years (*SD* = 1.54) for students and from 28 to 60 with a mean of 49.87 years (*SD* = 14.99) for teachers, respectively.

Procedure and Measures

We used four different questionnaires: the German *Leadership Scale for Sports for Physical Education* (LSS-PE; Lindberg et al., *submitted), the* StraBL (Bund and Wiemeyer, 2005), a four-item scale for assessing students' satisfaction, and a 14-item scale for the assessment of students' interest in PE and sports. The questionnaires were administered in close collaboration with the PE teachers. After an intensive briefing and the supply of a handout instruction, the LSS-PEP-Perception, the LSS-PE-Preference and the satisfaction and interest scales were conducted to all classes by the cooperating teachers. Moreover, the participating teachers were asked to fill in the LSS-PE-Teacher questionnaire.

Teachers' behavior was assessed by the German *Leadership Scale for Sports for Physical Education* (LSS-PE; Lindberg et al., *submitted*). The instrument exists in three versions: *teacher perception* (LSS-PE-Teacher), *students' perception* (LSS-PE-Student) and *students' preference* (LSS-PE-Preference) of physical education behavior, respectively. The questionnaires consist of 21 items that assess four dimensions of physical education behavior: *Education and Instruction* (7 items), *Democratic Behavior* (5 items), *Positive Feedback* (5 items), and *Social Support* (4 items). The items are comparable within all three versions of the LSS, they differ mainly in their introductory structure. Accordingly, the LSS-PE-Teacher starts with "I show this behavior…", the LSS-PE-Student starts with "My teacher..", and the LSS-PE-Preference starts with "In physical education classes it is important for me that my teacher…".

Four dimensions were established for measuring the teachers' behavior. The first dimension *Education and Instruction* deals with the improvement of students' sportive and social performance (e.g. "…explains to each student the techniques and tactics of the sport"). The second dimension, *Democratic Behavior*, includes behavior that allows students to participate in decision-making processes regarding the arrangements of the lesson and other activities (e.g. "… lets the students share in decision making"). The third dimension *Positive Feedback* measures behavior related to the reinforcement of students' good performance and behavior (e.g. "…compliments a student on good performance in

the presence of others“). Finally, the forth dimension, *Social Support*, focuses on behavior that is adopted to reach and maintain a good relationship with the students and to establish a convenient classroom climate (e.g. “…helps students with their personal problems“). Participants can rate the items on 5-point, Likert-type scales ranging from *never* (1) to *always* (5). Here, a high score represents a strong perception of teachers’ behavior, whereas a low one represents a low perception of that behavior.

For the assessment of SRML we used the well established StraBL (Bund & Wiemeyer, 2005). This questionnaire consists of 35 items distributed over five dimensions: (1) *Cognitive strategies* (7 items), (2) *Metacognitive Strategies* (7 items), (3) *Management of Internal Resources* (6 items), (4) *Management of External Resources* (8 items), and (5) *Motor Strategies* (7 items). A hypothetical learning situation is used to support the students’ imagination (e.g. “*...you would like to learn snowboarding without the instruction of a teache*r”) before they answer the specific questions. The first dimension *Cognitive Strategies* refers to the elaboration and cognitive examination of motor activities (e.g. “I try to be aware of the key points of a specific move”). The second dimension *Metacognitive Strategies* focuses on the aspects of planning, monitoring and regulating the activity (e.g. “Before I start to practice, I think about an effective way of structuring the session”). The third dimension, *Management of Internal Resources,* relates to the willingness to exert oneself, and to the dedication of concentration, attention, and to individual time management (e.g. “When I lose my focus, I try to renew my concentration”). The fourth dimension *Management of External Resources* deals with the learning arrangement, learning support by peers and the use of media (e.g. “I ask others to show and explain a move”). The fifth dimension *Motor Strategies* contains aspects of executing motor learning units and sequences (e.g. “When I practice, I start with easy moves before I try the complex ones”). Answeres to the items are effected on 5-point, Likert-type scales ranging from *does not apply at all* (1) to *applies completely* (5). Thus, a high score represents a frequent use of that strategy, whereas a low score represents little use of this strategy.

For the assessment of students’ satisfaction, a scale of four items according to the proceeding of Riemer and Chelladurai (1995) was developed. All of the items started with the phrase “How satisfied are you with…” and continued with

PE-related content (e.g. "…the structure and the arrangement of the physical education classes?"). Responses were provided on a 7-point, Likert-type scale ranging from *not at all satisfied* (1) to *extremely satisfied* (7).

In order to measure the students' interest in PE and sports, a scale of 14 items based on the approaches of Köller (2004) and Pohlmann, Möller, and Streblow (2005) was designed. The items were phrased as "The statement…" and referred to interest related aspects (e.g "I think PE is very important" or "I like sports"). Answers were given on a 4-point, Likert-type scale ranging from *not at all true* (1) to *extremely true* (7).

Results

The presentation of the results is divided into four sections. In a first section, we demonstrate the reliability of the applied measures. The subsequent sections are in accordance with the constellations of the LSS-PE. Thus, the second section analyzes the fit of the teachers' behavior and the corresponding students' perception and preference. The third section analyzes the fit of students' and teachers' perception of the actual teaching behavior. Finally, section four refers to the fit of the teachers' perception of their own behavior and the students' preference for specific teaching behavior.

Reliability and descriptive statistics

Table 1 shows the internal reliability, means, standard deviations, and scale ranges of all measures. For internal reliability Cronbach's alpha coefficient was used. All subscales of the LSS-PE and the StraBL, and the scales for satisfaction and interest reached an appropriate level. Teacher mean scores were generally higher than those of the students. The strategy scores of the StraBL were rather high and the means for satisfaction and interest turned out to be moderate.

Table 1
Internal consistencies and descriptive statistics for each measure

Measure	α	M	SD	Scale range
LSS-PE-Student (Instruction)	0.86	3.46	0.85	1-5
LSS-PE-Student (Democratic)	0.84	3.04	0.96	1-5
LSS-PE-Student (Positive Feedback)	0.84	3.41	0.96	1-5
LSS-PE-Student (Social Support)	0.87	2.97	1.04	1-5
LSS-PE-Preference (Instruction)	0.84	3.68	0.79	1-5
LSS-PE-Preference (Democratic)	0.83	3.74	0.85	1-5
LSS-PE-Preference (Positive Feedback)	0.81	3.80	0.87	1-5

LSS-PE-Preference (Social Support)	0.84	3.59	0.92	1-5
LSS-PE-Teacher (Instruction)	0.65	4.22	0.36	1-5
LSS-PE-Teacher (Democratic)	0.76	3.44	0.52	1-5
LSS-PE-Teacher (Positive Feedback)	0.83	4.39	0.36	1-5
LSS-PE-Teacher (Social Support)	0.74	3.87	0.60	1-5
StraBL-Cognitive Strategies	0.80	3.41	0.79	1-5
StraBL-Metacognitive Strategies	0.81	3.51	0.80	1-5
StraBL-Internal Resources	0.71	3.40	0.75	1-5
StraBL-External Resources	0.79	3.23	0.78	1-5
StraBL-Motor Strategies	0.77	3.37	0.76	1-5
Satisfaction	0.91	4.61	1.74	1-7
Interest	0.86	2.93	0.57	1-4

An overview of Pearson's correlations of the LSS-PE versions and the StraBL subscales and the scales for satisfaction and interest is displayed in Table 2. For the LSS-PE-Student and LSS-PE-Preference we found positive correlations with all subscales of the StraBL. On average, the correlations for the LSS-PE-Preference seem to be slightly stronger. The LSS-PE-Teacher, however, was unrelated to the StraBL subscales. Moreover, all versions of the LSS-PE but not the subscale *Social Support* of the LSS-PE-Teacher were correlated with the scales for satisfaction and interest. In general, students' satisfaction and interest in PE were particularly related to the students' perception of their teacher's behavior.

Table 2
Pearson's correlations between the LSS-PE versions and StraBL, Satisfaction and Interest

	LSS-PE Version									
Variable	Student (Inst.)	Student (Dem.)	Student (Pos.)	Student (Social)	Teacher (Inst.)	Teacher (Dem.)	Teacher (Pos.)	Teacher (Social)	Preference (Inst.)	Preference (Dem.)	Preference (Pos.)	Preference (Social)
StraBL-Cognitive Strategies	0.29**	0.28**	0.30**	0.26**	0.03	0.00	0.03	0.03	0.39**	0.34**	0.32**	0.32**
StraBL-Metacognitive Strategies	0.27**	0.26**	0.30**	0.24**	0.06	-0.01	0.03	0.06	0.43**	0.36**	0.36**	0.35**
StraBL-Internal Resources	0.24**	0.24**	0.26**	0.23**	0.04	-0.02	0.02	0.02	0.38**	0.32**	0.30**	0.30**
StraBL-External Resources	0.19**	0.22**	0.23**	0.22**	0.04	-0.03	0.04	0.04	0.36**	0.31**	0.27**	0.27**
StraBL-Motor Strategies	0.25**	0.24**	0.27**	0.23**	0.03	0.02	0.02	0.02	0.37**	0.33**	0.29**	0.29**
Satisfaction	0.58**	0.56**	0.51**	0.56**	0.25**	0.26**	0.30**	-0.07	0.24**	0.18**	0.21**	0.22**
Interest	0.40**	0.36**	0.37**	0.39**	0.17**	0.13**	0.17**	-0.00	0.27**	017**.	0.24**	0.24**

**p<0.01, *p<0.05

Students' perception and preference

We identified three groups of students with different perception-preference combinations in order to analyze incongruent and congruent fit-constellations of students' perception and preference of teaching behavior: (a) students perceive *more* specific teaching behavior than they prefer, (b) students perceive the degree of specific teaching behavior they prefer, and (c) students perceive *less* specific teaching behavior than they prefer. The groups were composed using the visual binning procedure of SPSS 15 (2006) to assure an accurate assignment. A set of multivariate analyses of variance (MANOVA) on the four dimensions of the LSS-PE were conducted to examine students' use of SRML strategies, with StraBL, satisfaction, and interest for PE as the dependent variables among the three groups of congruence. Table 3 provides an overview of the results for all groups and variables.

Table 3
Students' SRML, Satisfaction and Interest among congruent and incongruent fit-constellations of students' perceived and preferred teacher behavior

		Comparison of LSS-PE- Student and LSS-PE-Preference			
Variable	*F*(df/N)	Student > Preference (a) M(SD)	Congruent (b) M(SD)	Student < Preference (c) M(SD)	η^2
Education and Instruction					
StraBL-Cognitive Strategies	*F*(2.1366)=4.92*	3.29(0.82)bc*	3.47(0.76)a*	3.42(0.81)a*	0.007
StraBL-Metacognitive Strategies	*F*(2.1366)=11.19*	3.31(0.85)bc*	3.56(0.73)a*	3.57(0.82)a*	0.016
StraBL-Internal Resources	*F*(2.1366)=7.06*	3.26(0.80)bc*	3.43(0.70)a*	3.45(0.77)a*	0.010
StraBL-External Resources	*F*(2.1366)=9.96*	3.06(0.87)bc*	3.26(0.75)a*	3.31(0.75)a*	0.014
StraBL-Motor Strategies	*F*(2.1366)=5.26*	3.24(0.83)bc*	3.41(0.70)a*	3.40(0.74)a*	0.008
Satisfaction	*F*(2.1349)=69.94*	4.93(1.72)c*	5.08(1.50)c*	3.94(1.74)ab*	0.094
Interest	*F*(2.1349)=14.22*	2.96(0.61)c*	3.01(0.55)c*	2.82(0.58)ab*	0.021
Democratic Behavior					
StraBL-Cognitive Strategies	*F*(2.1364)=1.97	3.31(0.79)	3.42(0.85)	3.44(0.79)	0.003
StraBL-Metacognitive Strategies	*F*(2.1364)=4.69*	3.36(0.80)c*	3.49(0.85)	3.56(0.76)a*	0.007
StraBL-Internal Resources	*F*(2.1364)=1.71	3.32(0.77)	3.39(0.80)	3.43(0.72)	0.003
StraBL-External Resources	*F*(2.1364)=1.55	3.18(0.83)	3.20(0.85)	3.27(0.74)	0.002
StraBL-Motor Strategies	*F*(2.1364)=2.61	3.26(0.79)	3.37(0.83)	3.40(0.71)	0.004
Satisfaction	*F*(2.1347)=37.76*	4.98(1.65)c*	5.17(1.62)c*	4.30(1.71)ab*	0.853
Interest	*F*(2.1347)=10.98*	2.96(0.59)	3.05(0.56)c*	2.88(0.57)b*	0.949
Positive Feedback					
StraBL-Cognitive Strategies	*F*(2.1359)=1.79	3.34(0.77)	3.45(0.81)	3.41(0.79)	0.003
StraBL-Metacognitive Strategies	*F*(2.1359)=1.32	3.44(0.81)	3.53(0.80)	3.53(0.78)	0.002
StraBL-Internal Resources	*F*(2.1359)=1.93	3.34(0.74)	3.45(0.77)	3.39(0.74)	0.003
StraBL-External Resources	*F*(2.1359)=0.66	3.20(0.81)	3.27(0.80)	3.23(0.75)	0.001
StraBL-Motor Strategies	*F*(2.1359)=1.72	3.32(0.76)	3.42(0.77)	3.35(0.73)	0.003
Satisfaction	*F*(2.1343)=43.27*	4.81(1.73)c*	5.08(1.53)c*	4.15(1.75)ab*	0.061
Interest	*F*(2.1343)=6.90*	2.98(0.60)c*	2.99(0.54)c*	2.87(0.59)ab*	0.010
Social Support					
StraBL-Cognitive Strategies	*F*(2.1361)=0.90	3.37(0.84)	3.45(0.81)	3.40(0.77)	0.001
StraBL-Metacognitive Strategies	*F*(2.1361)=3.19*	3.39(0.84)b*	3.55(0.81)a*	3.52(0.77)	0.005
StraBL-Internal Resources	*F*(2.1361)=2.18	3.31(0.75)	3.44(0.79)	3.41(0.73)	0.003
StraBL-External Resources	*F*(2.1361)=1.71	3.16(0.81)	3.29(0.83)	3.23(0.78)	0.003
StraBL-Motor Strategies	*F*(2.1361)=1.50	3.30(0.76)	3.41(0.79)	3.37(0.73)	0.002
Satisfaction	*F*(2.1346)=54.16*	4.93(1.72)c*	5.25(1.51)c*	4.21(1.71)ab*	0.075
Interest	*F*(2.1346)=11.88*	3.00(0.63)c*	3.03(0.54)c*	2.86(0.57)ab*	0.017
*p<0.05	MANOVA		Post-hoc		

The group comparison for the LSS-PE dimension *Education and Instruction* revealed significant differences among all StraBL subscales. Tukey HSD post-hoc analyses revealed the following group differences: Students in group (a) used less SRML strategies than students from groups (b) and (c). The SRML strategy use in groups (b) and (c), however, did not differ. Hence, SRML strategies were affected when students perceived a higher degree of education and instruction behavior of their teachers than they actually preferred. However, both

the congruence of perceived and preferred instruction behavior, and the perception of less instruction behavior than was actually preferred, leads to a higher performance in SRML strategy use. For the LSS-PE dimensions *Democratic Behavior* and *Social Support,* the same effect resulted for the StraBL subscale *Metacognitive Strategies.* In contrast, no significant group differences resulted on any of the other subscales of the StraBL. Moreover, for the LSS-PE dimension *Positive Feedback* no group differences concerning the StraBL subscales were significant.

