THE IMPACT OF SPORTS PARTICIPATION AFTER SCHOOL ON INTRINSIC MOTIVATION AND PERCEIVED LEARNING ENVIRONMENT IN SECONDARY SCHOOL PHYSICAL EDUCATION

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Abstract:

The aim of the present study was to examine the differences in intrinsic motivation, perceived learning environment, and perceived teacher's feedback with respect to the physical education of students who participate in after-school sports and those who do not. 783 secondary school students (375 boys and 408 girls) aged 12-15 years responded to the Intrinsic Motivation Inventory (IMI) to assess intrinsic motivation, Physical Education Learning Environment Scale (PELES) to measure the perceptions of the learning environment, and Perceptions of the Teacher's Feedback (PTF) to assess the perceived teacher's feedback. The students were divided into groups based on whether they participated in sports after school or not, and for how long they had been doing it. Boys and girls were observed separately. The analyses indicated that both male and female students who did after-school sports were more motivated to participate in physical education classes in school than students without after-school sports experience. Furthermore, both male and female students with sports experience felt the physical education learning environment to be more non-threatening to their self-esteem than students without sports experience. Moreover, the female students with sports experience perceived significantly more that their teacher provided them with a positive general feedback than their schoolmates without any sports experience.

Key words: sports activity, perceived teacher's feedback, gender differences

EINFLUSS DES SPORTTREIBENS NACH DER SCHULE AUF DIE INTRINSISCHE MOTIVATION UND PERZIPIERTE LERNUMGEBUNG WÄHREND DER SPORTSTUNDEN IN DER MITTELSCHULE

Zusammenfassung:

Das Ziel dieser Studie war, die Unterschiede in der intrinsischen Motivation, der perzipierten Lernumgebung sowie im perzipierten Lehrer-Feedback bezüglich der Sportausbildung zu untersuchen, zwischen den Schülern, die nach der Schule Sport treiben und denjenigen, die es nicht tun. 783 Mittelschüler (375 Jungen und 408 Mädchen) im Alter von 12 - 15 Jahren haben die folgenden Fragebogen beantwortet: Intrinsic Motivation Inventory (IMI), um die intrinsische Motivation zu bewerten, Physical Education Learning Environment Scale (PELES), um die Perzeption der Lernumgebung zu messen und Perceptions of the Teacher's Feedback (PTF), um das perzipierte Lehrer-Feedback einzuschätzen. Die Schüler wurden in Gruppen verteilt, nach dem, ob sie nach der Schule Sport treiben oder nicht und wie lange sie trainieren. Jungen und Mädchen wurden abgetrennt beobachtet. Die Analysen zeigten, dass die Schüler sowie Schülerinnen, die nach der Schule Sport trieben, besser motiviert waren, in den Schulsportstunden teilzunehmen, als diejenigen, die keine Erfahrung im Sport nach der Schule hatten. Außerdem schätzten die sporterfahrenen Schüler und Schülerinnen die Lernumgebung als nicht bedrohlich für ihr Selbstbewusstsein mehr als die nicht erfahrenen. Überdies fühlten die sporterfahrenen Schülerinnen ein allgemein positives Feedback von ihren Lehrern bedeutend mehr als ihre nicht sporterfahrenen Kolleginnen.

Schlüsselwörter*:* Sporttätigkeit, perzipiertes Lehrer-Feedback, Geschlechtsunterschiede

According to Goudas, Dermitzaki and Bagiatis (2001), relatively little research has been done on the psychological aspects of participation in physical education at school. Moreover, the function of physical education is to prepare youngsters for a lifetime of physical activity (Sallis & McKenzie, 1991), and it is acknowledged that physical education contributes significantly to individual and public health (Haywood, 1991). Therefore, it is important to study and understand students' motivation for participation in physical education, especially since there is clear evidence that a decline in participation in vigorous physical activity becomes apparent around 11 years of age and continues through adolescence and into adulthood (Sallis & Patrick, 1996; Wankel & Mummary, 1996). Indeed, national campaigns are now highlighting inactivity in youth as a public health problem (British Heart Foundation, 2000).

Students' needs, cognition and emotions have been identified as the primary motivation sources that initiate learning and active behaviour (Reeve, 1996). Students' intrinsic motivation is particularly important in physical education and sports. Intrinsic motivation is the degree to which an individual chooses to participate in an activity for the pleasure derived rather than for any extrinsic reward that may be forthcoming (Deci & Ryan, 1985).

Goudas, Dermitzaki and Bagiatis (2001) have stated that there is limited empirical evidence regarding the effect of sports participation on motivation in physical education at school. However, Anderssen (1993) reported that students with sports experience hold more favourable attitudes toward physical education than students without any sports experience. Similarly, Goudas's et al. research indicated that Greek secondary school students' motivation in physical education differs depending on whether they participate in organised sports after school. They concluded that students with sports experience reported significantly higher ratings on intrinsic motivation than students without any sports experience. Also, students with higher physical self-competence reported liking physical education more than students with low physical self-competence. According to Deci and Ryan (1985) the cognitive evaluation theory proposes that intrinsic motivation is primarily based on individuals' sense of competence and their perception of autonomy regarding their actions.

Eccles and Harold (1991) have stated that an individual's interpretation of reality, rather than reality itself, directly influences the choice to engage in an activity. Simply put, if an individual perceives a positive or successful experience, he or she will more likely choose to participate with intensity and persistence in that activity. Fox (1991) also suggested that students' perceptions of physical activity play a critical role in determining possible further participation. Ward (1982) investigated students' perceptions of the learning environment in secondary school physical education and concluded that these varied and were related to the student's and teacher's gender. Mitchell's (1996) work also indicated that male and female students perceived the climate of physical education classes quite differently. Specifically, male students perceived a higher degree of challenge and competitiveness and less threat to sense of self than females. Males were also higher than females in overall intrinsic motivation.

The differences in some psychological aspects among students with different sport experiences were found (Goudas et al., 2001). However, there is no evidence regarding the effect of sport participation on the different domains of perceived learning environment such as perceived challenge, perceived threat to sense of self, perceived competitiveness, and the perceived teachers' behaviour in physical education at school. Examining the effect of sport participation on the perceived learning environment provides important implications for practising physical education teachers to deal with students with different sport experiences appropriately.

Therefore, the aim of the present study was to compare students who participated in sports after school with the students who did not participate in sports on several variables such as intrinsic motivation, perceived learning environment and perceived teachers' feedback in physical education.

Method

Participants and procedures

The participants were 783 secondary school students (375 boys and 408 girls) aged 12-15 years from five schools from a town of 100,000 inhabitants in Estonia. Permission for the study was obtained from the Headmaster or class teacher. The questionnaires were administered in classroom, it took approximately 10 minutes to complete them, and were collected by the researcher. The students were assured of the confidentiality of their answers.

Instrumentation

Intrinsic Motivation. To measure the intrinsic motivation in physical education the Intrinsic Motivation Inventory (IMI) (McAuley, Duncan & Tammen, 1989) with four subscales, Interest-enjoyment (4 items, e.g., "I enjoy physical

education classes very much"), Perceived competence (4 items, e.g., "I think I am pretty good at physical education"), Effort-importance (4 items, e.g., "I put a lot of effort into the physical education classes"), and Tension-pressure (3 items, e.g., "I feel tense when I am in physical education classes") was used. From the original 18-items version of IMI, three items were excluded. Item 9 ("I am satisfied with my performances at the physical education classes"), item 10 ("I feel pressure during physical education classes"), and item 13 ("While participating in physical education, I was thinking about how much I enjoyed it") were excluded because of the relatively low correlations between the overall scale and these items. A composite score of the remaining 15 items provides an index of the general level of intrinsic motivation without reference to any particular class activity. Students rated their answers on a 7-point Likert scale using anchors ranging from 7 (strongly agree) to 1 (strongly disagree). All negatively stated items were reverse-coded. The reliability of the complete 15 items were found to be satisfactory with the Cronbach's alpha level of .85.

Perceived Learning Environment. Physical Education Learning Environment Scale (PELES) (Mitchell, 1996) with three dimensions of Perceived challenge (5 items, e.g., "P. E. classes challenge my ability"), Perceived threat to sense of self (3 items, e.g., " PE makes me feel bad about myself"), and Perceived competitiveness (3 items, e.g., "In P. E. we try to do better than others") was used to measure the perceived learning environment in physical education. Referring to the work of Mitchell, the Perceived control subscale was removed from the current study because of its construct invalidity. For the present study, the values of Cronbach's alpha were .76, .67, and .57 for the Perceived challenge, Perceived threat to sense of self, and Perceived competitiveness subscales, respectively. The Perceived competitiveness subscale, with an alpha of .57, was considered unreliable and was excluded from further analysis. Furthermore, a confirmatory factor analysis supported the proposed factor structure of the questionnaire. The goodness-of-fit test parameters were as follows: $\chi^2(41, n = 392) = 146.17$, $p<.001$, the χ^2/df ratio = 3.56, GFI = .95, RMSR = .078.