Students' satisfaction and interest in PE revealed a homogenous picture. A congruent fit-constellation regarding students' perception and preference of specific teacher behavior seemed to be most important for satisfaction and interest in PE. This was valid for all dimensions of the LSS-PE. Since groups (a) and (b), however, differed only slightly. Also, a higher amount of perceived teaching behavior than originally preferred has an important impact on students' satisfaction and interest in PE.

Students' and teachers' perception

The following groups were created to analyze the incongruent and congruent fit-constellations of students' perception of their teachers behavior and teachers' perception of their own behavior respectively: (a) students perceive *more* specific teaching behavior than their teacher had rated themselves, (b) students' and teachers' perception of specific teaching behavior are consistent, and (c) students perceive *less* specific teaching behavior than their teachers rate themselves. As can be seen in Table 4 the results were consistent for all StraBL subscales and for students' satisfaction and interest in PE and over all LSS-PE dimensions: the mean scores of all scales revealed to be higher for group (a) than for group (c). Congruence between students' and teachers' perception had mainly the same impact on SRML, satisfaction, and interest or resulted in a medium level. Accordingly, the students perceiving their teachers' behavior on a higher level than that perceived by the teachers themselves seemed to have the highest impact on students' SRML, satisfaction, and interest.

Table 4
Students' SRML, Satisfaction and Interest among congruent and incongruent fit-constellations of teacher behavior perceived by students and teachers' perception of their own behavior

		Comparison of LSS-PE- Student and LSS-PE-Teacher			
Variable	*F*(df/N)	Student > Teacher (a) M(SD)	Congruent (b) M(SD)	Student < Teacher (c) M(SD)	η²
Education and Instruction					
StraBL-Cognitive Strategies	*F*(2.662)=20.68*	3.90(0.80)c*	3.63(0.79)c*	3.30(0.79)ab*	0.059
StraBL-Metacognitive Strategies	*F*(2.662)=13.36*	3.93(0.85)c*	3.69(0.80)c*	3.44(0.78)ab*	0.039
StraBL-Internal Resources	*F*(2.662)=14.64*	3.91(0.76)bc*	3.53(0.82)ac*	3.36(0.75)ab*	0.043
StraBL-External Resources	*F*(2.662)=9.37*	3.64(0.93)bc*	3.32(0.83)a*	3.18(0.76)a*	0.028
StraBL-Motor Strategies	*F*(2.662)=12.21*	3.78(0.86)bc*	3.51(0.75)ac*	3.31(0.72)ab*	0.036
Satisfaction	*F*(2.660)=56.13*	5.88(1.47)c*	5.47(1.40)c*	4.13(1.70)ab*	0.146
Interest	*F*(2.660)=28.64*	3.34(0.54)bc* >	3.10(0.53)bc*	2.82(0.59)ab*	0.080
Democratic Behavior					
StraBL-Cognitive Strategies	*F*(2.662)=20.68*	3.73(0.81)c*	3.54(0.74)c*	3.27(0.79)ab*	0.060
StraBL-Metacognitive Strategies	*F*(2.662)=12.96*	3.77(0.83)c*	3.64(0.76)c*	3.41(0.78)ab*	0.037
StraBL-Internal Resources	*F*(2.662)=12.84*	3.68(0.83)c*	3.52(0.77)c*	3.32(0.73)ab*	0.038
StraBL-External Resources	*F*(2.662)=12.55*	3.51(0.85)bc*	3.25(0.82)b*	3.14(0.75)a*	0.037
StraBL-Motor Strategies	*F*(2.662)=10.28*	3.62(0.82)bc*	3.40(0.69)a*	3.30(0.72)a*	0.030
Satisfaction	*F*(2.661)=20.68*	5.88(1.47)c*	5.47(1.40)c*	4.13(1.75)ab*	0.146
Interest*	*F*(2.661)=20.68*	3.34(0.54)bc*	3.10(0.53)ac*	2.82(0.59)bc*	0.080
Positive Feedback					
StraBL-Cognitive Strategies*	*F*(2.661)=21.77*	3.83(0.88)c*	3.75(0.80)c*	3.31(0.77)ab*	0.062
StraBL-Metacognitive Strategies*	*F*(2.661)=22.56*	3.86(0.90)c*	3.89(0.78)c*	3.42(0.77)ab*	0.064
StraBL-Internal Resources*	*F*(2.661)=18.23*	3.84(0.93)c*	3.71(0.77)c*	3.34(0.74)ab*	0.053
StraBL-External Resources*	*F*(2.661)=13.68*	3.55(1.06) c*	3.51(0.85) c*	3.16(0.74) ab*	0.040
StraBL-Motor Strategies*	*F*(2.661)=14.89*	3.65(0.97) c*	3.66(0.73) c*	3.30(0.71) ab*	0.043
Satisfaction*	*F*(2.660)=24.51*	5.47(1.46)c*	5.36(1.51)c*	4.31(1.79)ab*	0.069
Interest*	*F*(2.660)=15.59*	3.15(0.53)c*	3.14(0.52)c*	2.85(0.60)ab*	0.045
Social Support					
StraBL-Cognitive Strategies	*F*(2.661)=11.85*	3.28(0.47)bc*	2.95(0.49)ac*	2.83(0.50)ab*	0.035
StraBL-Metacognitive Strategies	*F*(2.661)=7.91*	3.79(0.86)bc*	2.54(0.76)a*	3.40(0.82)a*	0.023
StraBL-Internal Resources	*F*(2.661)=11.84*	3.74(0.83)bc*	3.45(0.73)ac*	3.28(0.80)ab*	0.035
StraBL-External Resources	*F*(2.661)=8.81*	3.51(0.89)bc*	3.25(0.74)a*	3.10(0.82)a*	0.026
StraBL-Motor Strategies	*F*(2.661)=8.76*	3.65(0.85)bc*	3.40(0.69)a*	3.26(0.77)a*	0.026
Satisfaction	*F*(2.660)=1.23*	5.88(1.47)bc*	5.47(1.47)ac*	4.13(1.75)ab*	0.146
Interest	*F*(2.660)=1.23*	3.34(0.54)bc*	3.10(0.53)ac*	2.82(0.59)ab*	0.080
*p<0.05	MANOVA		Post-hoc		

Teachers' perception and students' preference

For the incongruent and congruent fit-constellations of students' preference of their teachers' behavior and teachers' perception of their own behavior, three groups were identified: (a) students prefer *more* specific teaching behavior than their teachers rate themselves, (b) students' preference of specific teaching behavior and teachers' perception of their own specific teaching behavior are consistent, and (c) students prefer *less* specific teaching behavior than their

teachers rate themselves. From a general perspective the results of the last analyses were in line with the results of section three in that students scored higher on most of the scales when their rating of the preference for a specific teaching behavior was higher compared to the self-perception of the teachers. The congruence group scored on a medium level whereas under the condition that the teachers rated themselves higher compared to the students' preference the mean scores showed the lowest results.

Table 5
Students' SRML, Satisfaction and Interest among congruent and incongruent fit-constellations of teacher behavior preferred by students and teachers' perception of their own behavior

		Comparison of LSS-PE- Preference and LSS-PE-Teacher			
Variable	*F*(df/N)	Preference > Teacher (a) M(SD)	Congruent (b) M(SD)	Preference < Teacher (c) M(SD)	η^2
Education and Instruction					
StraBL-Cognitive Strategies	*F*(2.657)=28.21*	3.83(0.77)bc*	3.57(0.74)ac*	3.23(0.81)ab*	0.079
StraBL-Metacognitive Strategies	*F*(2.657)=31.88*	3.94(0.79)bc*	3.71(0.75)ac*	3.32(0.77)ab*	0.089
StraBL-Internal Resources	*F*(2.657)=29.97*	3.86(0.82)bc*	3.57(0.73)ac*	3.25(0.73)ab*	0.084
StraBL-External Resources	*F*(2.657)=20.97*	3.62(0.78)bc*	3.35(0.77)ac*	3.09(0.77) ab*	0.060
StraBL-Motor Strategies	*F*(2.657)=25.16*	3.76(0.74)bc*	3.51(0.70)ac*	3.22(0.72)ab*	0.071
Satisfaction	*F*(2.654)=1.48	4.45(2.08)	4.76(1.75)	4.52(1.70)	0.005
Interest	*F*(2.654)=5.22*	3.04(0.61)c*	2.99(0.58)c*	2.86(0.59)ab*	0.016
Democratic Behavior					
StraBL-Cognitive Strategies	*F*(2.654)=28.12*	3.64(0.80)bc*	3.34(0.73)ac*	3.09(0.76) ab*	0.080
StraBL-Metacognitive Strategies	*F*(2.654)=31.12*	3.76(0.78)bc*	3.43(0.72)ac*	3.20(0.76)ab*	0.087
StraBL-Internal Resources	*F*(2.654)=26.39*	3.64(0.78)bc*	3.33(0.70)a*	3.15(0.68)a*	0.075
StraBL-External Resources	*F*(2.654)=25.77*	3.46(0.78)bc*	3.11(0.73)a*	2.97(0.76)a*	0.073
StraBL-Motor Strategies	*F*(2.654)=21.33*	3.56(0.73)bc*	3.34(0.73)ac*	3.12(0.69)ab*	0.062
Satisfaction	*F*(2.651)=1.56	4.63(1.88)	4.73(1.55)	4.39(1.73)	0.005
Interest*	*F*(2.651)=3.42*	2.99(0.60)c*	2.89(0.58)	2.85(0.59)a*	0.010
Positive Feedback					
StraBL-Cognitive Strategies*	*F*(2.654)=14.72*	3.62(0.78)c*	3.62(0.83)c*	3.28(0.78)ab*	0.043
StraBL-Metacognitive Strategies*	*F*(2.654)=18.38*	3.79(0.80)c*	3.72(0.79)c*	3.38(0.77)ab*	0.053
StraBL-Internal Resources*	*F*(2.654)=13.01*	3.66(0.80)c*	3.59(0.83)c*	3.31(0.70)ab*	0.038
StraBL-External Resources*	*F*(2.654)=11.68*	3.43(0.84)c*	3.41(0.78)c*	3.12(0.76)ab*	0.035
StraBL-Motor Strategies*	*F*(2.654)=11.30*	3.59(0.75)c*	3.52(0.74)c*	3.28(0.73)ab*	0.034
Satisfaction*	*F*(2.651)=5.08*	4.09(1.89)bc*	4.75(1.82)a*	4.64(1.70)a*	0.015
Interest*	*F*(2.651)=4.13*	2.90(0.57)	3.03(0.60)c*	2.88(0.59)b*	0.013
Social Support					
StraBL-Cognitive Strategies	*F*(2.654)=21.80*	3.69(0.77)bc*	3.36(0.76)ac*	3.01(0.97)ab*	0.063
StraBL-Metacognitive Strategies	*F*(2.654)=23.62*	3.79(0.77)bc*	3.48(0.74)ac*	3.08(0.95)ab*	0.068
StraBL-Internal Resources	*F*(2.654)=22.88*	3.71(0.77)bc*	3.35(0.69)ac*	3.11(0.95)ab*	0.066
StraBL-External Resources	*F*(2.654)=20.64*	3.51(0.78)bc*	3.17(0.74)ac*	2.90(0.92)ab*	0.060
StraBL-Motor Strategies	*F*(2.654)=20.87*	3.63(0.73)bc*	3.33(0.69)ac*	3.02(0.88)ab*	0.060
Satisfaction	*F*(2.652)=20.33*	4.99(1.84)bc*	4.54(1.67)ac*	3.39(1.64)ab*	0.059
Interest	*F*(2.652)=16.21*	3.06(0.56)bc*	2.91(0.58)ac*	2.59(0.68)ab*	0.048
*p<0.05	MANOVA		Post-hoc		

Most interestingly, however, a congruent fit-constellation between students' preference and teachers' self-description seems to enhance students' satisfaction and interest in PE on the LSS-PE dimension *Positive Feedback*. For the LSS-PE dimensions *Education and Instruction* and *Democratic Behavior*, no significant group differences for satisfaction were found. Furthermore, students' interest in PE shows comparable results in the remaining LSS-PE dimensions to the StraBL scales, and in the case of the dimension *Social Support,* also students' satisfaction.

Discussion

This study examined students' use of self-regulated motor learning strategies with regard to a congruent or incongruent fit-constellation of perceived and preferred teaching behavior. Preferred and perceived teaching behavior was assessed both by the students' rating and the teachers' self-description. In addition, we focused on differential effects of teacher-student fit-constellations on students' SRML-strategies and students' satisfaction and interest in PE.