Perceived Teacher's Feedback. To measure the perceived teacher's feedback the Perceptions of the Teacher's Feedback (PTF) (Hein & Koka, 2001) with three dimensions, Perceived positive specific feedback (5 items, e.g., "If the teacher gives me more initial instruction, I will master the exercise more faster"), Perceived positive general feedback (3 items, e.g., "The teacher often praises me"), and Perceived knowledge of performance (2 items, e.g., "The teacher instructs me frequently during the performance") was used. In this study, the Cronbach's alphas were .74, .71, and .70 for these subscales, respectively. Confirmatory factor analysis supported the proposed three-factor structure of the scale. The goodness-of-fit test parameters were: $\chi^2(24, n = 392) = 62.16$, $p<.001$, the χ^2/df ratio = 2.59, GFI = .98, RMSR = .061.

Students responded to each item of the above two questionnaires on a 5-point Likert scale with anchors ranging from 5 = strongly agree to 1 = strongly disagree. It was also emphasized that the questionnaires were designed to measure the students' general feelings about physical education classes and not about one particular class. All negatively stated items were also reverse-coded. For each subscale, a composite score was calculated by adding the scores of the respective items and dividing the sum by the number of items. A higher score represented higher levels on dimensions of perceived learning environment, except the dimension of perceived threat to sense of self, where a higher score represented a lower perception of threat to sense of self.

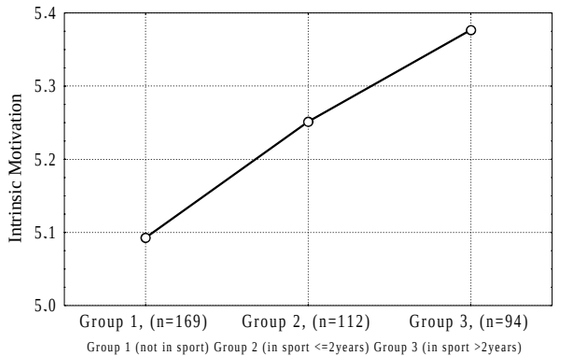
To judge their participation in sports the students were asked to indicate whether they did a sport outside of school hours, how many times a week, and for how long. The students were divided then into the following groups: students who did not participate in a sport after school (boys n=169, girls n=210); students participating in a sport for up to two years (boys n=112, girls n=116) and students participating in a sport for more than two years (boys n=94, girls n=82). So, six different groups were formed and subjected to analysis. The boys and girls were observed separately.

Results

A multivariate analysis of variance (MANOVA) was performed with the three groups of boys and three groups of girls separately (boys not in organised sport = Group 1, boys in organised sport for up to two years = Group 2, and boys in organised sport for more than two years = Group 3; girls not in organised sport = Group 4, girls in organised sport for up to two years = Group 5, and girls in organised sport for more than two years = Group 6) as the independent variables and ratings on Intrinsic motivation, dimensions of Perceived learning environment, and dimensions of Perceived teacher's feedback as dependent variables. There was not an overall multivariate effect for the boys, Wilks's lambda = .95, Raos's R (12, 650) = 1.45,

p<.138, but for the girls there was an overall multivariate effect, Wilks's lambda = .89, Raos's R (12, 716) = 3.36, p<.0001. Subsequent Post hoc Tukey HSD for unequal N multiple comparisons tests revealed that Group 3 (in sport for more than two years) boys scored significantly higher on Intrinsic motivation than boys in Group 1 (not in sport). Similarly, Group 6 (in sport for more than two years) and Group 5 (in sport for up to two years) girls were significantly more motivated to participate in physical education than Group 4 (not in sport) girls (see Figure 1). The three boys Groups did not differ on the dimensions of Perceived teacher's feedback, but Group 5 (in sport for up to two years) and Group 6 (in sport for more than two years) girls perceived significantly higher than Group 4 girls (not in sport) that teachers give them positive general feedback (see Figure 2). Additionally, Group 3 (in sport for more than two years) and Group 2 boys (in sport for up to two years) perceived physical education to be significantly less threatening to their self-esteem than Group 1 boys (not in sport) (higher score represents lower perception of perceived threat). An analogous pattern appeared for girls. Group 6 (in sport for more than two years) and Group 5 (in sport for up to two years) girls also perceived physical education to be significantly less threatening to their self-esteem than Group 4 (not in sport) girls (see Figure 3).