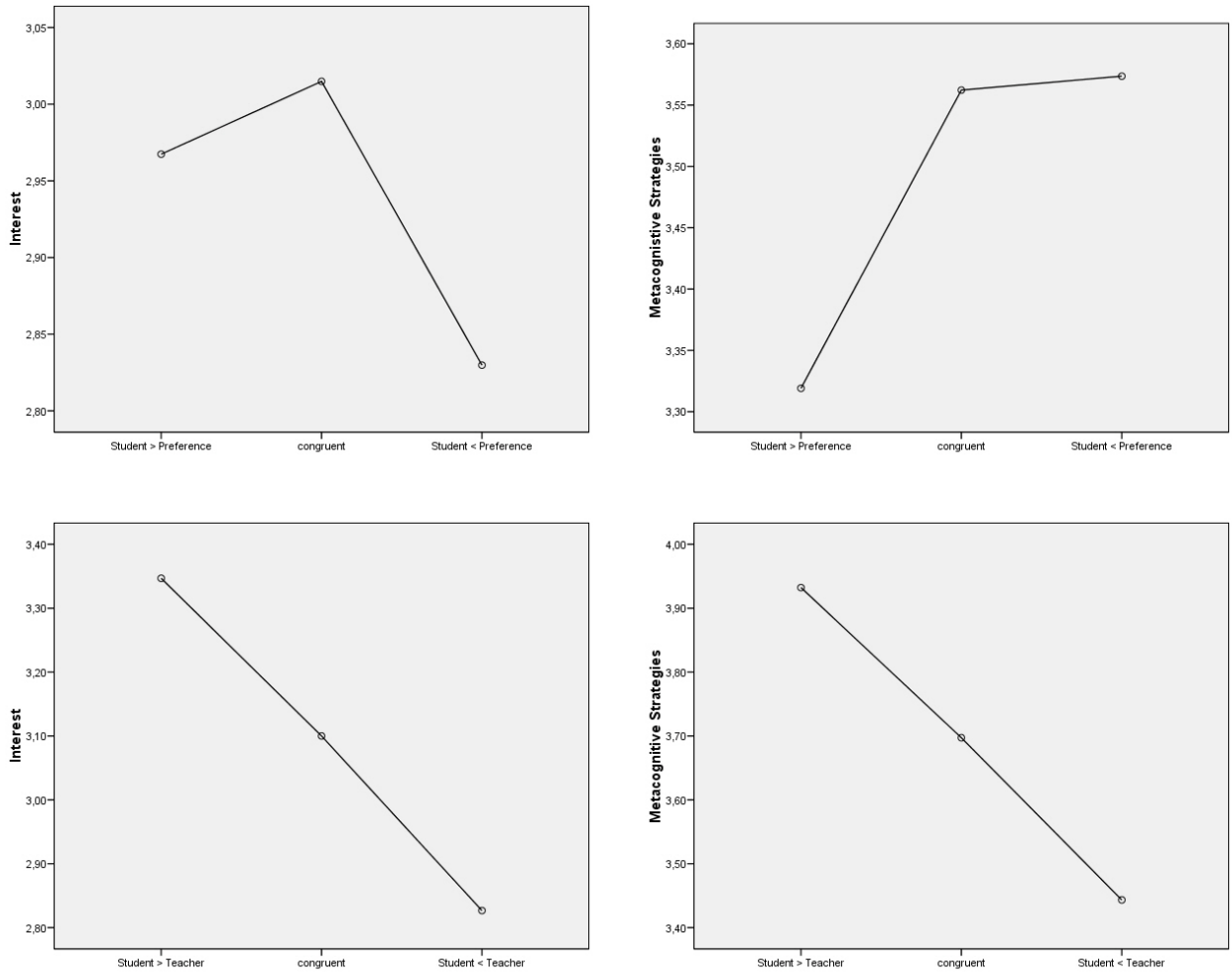
Fit-constellations of the three LSS-PE versions

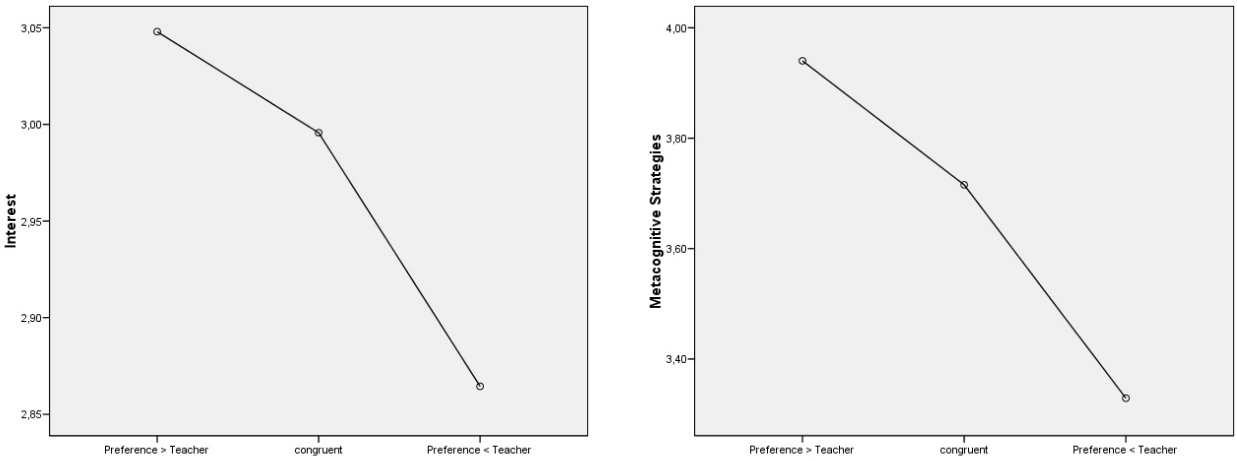
The group comparison of the three fit-constellation-types of students' perception and preference of teaching behavior revealed a consistent pattern of students' SRML strategy use concerning the LSS-PE dimension *Education and Instruction*. As regards all StraBL scales, it appeared that students applied more SRML-strategies under the condition that their perception and preference of teaching behavior were concordant and under the condition that they perceived *less* teaching behavior than preferred. In contrast, SRML-strategy use decreased when students perceived *more* teaching behavior than preferred. This effect was also significant for the subscale *Metacognitive Strategies* in the LSS-PE dimensions *Democratic Behavior* and *Social Support*. In the dimension *Positive Feedback* no significant group differences emerged. For all LSS-PE dimensions, the mean scores of students' satisfaction and interest in PE were highest in the group with congruent fit-constellation.

Group comparisons concerning the fit-constellations of students' perception of teaching behavior and teachers' self-description, and students' preference of teaching behavior and teachers' self-description, respectively,

showed comparable results. For all StraBL subscales and for all LSS-PE dimensions students' use of SRML-strategies was highest when they either perceived or preferred more teaching behavior than was provided by the teachers' self-description. In contrast, students' SRML-strategy use was moderate in the congruent fit-constellation and lowest when the teaching-behavior scores from the teachers' self description exceeded the students' perception or preference of this behavior. In contrast, the comparisons for students' satisfaction and interest in PE were different. For the comparison of the fit-constellations of students' perception of teaching behavior and teachers self-description the findings were comparable to the StraBL results (see figure 1).

Figure 1
Students' Interest and Meatacognitive Strategies among the different LSS-PE constellations exemplarily for the subscale *Instruction and Education*





The group comparisons concerned with satisfaction and interest in PE for the fit-constellation of students' preference of teaching behavior and teachers' self-description, however, differ from the other results. With regards to the LSS-PE dimension *Positive Feedback* a congruent fit-constellation was most beneficial for students' satisfaction and interest in PE. In the dimensions *Education and Instruction* and *Democratic Behavior* the group difference for interest were comparable to the StraBL scales and group differences for satisfaction were not significant. Finally, concerning the dimension *Social Support* for satisfaction and interest in PE the group comparison was again comparable to the pattern of the StraBL.

Students' Perception and preference of teaching behavior - Adaptive student activities

Following the aforementioned descriptions it seems important that the students' perception and preference of teaching behavior are congruent. This result is in line with the findings regarding the congruence hypothesis of the multidimensional leadership model (Chelladurai, 1978) with related studies (Chelladurai, 1984; Horne & Carron, 1985; Riemer & Chelladurai, 1995; Schliesman, 1987) and our own results (Lindberg et al., *submitted*). So far, findings regarding the congruence hypothesis referred only to satisfaction and other outcome variables (e.g. performance and achievement). The assumption that the congruence hypothesis might also be related to self-regulated learning strategies, however, seems to be quite novel.

Moreover, our study demonstrates that three types of teacher-student fit-constellations have a different impact on students' usage of SRML-strategies. More specific, we found that beyond a constellation of congruency also other constellations seem to bear a crucial effect on strategic behavior. It appears that when students perceive less specific teaching behavior as compared to what they were actually claiming, they apply at least a similar amount of SRML-strategies than in the congruent condition. In contrast, when students perceive more specific teaching behavior than they prefer their SRML-strategy use diminishes. In our study, the LSS-PE dimension *Education and Training* showed this effect for all StraBL scales. In addition, this effect was also relevant for the StraBL-subscale *Metacognitive Strategies* in the dimensions *Democratic Behavior* and *Social Support*.

Compensation/decompensation effect

A possible explanation for this pattern is that students have to regulate their own learning behavior adaptively according to the teaching context. Hence, they have to *compensate* their strategy use with endeavors of their own in a situation where the instructions they need are missing. On the other hand, they *decompensate* with a considerable strategy decrease when too many external instructions are given. Since the LSS-PE-Student and LSS-PE-Preference measure the students' subjective perception of *what is* and *what should be,* it seems reasonable to interpret the aforementioned results in terms of students' activities in self regulating their teaching circumstances. Effects of *decompensation* can emerge when the instruction or feedback of the teacher is too specific and therefore interferes with the learning process of the students (Magill & Wood, 1986). Moreover, it is possible that due to this interference, students reduce their own endeavors in SRML to meet the teacher's demands (Kuhl et al., 2000). In this regard Ryan and Deci (2000) noted that students complying with the assumed demands of a teacher are less intrinsically motivated and a voluntary investment in self-regulated learning becomes rather unlikely. On the other hand, when students are more self-controlled and not under the influence of strong external instructions and feedback, this can lead to more effective learning (Wulf & Toole, 1999) to higher motivation, increased self-efficacy, and enriched goal-setting (Deci & Ryan, 2000; Schunk & Ertmer, 2000; Zimmerman, Bonner, & Kovach,

1996). Assumably, self-regulated students who monitor their own learning and goal-setting behavior and generate internal feedback loops during that process, can also interpret and use external feedback more adequately (Butler & Winne, 1995). Correspondingly, Chiviacowsky and Wulf (2002) reported that self-regulated students request external feedback based on the self-estimation of their own performance. Furthermore, Sadler (1989) stated that students are able to compare their own performance with a current standard and they try to fill the gaps.

The examination of the three fit-constellation types of students' perception of teaching behavior and teachers' self-description revealed that students were less satisfied, less interested in PE, and applied less SRML-strategies when their teacher perceived his or her own behavior higher than they did. A similar pattern of results was observable regarding the comparison of the fit-constellation of students' preference of teaching behavior and teachers' self-description. For the interpretation of these results, we take into consideration the aforementioned *compensation/decompensation phenomenon.* We defined the compensation effect to occur on the one hand in situations during which students perceive a gap between *what is* and *what should be* and therefore develop stronger attitudes and self-regulated behavior . We expect the decompensation effect, however, to occur in situations where students perceive an overregulation by their teachers and seem thus to be affected in their attitudes and self-regulated behavior. The examination of the fit-constellations revealed that when teachers perceived themselves as more salient in their way of teaching than their students perceived or preferred their teaching behavior, students felt overregulated. As a consequence, the students were less satisfied, interested and used less self-regulated learning strategies.

Practical Relevance

In this study we applied three versions of the Leadership Scale for Sports in order to consider different teacher-student fit-constellation among students' perception and preference of teaching behavior and teachers' self-description. We expected to gain insights into relevant factors of student-teacher interaction. The fit-constellation of students' perception and preference of teaching behavior emerged to seem the best value of explanation, whereas the other fit-constellations underline the findings of that constellation. Here, the aspect of overregulation

seems to play an important role. Practical relevance, however, is given for all of the versions of the LSS-PE. The questionnaires could be used as a feedback instrument that measures the perception and preference of the students in a classroom setting compared to the self-assessment of the teacher. Teachers can, consequently, avoid overregulation and they can apply an individual and adaptive promotion for their students.

In literature, teacher self-assessments have often been criticized (Boekaerts, 1991; Rose, 1993; Nwosu, 1995) and teachers' implicit beliefs about teaching efficacy were assumed to affect their self-assessment (Bandura, 1983; Feiman-Nemser & Floden, 1986; Pape, 1992). Since research in organizational psychology revealed, however, that self-ratings are poor predictors of performance (Church, 2000; Harris & Schaubroech, 1988; Sala & Dwight, 2002) and that self-assessment is often biased by lenience towards oneself (Church, 1997; Podsakoff & Organ, 1986; Van Velsor et al., 1993) behavioral ratings by others (in our regard students) are presumably more adequate. These ratings can be used as external feedback, which can lead to higher self-awareness and a hange in the individual development (Church, 2000; Sala & Dwight, 2002). Hence, the claim that students' perceptions of their teachers' behavior should be considered as a crucial mediator between the instructional characteristics and academic achievement (Walberg, 1976; Winne & Marx, 1977) is met. If teachers use external feedback for a self-controlled modification of their teaching behavior, they can better meet the needs of their students (Hatton & Smith, 1995).

Conclusion

In summary, the results of the present study indicate that congruent and incongruent fit-constellations among students and teachers differ with regard to their impact on students' self-regulated motor learning. It is not only important that teachers and students agree in their perception, it is moreover indispensable that a teacher is aware that too much *instruction* may overregulate his or her students and may lead in turn to a lack of independent and self-regulated learning. The LSS instrument used in this study may be useful as a tool for teachers to assess whether their teaching behavior is seen as overregulative or not. Finally, when teachers ask for the subjective beliefs of their students of *what is* and *what should be*, they can teach more individually and adaptively.

4 Discussion

This chapter is concerned with the reflection and discussion of the theoretical and empirical statements of the present work. The research questions, raised in Chapter 2, will be answered according to the empirical findings. Moreover, I will present an empirical perspective that aims to broaden the scope of research in PE. The relevance of the additional findings as well as the findings presented in chapter 3 will be discussed with regard to further research in this field. Furthermore, practical implications based on the findings will be discussed and the chapter will end with perspectives and a conclusion.

4.1 Results of the Empirical Findings

Bearing in mind the research questions we formulated for this work it seems that the proposed objectives were achieved. First of all, Study 1 demonstrated that the LSS-PE is a reliable and valid instrument that can be used for measuring specific dimensions of PE teaching behavior. The examination of the LSS-PE was an essential and inevitable step. Owing to the transfer of a sports related instrument to the PE context, it is now possible to operationalize further topics and questions. Study 1 rendered clear that all LSS-PE dimensions of teaching behavior perceived by both teachers and students had a considerable impact on students' satisfaction with PE. Most interestingly, the congruence of students' preference and perception of teaching behavior and the congruence between students' preference of teaching behavior and teachers' self-description turned out to be crucial influence factors for students' satisfaction. These findings refer exclusively to the LSS-PE dimensions *education* and *instruction* and *positive feedback*. Hence, these dimensions seem to play an important role in the teacher-student interaction.

In Study 2 I used the LSS-PE to further address matters of the teacher-student interaction. With regard to the congruence of students' perception and preference of teacher behavior Study 2 showed that it is very important for students to receive the same extent of specific teacher behavior that they actually prefer. Similarly to the findings of Study 1, a concordance of perception and preference was beneficial for SRML as well as for satisfaction and interest in PE.

Interestingly, however, in the case of incongruence particular reactions of the students emerged. When the amount of perceived teaching behavior exceeded that of required teaching behavior an effect of overregulation appeared. It seems

that students react adaptively to the current circumstances that is, they compensated what they missed when they perceived less of the teaching behavior than they preferred with respect to their self-regulated motor learning. On the other hand, the occurrence of more teaching behavior than preferred, leads to an effect of decomposition so that self-regulated learning was considerably affected. The compensation/decompensation effect is one possible benefit of research concerned with teacher-student interaction.

As mentioned in chapter 2, empirical research in German sports science that focuses on PE is at an early stage yet. A good starting point of PE-related research might be supplied by introducing the LSS-PE and by accentuating the students' perception of *what is* and *what should be* regarding the behavior of their teacher in PE. Moreover, the possibility of self-adjustment for the teachers is at hand due to the self-description of the teachers. Teachers in PE can use their own answers in the LSS-PE questionnaire compared to the answers supplied by their students. The comparison of the scores of all LSS-PE versions allows teachers to give lessons adaptively to all students. It is thus possible to identify whether the teaching behavior matches with the perception and needs of the students. The LSS-PE can therefore serve as a feedback instrument to continuously improve the individual education of the students. We should nevertheless mention that the findings of this work were a first approach only, and without doubt more research is required. Evidently, the application of leadership-behavior dimensions of sports in PE settings constitutes a feasible approach. Further and more specific studies should be conducted on the basis of the reported findings. For instance, the inclusion of the reference norm orientation or the instructional climate applied by the PE teachers could provide beneficial supplementations. A first approximation on that topic is introduced in the following chapter.

4.2 Empirical Perspectives

As demonstrated in Study 1, the LSS-PE features the possibility to distinguish between four different dimensions of teaching behavior in relation to some of the claimed professional teacher competencies. Furthermore, we showed that these kinds of behavior have a particular impact on students' satisfaction and that the congruence of perceived, preferred and self-described teaching behavior is important for students' satisfaction, interest and self-regulated motor learning. It is important in PE that further factors regarding the surrounding conditions of a class

need to be considered beside the actual teaching behavior. In this context, the reference norm orientation (German: Bezugsnormorientierung (BNO), Mischo & Rheinberg, 1995; Rheinberg, 2002) and the instructional climate (Goudas et al., 1995; Mitchell, 1996; Papaioannou, 1995; Solmon, 1996; Theeboom, De Knop, & Weiss, 1995; Treasure, 1997) are very popular approaches. Both constructs rely on an instructional and grading reference frame or climate that emphasizes either the individual development (mastery climate/individual BNO) or the interpersonal comparison of achievement (performance climate/social BNO). Research in PE consistently reports the benefit of individual instructions and grading for students' intrinsic motivation and satisfaction in PE (Goudas et al., 1995; Mitchell, 1996; Papaioannou, 1995; Treasure, 1997; Krug & Kuhlmann, 2005). In this respect, it is profitable to include the BNO as an additional predictor for students' outcome variables. Table 2 shows a hierarchical multiple regression analyses (HRMA) such as conducted in study 1 with an additional fourth step that includes the BNO.

Table 2
Predicting Students' Satisfaction and Interest by the LSS- Preference and LSS- Student

Step	Variable	β	R^2	R^2 change	*F* change	*F*
	Satisfaction					
1	LSS-P Instruction	0.42***	0.05	0.05	83.50***	83.50***
2	LSS-P Instruction LSS-S Instruction	0.02 1.02***	0.34	0.28	583.82	351.87
3	LSS-P Instruction LSS-S Instruction LSS-P x LSS-S Instruction	0.57 1.01*** 0.09**	0.34	0.00	9.01**	238.99**
4	LSS-P Instruction LSS-S Instruction LSS-P x LSS-S Instruction LSS-P x LSS-S Instruction and BNO	0.03 0.83*** 0.07* 0.50***	0.38	0.03	71.56***	206.61***
1	LSS-P Positive Feedback	0.36***	0.04	0.04	61.09***	61.09***
2	LSS-P Positive Feedback LSS-S Positive Feedback	0.25 0.88***	0.26	0.22	403.67***	241.62
3	LSS-P Positive Feedback LSS-S Positive Feedback LSS-P x LSS-S P. Feedback	0.07 0.87*** 0.11***	0.27	0.00	10.18***	165.59**
4	LSS-P Positive Feedback LSS-S Positive Feedback LSS-P x LSS-S P. Feedback LSS-P x LSS-S Instruction and BNO	0.04 0.65*** 0.08* 0.57***	0.31	0.04	79.52***	151.41***
	Interest					
1	LSS-P Instruction	0.16***	0.07	0.07	116.52***	116.52***
2	LSS-P Instruction LSS-S Instruction	0.08*** 0.20***	0.18	0.10	182.50***	157.27***
3	LSS-P Instruction LSS-S Instruction	0.09*** 0.20***	0.19	0.00	7.81**	107.98**

	LSS-P x LSS-S Instruction	0.03***				
4	LSS-P Instruction LSS-S Instruction LSS-P x LSS-S Instruction LSS-P x LSS-S Instruction and BNO	0.08*** 0.14*** 0.02* 0.18***	0.23	0.03	69.64***	102.47***
1	LSS-P Positive Feedback	0.14***	0.06	0.06	88.46***	88.46***
2	LSS-P Positive Feedback LSS-S Positive Feedback	0.06*** 0.19***	0.15	0.09	149.83***	123.99***
3	LSS-P Positive Feedback LSS-S Positive Feedback LSS-P x LSS-S P. Feedback	0.08*** 0.18*** 0.03**	0.15	0.00	7.27**	85.47***
4	LSS-P Positive Feedback LSS-S Positive Feedback LSS-P x LSS-S P. Feedback LSS-P x LSS-S Instruction and BNO	0.07*** 0.11*** 0.02* 0.19***	0.20	0.04	73.58***	85.93***

*p<0.05, **p<0.01, ***p<0.001

A high BNO score represents an individual reference frame whereas a low score stands for a social comparison frame. In accordance with current research, an individual BNO is positively correlated with satisfaction and interest. The results of the HRMA in table 2 are reported exemplarily for students' perception and preference of teacher instruction and positive feedback behavior. In summary, the BNO contributes additional information to the explained variance (between 3 and 4 percent) in students' satisfaction and interest. The other predictors, however, do not decrease in value. Thus, it seems that the BNO as a framework variable provides further important explanatory value for students' attitudes towards PE without affecting the effects of the LSS-PE teaching behavior. It thus seems beneficial to focus not only on the teacher-student interaction in terms of teacher behavior, but to focus additionally on the reference frame or climate of instruction and grading as a central supplement for the attitudes students show towards PE. Nevertheless, several other aspects need to be taken into account with regard to the processes and dynamics in PE. The next chapter is therefore concerned with relevant approaches and subject matters of research in PE.

4.3 Relevance for Further Research

In this chapter, we will introduce four general implications to underline the need for further research in PE. The four domains provide aspects that were not realized or considered in this work, the domains imply specific aspects in response to alternative questions, and the reexamination of given answers from a different angle.

Expansion of the studies: The studies reported in chapter 3 refer to a cross-sequential design. Some recommendations for follow-up studies are indicated regarding this approach. Cross-sequential studies are applicable to examining a number of questions. They are most frequently used for obtaining a first access to a particular topic or for gaining an overview of the actual situation in a specific field. Based on the proceedings of this work, it could be interesting to apply comparable studies to different types of schools and to children of all ages. Moreover, an enlargement of relevant constructs for teaching and learning in PE could be profitable. We stated in the theory chapter of this work that a focus on students' motivation seems useful as well as the consideration of their self-concept and self-efficacy. Further examinations might, for example, concentrate on gender and age differences, class size and the setting and conditions of lessons.

Expected benefits: Cross-sectional studies that focus on the composition of students' motivation and its influence factors can lead to a better understanding of what students' need. Interesting results might be: what girls and boys want, how self-worth and self-esteem impacts motivation, what school type can serve the best PE and what conditions foster optional and organized sports.

Longitudinal studies: In order to examine relations and predictions in a more detailed way and to gain insights into the nature of a correlation, longitudinal design studies are indispensable. Those studies are very complex and expensive so that a major demand concerns the availability of the personal and financial resources they require. Another aspect that needs to be considered is that a good cooperation with all concerned parties is necessary, including the government, the schools, teachers, parents and students. Nevertheless, this method is the option of choice for a range of questions. In the context of PE and in conjunction with the topics introduced in this work, several possibilities for future longitudinal studies arise. A consequential step could be to conduct the measurements of the studies presented in chapter 3 in a longitudinal design. The investigation of teacher behavior and its perception by students and its influence on important student outcome variables over a specific period in school could be an important source for understanding the relevance processes and effects in PE. Such a proceeding would allow for tracking down the specific influence of teaching behavior on different groups of students. Supposedly, some students improve and others decline in different aspects over time. Moreover, a longitudinal study enables

researchers to observe and analyze the intra- and interindividual development of students over a long period of time.

Expected benefits: The proceeding of a longitudinal study can produce results that go beyond the findings of one-shoot surveys. Its possible outcome might include: how students develop in their motor abilities under certain conditions over time, how teacher behavior influences the development, what teaching behavior is required in different periods of school age (primary and secondary school) and what factors promote or impair students' motivation during education.

Multilevel approach: The multilevel perspective offers a promising approach to gaining deeper insights. Students are nested within classrooms so that interdependencies in the data might exist. For examining such a hierarchical structure, multilevel modeling (also referred to as hierarchical linear modeling) can be an interesting alternative to common statistical analyses (Bryk & Raudenbush, 1992). Most of the student-outcome variables (satisfaction, interest, motivation etc.) have a hierarchical structure (e.g. students are nested within PE classes, classes within schools, etc.; see Papaioannou, Marsh, & Theodorakis, 2004). In this respect, students are assumably more similar to other students in the same class (i.e. they share a similar perception of the teaching behavior) than they are to students in other classes. If we pretend students to be independent of their class, we potentially ignore the interdependency inherent in the data and we thus might introduce unaccounted biases into the statistical analysis (Heck, 2001). Therefore, a multilevel approach that examines both within- and between-class variations on students' outcome variables can be of value for future research studies.

Expected benefits: The multilevel approach is expected to reveal: how school types differ, how classes can be different within a school, and how students are different within a class. For PE it is very interesting to find out what conditions are best for most of the students and how the students can be reached individually. This can lead to important findings for adaptive teaching.

Experimental studies: An experimentally designed study provides the best established way of testing causal relations and interdependency. In a natural setting such as school education, the accomplishment of an effectual experiment constitutes a challenge. Nevertheless, applied experiments in school settings are essential for testing hypotheses and for evaluating the effectiveness of

interventions such as trainings or programs. As regards the questions we discussed in this work, experimentally designed studies would be an important step. By using the three versions of the LSS-PE, we can identify different groups of congruent and incongruent teacher-student constellations. As reported in Study 2 in chapter 3, the students' use of self-regulated motor learning strategies differs with regard to the particular constellation. It could be interesting to conduct a study that compares controls with students who are divided into different groups depending on whether their perception and preference of teaching behavior is congruent or incongruent. This would allow for testing the proposed assumptions. Furthermore, trainings that focus on the reduction of overregulation and the promotion of teacher-student congruence could be analyzed in additional experimental evaluation studies, leading to possible practical implications of our findings.

Expected benefits: The results are very important for the development of training and coaching units. Experiments can reveal what factors are important and effective, for example: teacher behavior in PE unfolds its effectiveness best when it is matched with the personal precondition and needs of a student.

4.4 Practical Implications

In the first chapter the objectives and the possible outcomes of PE were presented. Moreover, the link to professional teacher competencies and teacher behavior was emphasized. Both aspects were subsequently considered as leadership behavior in PE in the studies we conducted. The relevance for PE in school and for teacher education will be discussed in this section. We mentioned previously that the usage of the LSS-PE seems a good approach to assessing important dimensions of PE teaching behavior that has a crucial impact on students' attitudes and behavior such as self-regulated motor learning. The three versions of the LSS-PE procure several possible implications for the use in school considering students' perception and preference and additionally, the perspective of the teacher.

We mentioned earlier that the LSS-PE can be used as a feedback instrument. The questionnaire can serve as an indicator for necessitated coaching and training, as an identification marker for particular students with special needs, or as an independent measure for an evaluation of teaching effectiveness. All these implementations focus on the improvement of teaching or the teacher-student interaction. Such concepts can foster students' motor learning, satisfaction,

interest and motivation in PE and therefore their enthusiasm for sports and physical activities as a basis for a healthy and active lifestyle. For the implementation of coaching and training programs, it is necessary that the organizational context permits those changes. For example, school-wide implementations of intervention programs seem to have positive effects on the professional development of teachers (Guskey, 1997). Individual coaching offers a further perspective. Subject specific in-class coaching seems promising for the advancement of professional competencies and adaptive teaching abilities (Adey et al., 2004; Beck et al., 2008).

Recommendations for teacher education can only be vague and speculative because research in German PE is at an early stage yet. We will thus only propose a few comments on teacher education in PE.

Teachers in PE classes should be aware:

- of their own teaching behavior
- of what their students actually perceive and want
- to meet the needs of their students
- not to overregulate their students
- to teach adaptively

4.5 Conclusion

This thesis is one of the first contributions to empirical research on teaching in PE. We have demonstrated that PE encompasses many objectives and possibilities and it seems that school PE is very important for the physical and general development of all children. The empirical part of this work focused on the measurement of teacher behavior and its perception by both teachers and students. We examined the following important outcome variables with regard to perceived teacher-student congruence and incongruent teacher-student constellations: students' satisfaction, interest and self-regulated motor learning in PE. As one of the most interesting findings, the compensation/decompensation effect shows that it is not only important to meet the needs of the students but also to provide them with no more instructions than they actually want. The focal point of this work therefore concerns adequate teaching. The slogan "*A lot helps a lot"* does not seem to be applicable to PE teaching. However, a more adaptive way is required for reaching all students in a class: teachers in PE have to be self-critical,

reflective, perceptive, open-minded and always flexible to meet their students' needs.