Boys



Girls

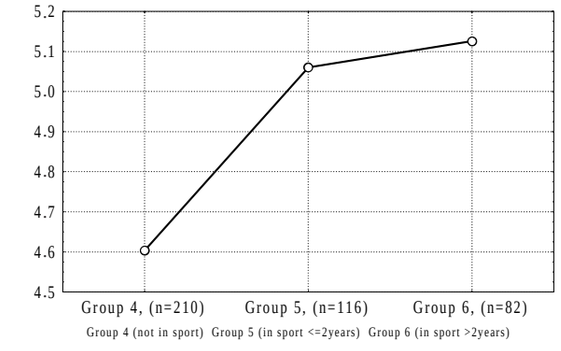
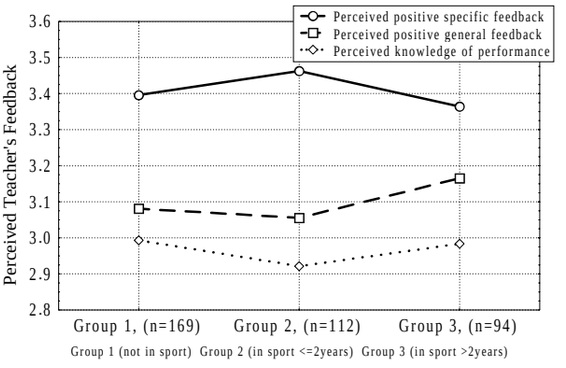


Figure 1. Differences in mean scores regarding the effect of sports participation on the intrinsic motivation for boys and girls

Boys



Girls

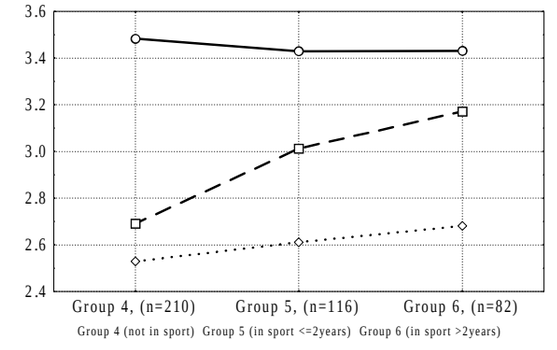
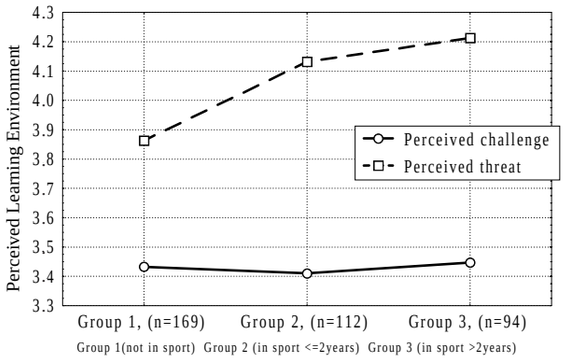


Figure 2. Differences in mean scores regarding the effect of sport participation on the dimensions of Perceived Teacher's Feedback for boys and girls

Boys



Girls

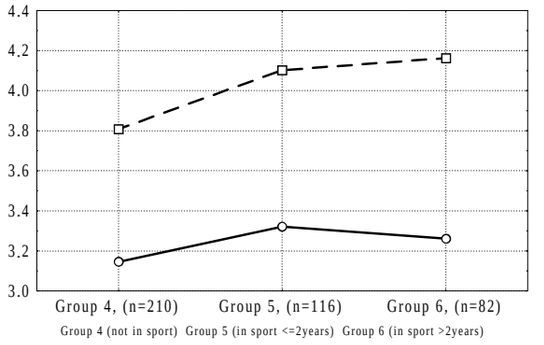


Figure 3. Differences in mean scores regarding the effect of sports participation on the dimensions of Perceived Learning Environment for boys and girls

Discussion

The results of the present study indicate that students' intrinsic motivation in physical education classes differs depending on whether they participate in organised sports after normal school hours. Both male and female students with sports experience reported significantly higher ratings on intrinsic motivation than students without sports experience. However, for boys there was no significant difference between the boys not in sport and the boys in sport less than or up to two years, it is consistent with the previous works in this domain (Anderssen, 1993; Goudas et al., 2001). Anderssen reported that physically active and physically competent Norwegian students perceived physical education classes more favourably than less physically active students. Moreover, Goudas and associates similarly indicated that Greek secondary school students with sports experience reported significantly higher scores on intrinsic motivation, perceived competence, and outcome expectancies than students with limited sports experience. They argued that in Greek physical education either those students are favoured who are familiar with sports or they are the students who were motivated in the first place. Probably this is the case with Estonian secondary school students studied currently.

Regarding physical education, in the two studies that examined students' attitudes toward physical education classes, the teacher emerged as the most influential factor (Figley, 1985; Luke & Sinclair, 1991). Moreover, the teacher's feedback, particularly positive general feedback, has been shown to be a significant predictor of students' intrinsic motivation and thereby influences positively their attitudes towards participation in physical education (Hein & Koka, 2001). In the present study, girls with sports experience perceived significantly higher that the teachers give them a positive general feedback than girls with limited sports experience. It seems that the higher motivation level and general positive attitude toward school physical education allows them to perceive their teacher's behaviour in a more friendly way. Perhaps it is appropriate to draw a parallel between the results of the present study and the work of Amorose and Horn (2000), although their research was focused on the domain of organised sport only. They concluded that athletes with higher levels of intrinsic motivation perceived that their coaches provided high frequencies of positive and informationally based feedback and low frequencies of punishment-oriented and ignoring behaviours. It is interesting, however, that there were not any significant differences between the boys with sports experience and boys with limited sports experience regarding the sports effect on the perceived teacher's feedback. It seems that secondary school boys do not seek the teacher's encouragement and approval so much as girls.

The present results indicate that both girls' and boys' perceived learning environment in physical education differs depending on whether they participate in sports outside of school. In particular, students with sports experience reported significantly higher ratings on the perceived threat to sense of self than students without sports experience, which means that they felt physical education to be more non-threatening to their self-esteem. Previous studies have confirmed that students' perceptions of non-threatening and challenging environments are powerful constructs as the strongest predictors of high levels of intrinsic motivation (Mitchell, 1996; Hein & Koka, 2001). Mitchell

suggests that one appropriate mechanism by which teachers can create a non-threatening environment is to structure the tasks for appropriate success. This recognises that tasks should be appropriate to the students' ability to ensure his or her repeated success and enhanced perceived competence. The cognitive evaluation theory proposes that the individuals' sense of competence is a significant determinant of the students' intrinsic motivation (Deci & Ryan, 1985). It is quite probable that students with sports experience have a higher physical ability and tasks in physical education classes for them are more appropriate than for students with limited sports experience. Therefore, it is understandable that students with limited sports experience might feel physical education to be more threatening to their self-esteem.

Conclusion

The results of the present study suggest that physical education teachers should consider the fact that students' motivation and perceived learning environment differs depending on the sports participation after school. They have to create a physical education learning environment, which leads students to perceive it as non-threatening to their self-esteem and challenging at the same time. This is particularly relevant to students with limited sports experience. Moreover, teachers who work with girls without sports experience should increasingly provide positive general feedback in order to create a more positive learning environment and thereby enhance girls' motivation to participate in physical education classes more intensively.

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UTJECAJ BAVLJENJA SPORTOM IZVAN ŠKOLE NA INTRINZIČKU MOTIVACIJU I PROCJENU RADNE ATMOSFERE U NASTAVI TJELESNE I ZDRAVSTVENE KULTURE U OSNOVNOJ ŠKOLI[1]

Sažetak

Uvod

Uloga je nastave tjelesne i zdravstvene kulture pripremiti djecu za cjeloživotne tjelesne aktivnosti (Sallis i McKenzie, 1991), a poznato je i da tjelesni odgoj značajno pridonosi individualnom i javnom zdravlju (Haywood, 1991). Stoga je važno istražiti motivaciju učenika za sudjelovanje u nastavi tjelesne i zdravstvene kulture (TZK), osobito zato što najnovije spoznaje ukazuju na sve snažnije izražen trend smanjenja tjelesne aktivnosti među mladima (Sallis i Patrick, 1990).

Intrinzička motivacija učenika za sudjelovanje u tjelesnom odgoju i vježbanju jest slobodno izabran stupanj do kojega je pojedinac spreman baviti se tjelesnom aktivnošću zbog zadovoljstva koje pri tom osjeća, a ne zbog nekih vanjskih razloga (Deci i Ryan, 1985).