5 Summary

The central questions of this work were concerned with the applicability of three versions of the *Leadership Scale for Sports in Physical Education* (LSS-PE) as a suitable instrument for assessing teaching behavior and investigating the impact of the measured teaching behavior on students' satisfaction, interest and self-regulated motor learning in PE. The three versions of the LSS-PE were conducted to assess students' perception and preference of teaching behavior and to measure the teaching behavior by the self-description of the teachers. That approach enables an analysis of different congruent and incongruent teacher-student constellations. Two empirical studies were conducted in German grammar schools to examine the proposed questions of this work. We showed that the LSS-PE is an adequate, reliable and valid instrument and that a congruent constellation of the different LSS-PE versions will lead to a higher level of satisfaction and interest in PE. Moreover, and most interestingly in the concern of self-regulated motor learning (SRML) it was revealed that students' apply a high extent of SRML strategies when they perceive a congruent constellation of preferred and perceived teaching behavior. In addition, students maintain that level of SRML when they perceive less teaching behavior than they actually prefer. When students perceive, however, more teaching behavior than they actually prefer the use of SRML strategies declines considerably. This effect was labeled as the compensation/decompensation effect because students can compensate a lack of required teaching behavior but they decompensate (they are negatively affected) in their self-regulated motor learning behavior when they are overregulated by their teachers. The importance of these findings was discussed with regard to PE practices and the need for further research was emphasized.

As a final conclusion, we can state that teacher behavior is assessable an that it is important for teachers to focus not only on a single best way of teaching but rather on the best opportunity to meet the individual needs of their students because sometimes negative effects emerge when students' receive more training/instruction than they actual want.

6 Zusammenfassung (German Summary)

Die zentrale Frage diese Arbeit beschäftigte sich mit der Anwendbarkeit dreier Versionen der *Leadership Scale for Sports in Physical Education* (LSS-PE) als geeignetes Instrument zur Erfassung und Untersuchung von Sportlehrerverhalten und dessen Auswirkung auf die Zufriedenheit, das Interesse und die motorischen Selbstregulationsfähigkeiten (SRF) von Schülern im Sportunterricht. Die drei Versionen der LSS-PE wurden eingesetzt, um sowohl das wahrgenommene und bevorzugte Lehreverhalten aus der Sicht der Schüler als auch die Sicht der Lehrer mittels Selbsteinschätzung zu erfassen. Dieser Ansatz ermöglicht eine Analyse verschiedener kongruenter und inkongruenter Lehrer-Schüler Konstellationen. Zwei empirische Studien wurden an deutschen Gymnasien durchgeführt, um die Fragen dieser Arbeit zu beantworten. Es konnte gezeigt werden, dass der LSS-PE ein geeignetes, reliables und valides Instrument ist, und dass eine kongruente Konstellation der verschiedenen LSS-PE-Versionen zu einer höheren Zufriedenheit und höherem Interesse bei Schülern im Sportunterricht führen. Darüber hinaus zeigte sich im Bezug auf die motorischen SRF der Schüler, dass diese Fähigkeiten besonders ausgeprägt waren, wenn eine kongruente Konstellation von wahrgenommenem und bevorzugtem Sportlehrerverhalten bestand. Wenn weniger Verhalten wahrgenommen wurde als eigentlich bevorzugt, konnten die Schüler trotzdem SRF auf einem hohen Level aufweisen. Interessanterweise ist eine deutliche Beeinträchtigung dieser motorischen SRF erkennbar, wenn die Schüler mehr Sportlehrerverhalten wahrnehmen als sie bevorzugen. Dieser Effekt wurde als Kompensations/Dekompensations –Effekt bezeichnet, da Schüler ein Fehlen von erwünschtem Sportlehrerverhalten kompensieren, ein Übermaß an Verhalten aber dazu führt, dass sie in ihren motorischen SRF beeinträchtigt werden. Die Bedeutung dieser Befunde und ihre praktische Anwendung und die Notwendigkeit für weitere Forschung wurden im Diskussionsteil dieser Arbeit behandelt. Schlussfolgernd ist zu sagen, dass Sportlehrerverhalten messbar ist. Es ist äußerst wichtig, dass Lehrer nicht darauf aus sind, den einen „richtigen“ Weg guten Unterrichts zu finden, sondern dass sie eher versuchen sollten, bestmöglich auf die individuellen Bedürfnisse ihrer Schüler einzugehen. Manchmal kann es auch negative Konsequenzen haben, wenn Schüler mehr bekommen als sie eigentlich benötigten.

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Appendix

A Complete Questionnarie – Teacher

B Complete Questionnarie – Student

A Complete Questionnarie – Teacher

DFG GRADUIERTENKOLLEG 1195
Passungsverhältnisse schulischen Lernens

Sehr geehrte Sportlehrerinnen, sehr geehrte Sportlehrer,

zurzeit wird eine Untersuchung zum Lehrverhalten im Sportunterricht durchgeführt. Die Studie wird im Rahmen des Graduiertenkollegs „Passungsverhältnisse schulischen Lernens: Verstehen und Optimieren“ von der Deutschen Forschungsgemeinschaft (DFG) gefördert. Das Projekt beschäftigt sich mit der Erfassung von unterschiedlichen Lehrstilen und betrachtet den Einfluss verschiedener Stile auf Schülerinnen und Schüler.

Wir bitten Sie, die folgenden Fragen zu beantworten. Die Informationen die wir dadurch erhalten liefern einen wichtigen Beitrag für die gesamte Studie.

Bitte versuchen Sie sich in die Fragen hineinzuversetzen und antworten Sie so, wie Sie wirklich darüber denken.

Wir danken Ihnen für Ihre Teilnahme!

Wichtiger Hinweis:
Alle Angaben werden ausschließlich für wissenschaftliche Zwecke verwendet und gemäß den datenschutzrechtlichen Bestimmungen **streng vertraulich** behandelt.

Um den Fragebogen kurz und lesbar zu halten, wird oft von „Lehrern“ oder „Schülern“ gesprochen – selbstverständlich sind „Lehrerinnen“ und „Schülerinnen“ ebenso gemeint.

Wie bedeutend sind für Sie folgende Aspekte im Sportunterricht?

Dieser Bereich ist für den Sportunterricht…	unwichtig	weniger wichtig	eher wichtig	sehr wichtig
Die Förderung selbständiger Techniken zur Aneignung neuer Bewegungen bei Schülern.	☐	☐	☐	☐
Die Förderung der Motivation, sodass die Schüler versuchen Aufgaben erfolgreich zu bewältigen.	☐	☐	☐	☐
Die Unterstützung von Schülern, die versuchen Leistungssituationen aus dem Weg zu gehen.	☐	☐	☐	☐
Die Förderung eines positiven sportlichen Fähigkeitsselbstkonzepts.	☐	☐	☐	☐
Die Förderung eines positiven allgemeinen Selbstwerts.	☐	☐	☐	☐
Die Herstellung einer guten und persönlichen Beziehung zu den Schülern.	☐	☐	☐	☐
Das Erreichen curricularer Ziele im Unterricht.	☐	☐	☐	☐
Die Beurteilung der Schülerleistung nach vorgegebenen Werten oder schulinternen Standards.	☐	☐	☐	☐
Die Berücksichtigung individueller Verbesserungen oder Rückschritte in der Leistung der Schüler.	☐	☐	☐	☐
Der Vergleich der Leistung eines Schülers mit den Resultaten der anderen Schüler.	☐	☐	☐	☐
Die ausführliche Anleitung der Schüler und geregelte Organisation des Unterrichts.	☐	☐	☐	☐
Die Einbeziehung der Schüler bei wichtigen Entscheidungen und bei der Einführung neuer Inhalte.	☐	☐	☐	☐
Die Unterstützung der Schüler bei privaten Sorgen und Problemen.	☐	☐	☐	☐
Direktes Lob und Anerkennung für gute Leistungen bei den Schülern.	☐	☐	☐	☐
Das Durchsetzen der eigenen Vorstellung von Sportunterricht.	☐	☐	☐	☐
Die Umsetzung von Zielen die über das Curriculum hinausgehen.	☐	☐	☐	☐

In diesem Teil finden Sie Aussagen zu bestimmten Vorgehens- und Verhaltensweisen im Sportunterricht mit Kindern und Jugendlichen. Bitte kreuzen Sie an, in welchem Maße diese Aussagen auf Ihre eigene Unterrichtsgestaltung zutreffen.

Ich zeige dieses Verhalten…	nie	selten	manchmal	oft	immer
Ich erkläre jedem Schüler, wie er seinen Beitrag zur Klassengemeinschaft beisteuern kann.	☐	☐	☐	☐	☐
Ich mache die guten, aber auch auf die schlechten Komponenten/Teile einer Leistung aufmerksam.	☐	☐	☐	☐	☐
Ich zeige deutlich, dass ich mich freue, wenn ein Schüler eine gute Leistung bringt.	☐	☐	☐	☐	☐
Ich achte darauf, dass der gesamte Unterricht in geordneten Bahnen verläuft.	☐	☐	☐	☐	☐
Ich habe Interesse am persönlichen Wohlergehen meiner Schüler.	☐	☐	☐	☐	☐
Ich stelle sicher, dass jeder seine Rolle im Unterrichtsablauf versteht.	☐	☐	☐	☐	☐
Ich lobe einzelne Schüler für ihre Leistungen vor den anderen.	☐	☐	☐	☐	☐
Ich bespreche mit den Schülern wichtige Dinge, bevor ich anfange/weitergehe.	☐	☐	☐	☐	☐
Ich helfe meinen Schülern, ihren Standpunkt zu festigen.	☐	☐	☐	☐	☐
Ich sage es den Schülern, wenn sie richtig gut waren.	☐	☐	☐	☐	☐
Ich ermutige meine Schüler, Vorschläge zur Unterrichtsgestaltung zu machen.	☐	☐	☐	☐	☐
Ich lasse meine Schüler an wichtigen Entscheidungen teilhaben.	☐	☐	☐	☐	☐
Ich plane meine Unterrichtseinheiten im Voraus.	☐	☐	☐	☐	☐
Ich erkenne die Leistungen an, wo ich der Meinung bin, dass Anerkennung angebracht ist.	☐	☐	☐	☐	☐
Ich Frage nach der Meinung meiner Schüler zu wichtigen Unterrichtsinhalten.	☐	☐	☐	☐	☐
Ich erkläre jedem Schüler die sportspezifischen Techniken und Taktiken.	☐	☐	☐	☐	☐
Ich achte darauf, dass sich alle so gut wie möglich anstrengen.	☐	☐	☐	☐	☐
Ich helfe meinen Schülern, wenn sie persönliche Probleme haben.	☐	☐	☐	☐	☐
Ich sage meinen Schülern, dass sie sich mir anvertrauen können.	☐	☐	☐	☐	☐

Ich setze mich persönlich für meine Schüler ein.	☐	☐	☐	☐	☐
Ich erkundige mich nach der Meinung meiner Schüler zur Gestaltung von Situationen zur Leistungsüberprüfung.	☐	☐	☐	☐	☐

Lehrer unterscheiden sich hinsichtlich ihrer Betrachtungsweise von Schülern, die sie unterrichten. Diese Unterschiede können möglicherweise einen bedeutenden Einfluss auf das Unterrichtsgeschehen haben.

Im Folgenden werden Wortpaare mit gegensätzlicher Bedeutung aufgeführt, wie z.B. „ordentlich“ und „unordentlich“. Stellen Sie sich einen Schüler vor, den Sie unterrichtet haben. Beschreiben Sie ihn, indem Sie einen Punkt anklicken, der zwischen den beiden Wörtern liegt.
Die Punkte geben an, wie gut oder schlecht die jeweiligen Adjektive zu der Person passen, die Sie beschreiben möchten.

sehr ordentlich	8	7	6	5	4	3	2	1	unordentlich
	sehr ordentlich	ziemlich ordentlich	spürbar ordentlich	leicht ordentlich	leicht unordentlich	spürbar unordentlich	ziemlich unordentlich	sehr unordentlich	

BEISPIEL:
Sie sollen einen Schüler beschreiben, mit dem Sie im Unterricht am wenigsten gut zusammenarbeiten können. Wenn Sie diesen Schüler bezüglich seines Ordnungsverhalten beschreiben sollen und Sie ihn als „ziemlich ordentlich“ bezeichnen, dann würden Sie den zweiten Punkt von links anklicken

sehr ordentlich	8	7	6	5	4	3	2	1	unordentlich
	sehr ordentlich	ziemlich ordentlich	spürbar ordentlich	leicht ordentlich	leicht unordentlich	spürbar unordentlich	ziemlich unordentlich	sehr unordentlich	

Ist dieser Schüler in ihren Augen nur „leicht ordentlich“ würden Sie den vierten Punkt von links anklicken

sehr ordentlich	8	7	6	5	4	3	2	1	unordentlich
	sehr ordentlich	ziemlich ordentlich	spürbar ordentlich	leicht ordentlich	leicht unordentlich	spürbar unordentlich	ziemlich unordentlich	sehr unordentlich	

Wenn Sie jedoch denken, dass dieser Schüler im Allgemeinen „sehr unordentlich“ ist, dann würden Sie den Punkt ganz rechts anklicken

sehr ordentlich	8	7	6	5	4	3	2	1	unordentlich
	sehr ordentlich	ziemlich ordentlich	spürbar ordentlich	leicht ordentlich	leicht unordentlich	spürbar unordentlich	ziemlich unordentlich	sehr unordentlich	

Schauen Sie sich die Wortpaare genau an, bevor Sie eine der dazwischen liegenden Zahlen ankreuzen. Es gibt keine „richtigen“ oder „falschen“ Antworten. Versuchen Sie die Liste zügig zu bearbeiten - die erste Antwort ist oft die beste. Bitte achten Sie darauf, dass kein Wortpaar ausgelassen wird und jeweils nur eine einzige Zahl angekreuzt wird.

TEST:

Denken Sie an einen Schüler, mit dem Sie im Unterricht am schlechtesten zusammenarbeiten konnten. Es kann sich dabei um aktuelle Schüler oder um Schüler aus der Vergangenheit handeln.

Die Person, an die Sie denken, muss nicht die Person sein, die Sie am wenigsten mögen. Aber es sollte die Person sein, mit der Sie die meisten Schwierigkeiten in der Zusammenarbeit im Unterricht hatten.

Beschreiben Sie den Schüler anhand folgender Wortpaare:

angenehm	8	7	6	5	4	3	2	1	unangenehm
umgänglich	8	7	6	5	4	3	2	1	ungesellig
zurückweisend	8	7	6	5	4	3	2	1	annehmend
angespannt	8	7	6	5	4	3	2	1	entspannt
distanziert	8	7	6	5	4	3	2	1	vertraut
kühl	8	7	6	5	4	3	2	1	herzlich
unterstützend	8	7	6	5	4	3	2	1	ablehnend
gelangweilt	8	7	6	5	4	3	2	1	interessiert
streitsüchtig	8	7	6	5	4	3	2	1	harmonisch
bedrückt	8	7	6	5	4	3	2	1	fröhlich
offen	8	7	6	5	4	3	2	1	verschlossen
unaufrichtig	8	7	6	5	4	3	2	1	aufrichtig
unzuverlässig	8	7	6	5	4	3	2	1	zuverlässig
rücksichtslos	8	7	6	5	4	3	2	1	rücksichtsvoll
gemein	8	7	6	5	4	3	2	1	nett
beliebt	8	7	6	5	4	3	2	1	unbeliebt
unehrlich	8	7	6	5	4	3	2	1	ehrlich
liebenswürdig	8	7	6	5	4	3	2	1	unfreundlich

Eine durchschnittliche Schulklasse macht in monatlichen Abständen Schulleistungstests, in denen jeweils der Unterrichtsstoff des letzten Monats abgefragt wird. In jedem Test kann man maximal 100 Punkte erreichen. Die Tests sind so aufgebaut, dass der Klassendurchschnitt bei ca. 50 Punkten liegt. Neun Schüler erreichten bei den letzten drei Tests die unten angeführten Punkte.

Ihre Aufgabe besteht darin, bei jedem der neun Schüler das letzte Testergebnis zu beurteilen. Wenn Sie das Ergebnis eines Schülers für eine gute Leistung halten, so können Sie einen bis fünf Pluspunkte (++...) geben. Halten Sie dieses Ergebnis für eine schlechte Leistung, so können Sie einen bis fünf Minuspunkte (--...) geben. Bitte geben Sie pro Ergebnis entweder nur Plus- oder nur Minuspunkte, also nicht beides gleichzeitig! Wenn sie in eine Zeile weder Plus- noch Minuszeichen schreiben, so bedeutet das, dass Sie das Ergebnis weder für eine gute noch für eine schlechte Leistung halten. Beziehen Sie sich bei Ihrer Beurteilung bitte auf eines Ihrer Unterrichtsfächer.

	Erreichte Punkte			Beurteilung der letzten Testergebnisse (bitte Plus- bzw. Minuszeichen in die Kästchen schreiben)				
	1. Test	2. Test	3. Test					
1	**60**	**55**	**50**					
2	**25**	**25**	**25**					
3	**85**	**80**	**75**					
4	**50**	**50**	**50**					
5	**65**	**70**	**75**					
6	**15**	**20**	**25**					
7	**40**	**45**	**50**					
8	**75**	**75**	**75**					
9	**35**	**30**	**25**					

Es kann sein, dass Sie bei einigen Schülern sich unsicher über die „richtige“ Beurteilungsweise sind. Entscheiden Sie sich dann bitte so, wie Sie persönlich das für angemessen halten.

Zum Abschluss einige Fragen zu Ihrer Person.

Geschlecht
☐ männlich
☐ weiblich

Wie alt sind Sie?
__ Jahre

Ich arbeite:
☐ Vollzeit
☐ Teilzeit

Sind Sie Klassenlehrer (bzw. Tutor)?
☐ Ja
☐ Nein

Welche Klassen unterrichten Sie in Ihrer Schule? (bitte genau angeben: z.B. 7a)
Klasse: __ Klasse: __
Klasse: __ Klasse: __
Klasse: __ Klasse: __
Klasse: __ Klasse: __
Klasse: __ Klasse: __

Unterrichten Sie Sport fachfremd?
☐ Ja
☐ Nein

Welche Fächer haben Sie studiert?
☐ Sport
und _____
_____

Welchen Abschluss haben Sie erworben?
☐ Lehramt/Staatsexamen
☐ Diplomsportlehrer
☐ Sonstiges:_____

Welche Lehrbefähigung besitzen Sie?
☐ Primarstufe
☐ Primarstufe/Sek. I
☐ Sekundarstufe I/II
☐ Sonderschule
☐ Sonstige:_____

An welcher Institution haben Sie Ihren Abschluss im Fach Sport erworben?
☐ Universität
☐ Pädagogische Hochschule
☐ Institut für Lehrerbildung
☐ Erweiterungsstudium
☐ Fachhochschule
☐ Sonstiges:_____

Wie viele Jahre haben Sie nach Abschluss Ihrer Ausbildung im Schuldienst verbracht?
☐ Ich bin zurzeit im Referendariat
☐ Ich arbeite seit __ Jahren im Schuldienst (ohne Referendariatszeit)

Wie viele Stunden Ihrer Gesamtstundenzahl unterrichten Sie Sport?
__ Stunden Sportunterricht
__ Stunden Unterricht insgesamt

Sind Sie als Vereinstrainer tätig?
☐ Ja
☐ Nein

Herzlichen Dank für Ihre Teilnahme!

B Complete Questionnarie – Student

DFG GRADUIERTENKOLLEG 1195
Passungsverhältnisse schulischen Lernens

Liebe Schülerinnen und Schüler,

wir führen zurzeit eine Untersuchung im Schulsport durch. Auf den nächsten Seiten stellen wir Euch einige Fragen zum Thema Sport. Dabei geht es um Deine Erfahrungen mit Sport im Allgemeinen, um den Schulsport und um Deine Person.

Die Fragebögen sind anonym und werden **streng vertraulich** behandelt.

Bitte versuche Dich in die Fragen hineinzuversetzen und antworte so, wie Du wirklich darüber denkst.

Wir danken Dir für Deine Teilnahme!

Kleine Anleitung zum Ausfüllen des Fragebogens

Die **meisten Fragen** sind so formuliert, dass Du lediglich eine passende Antwort ankreuzen musst.

Hier ein **Beispiel**:

	trifft überhaupt nicht zu	trifft eher nicht zu	trifft eher zu	trifft völlig zu
Ich kann neue Sportarten schnell erlernen.....	☐	☐	☐	☐

Auf der linken Seite steht eine Aussage („Ich kann neue Sportarten ...“). Deine Aufgabe ist es dann, rechts davon anzukreuzen, wie sehr diese Aussage auf Dich persönlich zutrifft. Wenn Du meinst, dass Du neue Sportarten schnell erlernst, so würdest Du in dem obigen Beispiel „trifft völlig zu“ ankreuzen. Wenn Du Dich neue Sportarten eher nicht so schnell erlernst, würdest Du „trifft eher nicht zu“ ankreuzen.

- Kreuze bei Aussagen dieser Art immer nur ein Kästchen pro Zeile an!
- Wenn es Dir einmal schwer fällt, sich zu entscheiden, was Du ankreuzen möchtest, so wähle bitte das Kästchen, das am ehesten Deiner Meinung entspricht.
- Es stehen immer mehrere solcher Aussagen untereinander. Achte bitte darauf, dass Du keine Aussage überspringst, ohne ein Kästchen angekreuzt zu haben!
- **Es gibt keine „richtigen“ und „falschen“ Antworten.** Deine persönliche Meinung und Einstellung ist uns wichtig! Halten Dich bitte deshalb auch nicht lange an einer einzelnen Frage auf: folge deinem spontanen ersten Eindruck!

Vielen Dank für Deine Mitarbeit!

Bitte kreuze an inwieweit die Aussagen auf Dich zutreffen

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Ich merke, dass mein Interesse schnell erwacht, wenn ich vor einer sportlichen Herausforderung stehe, die ich nicht auf Anhieb schaffe.	☐	☐	☐	☐
Wenn mir im Sport eine Herausforderung gestellt wird, die ich möglicherweise lösen kann, dann reizt es mich, diese sofort in Angriff zu nehmen.	☐	☐	☐	☐
Es gefällt mir nicht im Sport, an etwas zu arbeiten, wenn ich nicht sicher bin, dass ich es schaffe.	☐	☐	☐	☐
Bei dem, was ich im Sport mache, will ich erfolgreich sein.	☐	☐	☐	☐
Sportsituationen, in denen meine Fähigkeiten auf die Probe gestellt werden, mag ich nicht.	☐	☐	☐	☐
Wenn im Sport eine Aufgabe etwas schwierig ist, hoffe ich, dass ich es nicht machen muss, weil ich Angst habe, es nicht zu schaffen.	☐	☐	☐	☐
Mich reizen sportliche Herausforderungen, in denen ich die Möglichkeit habe, meine Fähigkeiten zu prüfen.	☐	☐	☐	☐
Wenn ich eine sportliche Aufgabe nicht sofort schaffe, werde ich ängstlich.	☐	☐	☐	☐
Mir gefallen sportliche Herausforderungen, von denen ich nicht genau weiß, ob ich sie auch schaffe.	☐	☐	☐	☐
Sportsituationen, in denen ich meine Fähigkeiten anwenden kann, gehe ich am liebsten aus dem Weg.	☐	☐	☐	☐
Wenn mir eine sportliche Aufgabe gestellt wird, von der ich nicht weiß, ob ich sie wirklich bewältigen kann, reizt es mich, sofort loszulegen.	☐	☐	☐	☐
Sportsituationen, in denen ich von meinen Fähigkeiten Gebrauch machen kann, machen mir Spaß.	☐	☐	☐	☐
Es beunruhigt mich im Sport, etwas zu tun, wenn ich nicht sicher bin, dass ich es schaffen kann.	☐	☐	☐	☐
Auch wenn niemand zuguckt, fühle ich mich in neuen Sportsituationen ziemlich ängstlich.	☐	☐	☐	☐
Ich mag es, vor eine etwas schwierige sportliche Aufgabe gestellt zu werden.	☐	☐	☐	☐
Sportliche Aufgaben, die ich nicht schaffen kann, machen mir Angst, auch dann, wenn niemand meinen Misserfolg bemerkt.	☐	☐	☐	☐
Ich mag Situationen im Sport, in denen ich feststellen kann, wie gut ich bin.	☐	☐	☐	☐
Mir gefällt es, im Sport etwas Neues und Unbekanntes auszuprobieren, auch wenn es nicht gleich klappt.	☐	☐	☐	☐
Auch bei sportlichen Herausforderungen, von denen ich glaube, dass ich sie kann, habe ich Angst zu versagen.	☐	☐	☐	☐
Wenn ich im Sport etwas nicht geschafft habe, schäme ich mich auch dann, wenn ich nicht darauf angesprochen werde.	☐	☐	☐	☐
Es ist mir wichtig, sportliche Aufgaben, die ich mir zutraue, auch tatsächlich zu schaffen.	☐	☐	☐	☐
In etwas schwierigen Sportsituationen, in denen viel von mir abhängt, habe ich Angst zu versagen.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Ich finde es beunruhigend eine sportliche Tätigkeit auszuführen, bei der ich meine Fähigkeiten unter Beweis stellen muss.	☐	☐	☐	☐
Mich reizen Sportsituationen, in denen ich meine Fähigkeiten testen kann.	☐	☐	☐	☐
Es macht mir Spaß, mich in sportlichen Aufgaben zu engagieren, die für mich ein bisschen schwierig sind.	☐	☐	☐	☐
Schon die Vorstellung im Sport vor eine neue unbekannte Herausforderung gestellt zu werden, macht mich etwas ängstlich.	☐	☐	☐	☐
Mir gefällt es nicht, mich auf eine sportliche Aufgabe einzulassen, wenn ich nicht sicher bin, ob ich sie schaffe.	☐	☐	☐	☐
Leistungsanforderungen im Sport, die etwas schwierig sind, beunruhigen mich.	☐	☐	☐	☐
Sportliche Aufgaben, die etwas schwierig zu bewältigen sind, reizen mich.	☐	☐	☐	☐
Mir gefällt es, im Sport etwas Neues zu lernen, auch wenn es nicht gerade in meinen eigentlichen Sportbereich fällt.	☐	☐	☐	☐
Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Mein Körper ist robust.	☐	☐	☐	☐
Ich habe ein sicheres Gefühl für das, was meinem Körper gut tut.	☐	☐	☐	☐
Mich kann kaum etwas aus der Ruhe bringen.	☐	☐	☐	☐
Ich fühle mich innerlich im Gleichgewicht.	☐	☐	☐	☐
Mein Körper ist widerstandsfähig.	☐	☐	☐	☐
Ich habe einen erholsamen Schlaf.	☐	☐	☐	☐
Ich nehme mir Zeit, meinem Körper Gutes zu tun.	☐	☐	☐	☐
Ich kann es mir körperlich richtig gutgehen lassen.	☐	☐	☐	☐
Ich wache morgens ausgeschlafen auf.	☐	☐	☐	☐
Ich erlebe meinen Körper als leistungsfähig.	☐	☐	☐	☐
Ich bin körperlich belastbar.	☐	☐	☐	☐
Nach dem Aufwachen bin ich ausgeruht.	☐	☐	☐	☐
Ich bin ruhig und gelassen.	☐	☐	☐	☐
Ich habe ein gutes Gefühl für das, was mein Körper braucht.	☐	☐	☐	☐
Ich wache morgens energiegeladen auf.	☐	☐	☐	☐
Ich bin ausgeglichen.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Alles in allem bin ich mit mir selbst zufrieden.	☐	☐	☐	☐
Hin und wieder denke ich, dass ich gar nichts tauge.	☐	☐	☐	☐
Ich besitze eine Reihe guter Eigenschaften.	☐	☐	☐	☐
Ich kann vieles genauso gut wie die meisten anderen Menschen auch.	☐	☐	☐	☐
Ich fürchte, es gibt nicht viel, worauf ich stolz sein kann.	☐	☐	☐	☐
Ich fühle mich von Zeit zu Zeit richtig nutzlos.	☐	☐	☐	☐
Ich halte mich für einen wertvollen Menschen, jedenfalls bin ich nicht weniger wertvoll als andere auch.	☐	☐	☐	☐
Ich wünschte, ich könnte vor mir selbst mehr Achtung haben.	☐	☐	☐	☐
Alles in allem neige ich dazu, mich für einen Versager zu halten.	☐	☐	☐	☐
Ich habe eine positive Einstellung zu mir selbst gefunden.	☐	☐	☐	☐
Ich denke, dass ich für die meisten Sportarten beweglich genug bin.	☐	☐	☐	☐
Bei den meisten körperlichen Betätigungen sind meine Bewegungen weich und gleichmäßig.	☐	☐	☐	☐
In einem Test, der Kraft misst, wäre ich gut.	☐	☐	☐	☐
Ich kann leicht schwere Dinge hochheben.	☐	☐	☐	☐
In einem Test, der Schnelligkeit misst, würde ich gut abschneiden.	☐	☐	☐	☐
Ich kann meinen Körper ganz gut drehen, wenden und verbiegen.	☐	☐	☐	☐
Ich bin stärker als die meisten anderen in meinem Alter.	☐	☐	☐	☐
Bei den meisten Sportarten bin ich gut.	☐	☐	☐	☐
Über eine kurze Strecke bin ich schneller als die meisten meines Alters.	☐	☐	☐	☐
Ich finde, mein Körper kann gleichmäßige Bewegungen leicht ausführen.	☐	☐	☐	☐
Ich kann eine schnelle Bewegung oft hintereinander ausführen.	☐	☐	☐	☐
In Sportdisziplinen, wo man sehr schnell reagieren muss, bin ich gut.	☐	☐	☐	☐
Ich denke, dass ich in einem Test, der die Beweglichkeit misst, ganz gut abschneiden würde.	☐	☐	☐	☐
Die meisten Sportarten fallen mir leicht.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Mein Körper ist beweglich.	☐	☐	☐	☐
Ich habe eine Menge Kraft in meinem Körper.	☐	☐	☐	☐
Ich bin schwach und habe keine Muskeln.	☐	☐	☐	☐
Ich bin besser im Sport als die meisten meiner Freunde.	☐	☐	☐	☐
Andere Leute denken, dass ich gut im Sport bin.	☐	☐	☐	☐
Es fällt mir leicht, die Bewegungen meines Körpers zu kontrollieren.	☐	☐	☐	☐
Ich bin körperlich stark.	☐	☐	☐	☐
In einem Test, der körperliches Durchhaltevermögen misst, wäre ich gut.	☐	☐	☐	☐
Meine Körperteile lassen sich ganz gut in alle Richtungen biegen und bewegen.	☐	☐	☐	☐
Ich denke, dass ich eine lange Strecke laufen könnte, ohne müde zu werden.	☐	☐	☐	☐
Beim Sport sehen meine Bewegungen schön aus und sind aufeinander abgestimmt.	☐	☐	☐	☐
Ich bin gut in Ausdauersportarten wie Langstreckenlauf, Aerobic, Radfahren, Schwimmen oder Skilanglauf.	☐	☐	☐	☐
Ich kann eine weite Strecke rennen, ohne anzuhalten.	☐	☐	☐	☐
Mein Körper ist steif und unbeweglich.	☐	☐	☐	☐
Es fällt mir schwer, Bewegungen ganz schnell auszuführen.	☐	☐	☐	☐
Ich habe gute sportliche Fähigkeiten.	☐	☐	☐	☐
Über eine kurze Strecke kann ich sehr schnell laufen.	☐	☐	☐	☐
In Sportspielen bin ich gut.	☐	☐	☐	☐
Ich könnte 5 Kilometer joggen, ohne stehen zu bleiben.	☐	☐	☐	☐
Ich kann gut meine Bewegungen koordinieren.	☐	☐	☐	☐
Ich kann eine lange Zeit körperlich aktiv sein, ohne müde zu werden.	☐	☐	☐	☐
Ich fühle mich sicher im Ausführen von schwierigen und schnell aufeinander folgenden Bewegungen.	☐	☐	☐	☐
Ich habe ein ausdrucksvolles und interessantes Gesicht.	☐	☐	☐	☐
Ich fühle mich in meinem Körper zu Hause.	☐	☐	☐	☐
Ich neige dazu, meinen Körper zu verbergen.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Ich bin mit meinem Körper zufrieden.	☐	☐	☐	☐
Manchmal mag ich meinen eigenen Körper nicht.	☐	☐	☐	☐
Ich bin stolz auf meinen Körper.	☐	☐	☐	☐
Ich kann mir nur schwer vorstellen, dass andere mich wegen meines Aussehens anziehend finden.	☐	☐	☐	☐
Wenn ich mich vom Aussehen her mit anderen vergleiche, bin ich der Meinung, dass ich mich sehen lassen kann.	☐	☐	☐	☐
Ich wirke auf andere anziehend.	☐	☐	☐	☐
Ich bin mit meinem Aussehen zufrieden.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Wenn sich ein schwacher Schüler verbessert, ist das für unseren Lehrer eine gute Leistung, auch wenn der Schüler immer noch unter dem Klassendurchschnitt liegt.	☐	☐	☐	☐
Wenn ich mich besonders angestrengt habe, lobt mich der Lehrer meistens, auch wenn andere Schüler noch besser sind als ich.	☐	☐	☐	☐
Wenn ein Schüler seine Leistungen verbessert, wird er vom Lehrer gelobt, auch dann, wenn er im Vergleich zur Klasse unter dem Durchschnitt liegt.	☐	☐	☐	☐
Unser Lehrer lobt auch die schlechten Schüler, wenn er merkt, dass sie sich verbessern.	☐	☐	☐	☐
Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Ich kann mich lange Zeit auf eine Sache konzentrieren, wenn es nötig ist.	☐	☐	☐	☐
Wenn ich von einer Sache abgelenkt werde, komme ich schnell wieder zum Thema zurück.	☐	☐	☐	☐
Wenn es nötig ist, kann ich meine Gefühle unter Kontrolle bringen.	☐	☐	☐	☐
Wenn störende Gedanken auftreten, kann ich sie nur schwer von mir weg schieben.	☐	☐	☐	☐
Ich kann es verhindern, dass meine Gedanken ständig von der Aufgabe abschweifen.	☐	☐	☐	☐
Wenn ich Sorgen habe, kann ich mich nicht auf eine Tätigkeit konzentrieren.	☐	☐	☐	☐
Nach einer Unterbrechung kann ich mich leicht wieder konzentrieren.	☐	☐	☐	☐
Alle möglichen Gedanken lassen mir einfach keine Ruhe zum Arbeiten.	☐	☐	☐	☐
Ich behalte mein Ziel im Auge und lasse mich nicht vom Weg abbringen.	☐	☐	☐	☐
Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Das Erlernen neuer Bewegungen gelingt mir immer, wenn ich mich darum bemühe.	☐	☐	☐	☐
Wenn sich Widerstände beim Erlernen einer Bewegung ergeben, finde ich Mittel und Wege, diese zu überwinden.	☐	☐	☐	☐
Es bereitet mir keine Schwierigkeiten, meine Absichten und Ziele beim Sporttreiben zu verwirklichen.	☐	☐	☐	☐
In unerwarteten Situationen beim Sporttreiben weiß ich immer, wie ich mich verhalten soll.	☐	☐	☐	☐
Auch bei überraschenden Ereignissen beim Sporttreiben glaube ich, dass ich gut damit zurechtkommen kann.	☐	☐	☐	☐
Schwierigkeiten beim Erlernen einer Bewegung sehe ich gelassen entgegen, weil ich immer auf meine sportmotorischen Fähigkeiten vertrauen kann.	☐	☐	☐	☐

Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Was auch immer beim Sporttreiben passiert, ich werde schon klarkommen.	☐	☐	☐	☐
Für jedes Problem beim Erlernen einer Bewegung kann ich eine Lösung finden.	☐	☐	☐	☐
Wenn ich mich mit einer neu zu lernenden Bewegung auseinandersetzen muss, weiß ich, wie ich damit umgehen kann.	☐	☐	☐	☐
Wenn ein Problem beim Sporttreiben auftaucht, kann ich es aus eigener Kraft lösen.	☐	☐	☐	☐
Diese Aussage…	stimmt gar nicht	stimmt eher nicht	stimmt eher	stimmt genau
Gut in Sport zu sein bedeutet mir persönlich viel.	☐	☐	☐	☐
Für mich persönlich sind Fähigkeiten im Sport nicht wichtig.	☐	☐	☐	☐
Ich halte Sport ganz persönlich für sehr wichtig.	☐	☐	☐	☐
Bei Aufgaben im Sport ist es mir persönlich egal, wenn ich mich ungeschickt anstelle.	☐	☐	☐	☐
Verglichen mit anderen Fächern bedeutet Sport mir persönlich viel.	☐	☐	☐	☐
Mir macht der Sportunterricht viel Spaß.	☐	☐	☐	☐
Ich bin sehr zufrieden mit unserem Sportunterricht.	☐	☐	☐	☐
Wir werden im Fach Sport gut unterrichtet.	☐	☐	☐	☐
Ich mag mein/e Sportlehrer/in.	☐	☐	☐	☐
Ich gehe gerne zum Sportunterricht.	☐	☐	☐	☐
Sport ist nicht so wichtig wie andere Fächer.	☐	☐	☐	☐
Ich mache gerne Sport.	☐	☐	☐	☐
Ich gehe gerne zu Sportveranstaltungen und schaue zu.	☐	☐	☐	☐
Fernsehübertragungen von Sportereignissen (Fußball, Formel 1 usw.) sehe ich mir gerne an.	☐	☐	☐	☐

Mein Lehrer…/ Meine Lehrerin…	nie	selten	manchmal	oft	immer
…erklärt jedem Schüler, wie er seinen Beitrag zur Klassengemeinschaft beisteuern kann.	☐	☐	☐	☐	☐
…macht auf die guten, aber auch auf die schlechten Komponenten/Teile einer Leistung aufmerksam.	☐	☐	☐	☐	☐
…zeigt deutlich, wenn er/sie sich freut, wenn ein Schüler eine gute Leistung bringt.	☐	☐	☐	☐	☐
…achtet darauf, dass der gesamte Unterricht in geordneten Bahnen verläuft.	☐	☐	☐	☐	☐
…hat Interesse am persönlichen Wohlergehen seiner Schüler.	☐	☐	☐	☐	☐
…stellt sicher, dass jeder seine Rolle im Unterrichtsablauf versteht.	☐	☐	☐	☐	☐
…lobt einzelne Schüler für ihre Leistungen vor den anderen.	☐	☐	☐	☐	☐
…bespricht mit den Schülern wichtige Dinge, bevor er/sie anfängt/weitergeht.	☐	☐	☐	☐	☐
…hilft seinen Schülern, ihren Standpunkt zu festigen.	☐	☐	☐	☐	☐
…sagt es seinen Schülern, wenn sie richtig gut waren.	☐	☐	☐	☐	☐
…ermutigt seine Schüler, Vorschläge zur Unterrichtsgestaltung zu machen.	☐	☐	☐	☐	☐
…lässt seine Schüler an wichtigen Entscheidungen teilhaben.	☐	☐	☐	☐	☐
…plant seine Unterrichtseinheiten im Voraus.	☐	☐	☐	☐	☐
…erkennt die Leistungen an, wo er/sie der Meinung ist, dass Anerkennung angebracht ist.	☐	☐	☐	☐	☐
…fragt nach der Meinung seiner Schüler zu wichtigen Unterrichtsinhalten.	☐	☐	☐	☐	☐
…erklärt jedem Schüler die sportspezifischen Techniken und Taktiken.	☐	☐	☐	☐	☐
…achtet darauf, dass sich alle so gut wie möglich anstrengen.	☐	☐	☐	☐	☐
…hilft seinen Schülern, wenn sie persönliche Probleme haben.	☐	☐	☐	☐	☐
…sagt seinen Schülern, dass sie sich ihm/ihr anvertrauen können.	☐	☐	☐	☐	☐
…setzt sich persönlich für seine Schüler ein.	☐	☐	☐	☐	☐
…erkundigt sich nach der Meinung seiner Schüler zur Gestaltung von Situationen zur Leistungsüberprüfung.	☐	☐	☐	☐	☐

Du möchtest Snowboardfahren lernen und bist dafür für zwei Wochen in die Alpen gefahren. Ein Kurs an einer Snowboardschule ist Dir jedoch zu teuer, also übst Du ohne Anleitung durch einen Snowboardlehrer. Wie gehst Du dabei vor?

Diese Aussage…	trifft nicht zu	trifft etwas zu	teil - teils	trifft eher zu	trifft zu
Ich sehe mir die Bewegung bei anderen oder auf Film an und versuche dabei, die Schlüsselstellen des Bewegungsablaufs herauszufinden.	☐	☐	☐	☐	☐
Vor dem Üben lege ich fest, wie weit ich heute kommen möchte.	☐	☐	☐	☐	☐
Ich übe die Bewegung in unterschiedlichen Variationen, z.B. betont langsam oder schnell.	☐	☐	☐	☐	☐
Ich stelle mir vor, wie ich die Bewegung in einer bestimmten Situation anwende.	☐	☐	☐	☐	☐
Ich gestalte meine Umgebung so, dass ich möglichst effektiv üben kann.	☐	☐	☐	☐	☐
Ich übe auch weiter, wenn ich glaube, dass mir die Bewegung gar nicht so liegt.	☐	☐	☐	☐	☐
Ich denke darüber nach, ob ich am Bewegungsablauf etwas ändern muss, damit ich ihn besser lernen kann.	☐	☐	☐	☐	☐
Ich versuche mir die wichtigen Punkte der Bewegung klarzumachen.	☐	☐	☐	☐	☐
Ich prüfe, ob es Ähnlichkeiten zwischen der Bewegung und anderen Bewegungen, die ich bereits beherrsche, gibt.	☐	☐	☐	☐	☐
Ich überlege mir vorher genau, welche Teile der Bewegung ich noch üben muss und welche nicht.	☐	☐	☐	☐	☐
Ich bitte jemanden, meine Bewegungsversuche aktiv zu unterstützen (Hilfestellung o.ä.).	☐	☐	☐	☐	☐
Ich führe die Bewegung in gleicher Art und Weise mehrmals hintereinander aus.	☐	☐	☐	☐	☐
Ich übe so lange, bis ich sicher bin, dass ich die Bewegung kann.	☐	☐	☐	☐	☐
Ich übe die Bewegung zunächst in vereinfachter Form.	☐	☐	☐	☐	☐
Ich übe mehrere Bewegungsvarianten abwechselnd.	☐	☐	☐	☐	☐
Beim Üben gehe ich vom Einfachen zum Schwierigen vor.	☐	☐	☐	☐	☐
Ich lasse mir von anderen den Bewegungsablauf zeigen oder erklären.	☐	☐	☐	☐	☐
Schwierige Teile der Bewegung übe ich besonders sorgfältig.	☐	☐	☐	☐	☐