Učenici koji sudjeluju u izvanškolskom sportu izražavaju puno povoljnije stavove prema nastavi tjelesne i zdravstvene kulture te su znatno više motivirani za sudjelovanje u nastavi TZK u školi (Anderssen, 1993; Goudas i sur., 2001). Nisu dobiveni dokazi o utjecaju bavljenja sportom na procjenu radne atmosfere ni na procjenu rada nastavnika u djece koja pohađaju više razrede osnovne škole.

Cilj ovog rada bio je istražiti razlike u intrinzičkoj motivaciji, procjeni radne atmosfere te procjeni rada nastavnika između učenika koji sudjeluju u izvanškolskim sportskim aktivnostima i onih koji u njima ne sudjeluju.

Metode

Uzorak od 783 osnovnoškolca (375 dječaka i 408 djevojčica), u dobi od 12 do 15 godina, ispitan je Upitnikom intrinzičke motivacije (IMI) kako bi se procijenila razina njihove intrinzičke motivacije za nastavu TZK, Upitnikom za procjenu radne atmosfere u nastavi TZK (PELES) te Upitnikom za procjenu rada nastavnika (PTF) kako bi se procijenile poruke kojima nastavnik prati rad učenika. Učenici su bili podijeljeni u grupe prema kriteriju sudjelovanja u izvanškolskim sportskim aktivnostima, kao i prema trajanju te uključenosti, tj. dužini treniranja. Dječaci i djevojčice promatrani su odvojeno.

Rezultati

Multivarijatna analiza varijance izračunata je odvojeno za tri grupe dječaka i tri grupe djevojčica. Ocjene na skali intrinzičke motivacije i dimenzije na skali procjena radne atmosfere korištene su kao nezavisne varijable, dok su dimenzije procjene rada nastavnika korištene kao zavisne varijable. Dobiven je ukupni multivarijatni učinak za djevojčice, no ne i za dječake.

Tukeyjev HSD post-hoc test za višekratne usporedbe uzoraka nejednakih veličina pokazao je da su dječaci koji se bave sportom dulje od dvije godine značajno više intrinzički motivirani od dječaka koji se ne bave sportom. Djevojčice koje se bave sportom do dvije godine, kao i one koje se bave sportom više od dvije godine značajno su više motivirane za sudjelovanje na nastavi TZK od onih djevojčica koje se ne bave sportom izvan škole.

Među trima grupama dječaka nije dobivena statistički značajna razlika u dimenzijama procjena rada nastavnika TZK, dok se djevojčice koje se bave sportom do dvije godine i one koje se sportom bave više od dvije godine statistički značajno razlikuju od djevojčica koje se ne bave sportom u tome što su procijenile da im nastavnici daju više pozitivnih povratnih informacija.

Dječaci koji se bave sportom do dvije godine i oni koji se sportom bave više od dvije godine procjenjuju da nastava tjelesne i zdravstvene kulture manje ugrožava njihovo samopoštovanje od dječaka koji se ne bave sportom. Isto je dobiveno i u uzorku djevojčica.

Zaključak

Bilo bi dobro da nastavnici TZK vode računa o tome kako motivacija za tjelesno vježbanje i za sudjelovanje u nastavi TZK, kao i učeničke

[1] Izvorni članak govori o učenicima u dobi od 12-15 godina koji u Estoniji već pohađaju srednju školu. U Hrvatskoj su to učenici viših razreda osnovne škole i prvog razreda srednje škole. Zato smo se u prijevodu odlučili za "osnovna škola"

procjene o radnoj atmosferi ovise o uključenosti učenika u izvanškolske sportske aktivnosti. Stoga bi bilo dobro stvoriti takvu atmosferu na nastavi TZK koja bi učenicima omogućila da nastavu ne doživljavaju kao ugrožavajuću za svoje samopoštovanje. No nastava bi im istodobno morala predstavljati izazov. To je osobito važno za učenike s neznatnim sportskim iskustvom. Osim toga, nastavnici koji rade s djevojčicama koje se ne bave sportom trebali bi pružati znatno više pozitivnih povratnih informacija radi stvaranja pozitivnijeg okruženja za učenje te povećanja intrinzičke motivacije djevojčica za intenzivnije sudjelovanje u nastavi TZK.