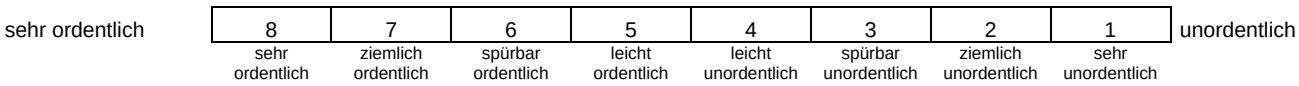
Diese Aussage…	trifft nicht zu	trifft etwas zu	teil - teils	trifft eher zu	trifft zu
Wenn ich bemerke, dass ich beim Üben mit den Gedanken abschweife, versuche ich mich neu zu konzentrieren.	☐	☐	☐	☐	☐
Ich übe gemeinsam mit anderen.	☐	☐	☐	☐	☐
Ich vergleiche meine Bewegungsausführungen mit denen anderer, um zu prüfen, ob ich alles richtig mache.	☐	☐	☐	☐	☐
Ich teile die Bewegung gedanklich in Phasen ein.	☐	☐	☐	☐	☐
Ich versuche herauszufinden, welche Teile der Bewegung mir noch Schwierigkeiten machen.	☐	☐	☐	☐	☐
Beim Üben halte ich mich an einen bestimmten Zeitplan.	☐	☐	☐	☐	☐
Ich suche in Zeitschriften oder Büchern nach etwas, was mir weiterhelfen kann, z.B. Bildreihen oder Übungen.	☐	☐	☐	☐	☐
Bevor ich mit dem Üben beginne, überlege ich mir, wie ich am effektivsten vorgehen kann.	☐	☐	☐	☐	☐
Ich bitte jemanden, meine Bewegungsausführungen zu korrigieren.	☐	☐	☐	☐	☐
Ich vergleiche die Vor- und Nachteile verschiedener Bewegungsabläufe für ein- und denselben Zweck.	☐	☐	☐	☐	☐
Wenn mir die Bewegung nicht gelingen will, dann übe ich umso intensiver.	☐	☐	☐	☐	☐
Ich gliedere die Bewegung in mehrere Abschnitte, die ich dann einzeln übe.	☐	☐	☐	☐	☐
Wenn ich die Bewegung übe, konzentriere ich mich voll darauf.	☐	☐	☐	☐	☐
Ich lege bestimmte Zeiten fest, zu denen ich übe.	☐	☐	☐	☐	☐
Ich nutze elektronische Medien (z.B. Internet, CD-Rom, Video), um weitere Informationen über eine Bewegung zu bekommen.	☐	☐	☐	☐	☐
Beim Üben mache ich mir Markierungen oder ich verwende Gerätehilfen (z.B. größere Schläger).	☐	☐	☐	☐	☐
Wenn ich übe, achte ich darauf, dass es in meiner Umgebung möglichst wenig Ablenkung gibt.	☐	☐	☐	☐	☐
Diese Aussage…	trifft nicht zu	trifft etwas zu	teil - teils	trifft eher zu	trifft zu
Ich..					
... bin eher zurückhaltend, reserviert.	☐	☐	☐	☐	☐
... neige dazu, andere zu kritisieren.	☐	☐	☐	☐	☐
... erledige Aufgaben gründlich.	☐	☐	☐	☐	☐

... werde leicht deprimiert, niedergeschlagen.	☐	☐	☐	☐	☐
Diese Aussage…	trifft nicht zu	trifft etwas zu	teil - teils	trifft eher zu	trifft zu
Ich..					
... bin vielseitig interessiert.	☐	☐	☐	☐	☐
... bin begeisterungsfähig und kann andere leicht mitreißen.	☐	☐	☐	☐	☐
... schenke anderen leicht Vertrauen, glaube an das Gute im Menschen.	☐	☐	☐	☐	☐
... bin bequem, neige zur Faulheit.	☐	☐	☐	☐	☐
... bin entspannt, lasse mich durch Stress nicht aus der Ruhe bringen.	☐	☐	☐	☐	☐
... bin tiefsinnig, denke gerne über Sachen nach.	☐	☐	☐	☐	☐
... bin eher der „stille Typ“, wortkarg.	☐	☐	☐	☐	☐
... kann mich kalt und distanziert verhalten.	☐	☐	☐	☐	☐
... bin tüchtig und arbeite flott.	☐	☐	☐	☐	☐
... mache mir viele Sorgen.	☐	☐	☐	☐	☐
... habe eine aktive Vorstellungskraft, bin phantasievoll.	☐	☐	☐	☐	☐
... gehe aus mir heraus, bin gesellig.	☐	☐	☐	☐	☐
... kann mich schroff und abweisend anderen gegenüber verhalten.	☐	☐	☐	☐	☐
... mache Pläne und führe sie auch durch.	☐	☐	☐	☐	☐
... werde leicht nervös und unsicher.	☐	☐	☐	☐	☐
... schätze künstlerische und ästhetische Eindrücke.	☐	☐	☐	☐	☐
... habe nur wenig künstlerisches Interesse.	☐	☐	☐	☐	☐
Im Sportunterricht ist es mir wichtig, dass mein Lehrer…/ meine Lehrerin…	nie	selten	manchmal	oft	immer
… jedem Schüler erklärt, wie er seinen Beitrag zur Klassengemeinschaft beisteuern kann.	☐	☐	☐	☐	☐
…auf die guten, aber auch auf die schlechten Komponenten/Teile einer Leistung aufmerksam macht.	☐	☐	☐	☐	☐
…deutlich zeigt, wenn er/sie sich freut, wenn ein Schüler eine gute Leistung bringt.	☐	☐	☐	☐	☐
… darauf achtet, dass der gesamte Unterricht in geordneten Bahnen verläuft.	☐	☐	☐	☐	☐
…Interesse am persönlichen Wohlergehen seiner Schüler hat.	☐	☐	☐	☐	☐
…sicherstellt, dass jeder seine Rolle im	☐	☐	☐	☐	☐

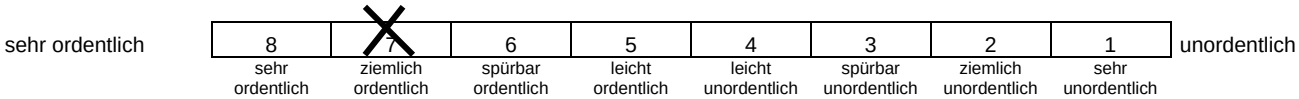
Unterrichtsablauf versteht.					
…einzelne Schüler für ihre Leistungen vor den anderen lobt.	☐	☐	☐	☐	☐
Im Sportunterricht ist es mir wichtig, dass mein Lehrer…/ meine Lehrerin…	nie	selten	manchmal	oft	immer
…mit den Schülern wichtige Dinge bespricht, bevor er/sie anfängt/weitergeht.	☐	☐	☐	☐	☐
… seinen Schülern hilft, ihren Standpunkt zu festigen.	☐	☐	☐	☐	☐
… es seinen Schülern sagt, wenn sie richtig gut waren.	☐	☐	☐	☐	☐
… seine Schüler ermutigt, Vorschläge zur Unterrichtsgestaltung zu machen.	☐	☐	☐	☐	☐
… seine Schüler an wichtigen Entscheidungen teilhaben lässt.	☐	☐	☐	☐	☐
… seine Unterrichtseinheiten im Voraus plant.	☐	☐	☐	☐	☐
… die Leistungen anerkennt, wo er/sie der Meinung ist, dass Anerkennung angebracht ist.	☐	☐	☐	☐	☐
… nach der Meinung seiner Schüler zu wichtigen Unterrichtsinhalten fragt.	☐	☐	☐	☐	☐
… jedem Schüler die sportspezifischen Techniken und Taktiken erklärt.	☐	☐	☐	☐	☐
… darauf achtet, dass sich alle so gut wie möglich anstrengen.	☐	☐	☐	☐	☐
… seinen Schülern hilft, wenn sie persönliche Probleme haben.	☐	☐	☐	☐	☐
… seinen Schülern sagt, dass sie sich ihm/ihr anvertrauen können.	☐	☐	☐	☐	☐
… sich persönlich für seine Schüler einsetzt.	☐	☐	☐	☐	☐
… sich nach der Meinung seiner Schüler zur Gestaltung von Situationen zur Leistungsüberprüfung erkundigt.	☐	☐	☐	☐	☐

Lehrer unterscheiden sich hinsichtlich ihrer Betrachtungsweise von Schülern, die sie unterrichten. Diese Unterschiede können möglicherweise einen bedeutenden Einfluss auf das Unterrichtsgeschehen haben.

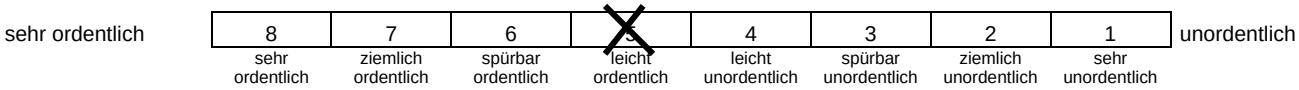
Im Folgenden werden Wordpaare mit gegensätzlicher Bedeutung aufgeführt, wie z.B. „ordentlich“ und „unordentlich“. Versuche dich in deinen **Sportlehrer** hinzuversetzen. Stelle dir nun vor wie dein Sportlehrer einen seiner Schüler beschreiben würde, indem du eine Zahl ankreuzt, welche zwischen den beiden Wörtern liegt.
Die Zahlen geben an, wie gut oder schlecht die jeweiligen Adjektive zu dem Schüler passen



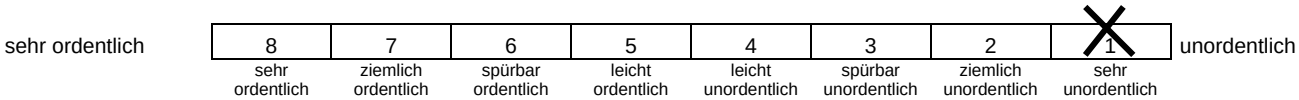
BEISPIEL:
Es soll ein Schüler beschrieben werden mit dem Dein Lehrer im Unterricht am wenigsten gut zusammenarbeiten konnte. Wie denkst Du würde Dein Sportlehrer diesen Schüler beschreiben? Wenn Du meinst, dass Dein Lehrer diesen Schüler als „ziemlich ordentlich“ bezeichnen würde, dann solltest Du die 7 ankreuzen:



Ist dieser Schüler aus der Sicht Deines Lehrers nur „leicht ordentlich“ würdest du ein Kreuz bei der 5 machen:



Wenn Du denkst, dass dein Lehrer diesen Schüler im Allgemeinen als „sehr unordentlich“ beschreiben würde, dann kreuzt Du die 1 an:



Schau Dir die Wortpaare genau an bevor Du eine der dazwischen liegenden Zahlen ankreuzt. Es gibt keine „richtigen“ oder „falschen“ Antworten. Versuche die Liste zügig zu bearbeiten - die erste Antwort ist oft die beste. Bitte achte darauf, dass kein Wortpaar ausgelassen wird und jeweils nur eine einzige Zahl angekreuzt wird.

TEST:
Denke an Deinen Sportunterricht und versuche Dich in die Sichtweise Deines Lehrer hineinzuversetzen. Stelle Dir nun einen beliebigen Schüler vor, mit dem Dein Sportlehrer im Unterricht am schlechtesten zusammen arbeiten konnte. Es kann sich dabei um einen aktuellen Schüler oder um Schüler aus der Vergangenheit handeln.
Der Schüler an den Du denkst, muss nicht der Schüler sein den der Lehrer am wenigsten mochte. Aber es sollte der Schüler sein, mit dem Dein Lehrer die meisten Schwierigkeiten in der Zusammenarbeit im Unterricht hatte.
Kreuze an wie Dein Lehrer diesen Schüler anhand folgender Wortpaare beschreiben würde:

angenehm	8	7	6	5	4	3	2	1	unangenehm
umgänglich	8	7	6	5	4	3	2	1	ungesellig
zurückweisend	8	7	6	5	4	3	2	1	annehmend
angespannt	8	7	6	5	4	3	2	1	entspannt
distanziert	8	7	6	5	4	3	2	1	vertraut
kühl	8	7	6	5	4	3	2	1	herzlich
unterstützend	8	7	6	5	4	3	2	1	ablehnend
gelangweilt	8	7	6	5	4	3	2	1	interessiert
streitsüchtig	8	7	6	5	4	3	2	1	harmonisch
bedrückt	8	7	6	5	4	3	2	1	fröhlich
offen	8	7	6	5	4	3	2	1	verschlossen
unaufrichtig	8	7	6	5	4	3	2	1	aufrichtig
unzuverlässig	8	7	6	5	4	3	2	1	zuverlässig
rücksichtslos	8	7	6	5	4	3	2	1	rücksichtsvoll
gemein	8	7	6	5	4	3	2	1	nett
beliebt	8	7	6	5	4	3	2	1	unbeliebt
unehrlich	8	7	6	5	4	3	2	1	ehrlich
liebenswürdig	8	7	6	5	4	3	2	1	unfreundlich

Wie zufrieden bist du allgemein mit dem Sportunterricht?								
gar nicht zufrieden	☐	☐	☐	☐	☐	☐	☐	sehr zufrieden
Wie zufrieden bist du mit der Unterrichtsgestaltung im Sportunterricht?								
gar nicht zufrieden	☐	☐	☐	☐	☐	☐	☐	sehr zufrieden
Wie zufrieden bist du mit der Stimmung bzw. dem Klima im Sportunterricht?								

gar nicht zufrieden	☐	☐	☐	☐	☐	☐	☐	sehr zufrieden
Wie zufrieden bist du mit deinem Sportlehrer oder deiner Sportlehrerin?								
gar nicht zufrieden	☐	☐	☐	☐	☐	☐	☐	sehr zufrieden

Ich bin ein...	☐ Junge ☐ Mädchen	Wie alt bist Du?	__ Jahre
Wie groß bist Du?	ca. _____ m	Wie viel wiegst Du?	ca. _____ kg
In welche Klasse gehst Du?	__Klasse	Wie heißt Dein /e Sportlehrer/in?	_____
Wie lange hast Du schon bei Dein/er Sportlehrer/in Sportunterricht?	__Jahre		
Wie oft hast Du Sport in der Schule?	__ mal in der Woche	Was war Deine letzte Note im Sport?	__
Machst Du Sport in Deiner Freizeit?	☐ Ja ☐ Nein	Bist Du Mitglied in einem Sportverein?	☐ Ja ☐ Nein
Wie viel Zeit verbringst du mit Sport in Deiner Freizeit?	ca. __ Stunden in der Woche	Welche Sportarten betreibst du regelmäßig?	_____ _____ _____ _____ _____ _____ _____ _____ _____
Welche Noten hattest Du in deinem letzten Zeugnis?	(Noten von 1-6)		
Mathematik	__		
Deutsch	__		
Erste Fremdsprache	__		
Zweite Fremdsprache	__		
Biologie	__		
Chemie	__		
Physik	__		
Geschichte	__		

Curriculum Vitae

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Ausbildung

08/1985 - 07/1999	**Hiberniaschule** (Gesamtschule), Herne Abschluss mit der allgemeinen Hochschulreife
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10/2000 - 03/2005	**Georg-August-Universität Göttingen** Studium der Psychologie Abschluss: Diplom-Psychologe
10/2005 – 06/2008	**Promotionsstipendium** DFG-Graduiertenkolleg “Passungsverhältnisse schulischen Lernens”, Georg-August Universität Göttingen

Tätigkeiten

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01/2004 - 06/2004	**Therapie- und Beratungszentrum** *Poliklinische Institutsambulanz des Psychologischen Instituts der Universität Göttingen* Praktikum
02/2002 - 03/2005	**Georg-Elias-Müller-Institut für Psychologie** Göttingen *Abteilung für Pädagogische Psychologie und Entwicklungspsychologie* Studentische Hilfskraft
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