Education of Social Skills among Senior High School Age Students in Physical Education Classes

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Abstract
Research aim was to reveal peculiarities of the education of social skills among senior high school age students in physical education classes. We hypothesized that after the end of the educational experiment the senior high school age students will have more developed social skills in physical education classes. Participants in the study were 51 pupils of the ninth grade (15.15 ± 0.36). Experimental group consisted of 25 and the control group of 26 senior high school age students. Bulotaite and Gudzinskiene communication skills questionnaire; Social Skills Rating System (Student form); Snaider’s social self-control evaluation methods and Legkauskas subjective social adaptation scale were used. Repeated measures (RM) multivariate analysis of variance (2 × 2 (Group × Time) MANOVA) was used in order to analyse the effects of the educational program. During the experiment the applied measures of educational impact had a statistically significant effect on the components of experimental group senior high school age students’ communication, cooperation, assertiveness and social adaptation skills in physical education classes.

Keywords: social skills, educational program, physical education classes, senior high school age.

1. Introduction
Social skills matter, particularly in the educational lives of children and youth (Elliott, Frey, & Davies, 2015). Social skills matter because they facilitate the development of mutually supportive relationships with others and enable academic skills and positive emotional growth (Caprara, Barbaranelli, Pastorelli, Bandura, & Zimbardo, 2000). According to the 2013 Youth Risk Behavior Survey, large percentages of high school students engage in risky behaviours that jeopardize their futures. Furthermore, many students have social-emotional skills deficits that lower their academic

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performance and disrupt the educational experiences of their peers (Benson, 2006). Students with poor social and emotional skills are more at risk of experiencing learning difficulties and engaging in such behaviours as anti-social behaviour, substance abuse, violence and criminality, and to leave school without any certification or vocational skills, with consequently poor employability opportunities (Adi, Killoran, Janmohamed, & Stewart-Brown, 2007; Bradley, Doolitte, & Bartolotta, 2008; Colman, Murray, Abbott, Maughan, Kuh, Croudace, & Jones, 2009). Students do not know what to do when they get angry, enter the conflict situations or experiencing sadness. This leads to the emergence of addictions, decrease of learning ability, failure to establish a close relationship (Zins, Bloodworth, Weissberg, & Walberg, 2004).

Social and emotional learning is defined as the process through which we recognise and manage emotions, establish healthy relationships, set positive goals, behave ethically and responsibly and avoid negative behaviours (Elias et al., 1997). Numerous reviews and meta-analyses have investigated the effectiveness of social-emotional skills interventions for school-age children across all grades (Zins et al., 2004; Payton et al., 2008; Weare & Nind, 2011; Durlak, Weissberg, Dyminicki, Taylor, & Schellinger, 2011; Slee et al., 2012; Sklad, Diekstra, De Ritter, & Ben, 2012).

Based on reviews of the social skills intervention literature and factor-analytic research for purpose of scale development, Gresham and Elliott (1990) characterized social skills as a multidimensional construct that comprises cooperation, assertion, responsibility, empathy, and social self-control behaviors. Elliott, Frey and Davies (2015) indicated that there are seven fundamental and functional response classes of social skills that can be reliably assessed and targeted for intervention: communication, cooperation, assertion, social self-control, responsibility, engagement and empathy. In our study, we used the following five social skills: communication, cooperation, assertiveness, social self-control and social adaptation.

**Communication** – the process of exchanging information, from the person giving the information through verbal and non-verbal methods, to the person receiving the information (Iksan et al., 2012).

**Cooperation** – includes behaviors such as helping others, sharing things and respecting rules and guidelines (Gresham & Elliott, 1990).

**Assertiveness** – includes behaviors such as asking others for information or responding to the actions of others (Gresham & Elliott, 1990).

**Social self-control** – includes behaviors that are manifested in conflict situations, such as responding appropriately to provocation or in situations where there is no conflict but where it is necessary to compromise attitudes (Gresham & Elliott, 1990).

**Social adaptation** – the ability to adapt to the social environment (Dictionary of Psychology, 1993).

It is therefore particularly important to carry out an investigation of senior high school age students. This age period is attributed to middle adolescence (15–18 years) (Holmbeck, Paikoff, & Brooks-Gunn, 1995). Lithuanian education system involves all senior high school age (9–12 grade) and some eighth grade students in this period. Adolescence is a time of personal and social development that requires a sophisticated repertoire of social – emotional skills for healthy adjustment. Teenagers often face considerable difficulties negotiating the biological, cognitive, and physiological changes associated with puberty (Yurgelun-Todd, 2007). As adolescents increasingly interact with peers, they must simultaneously contend with peer pressure. Teenagers also must navigate the vicissitudes of identity development and the search for purpose and meaning as they transition into adulthood (Erikson, 1993).

Physical education is perhaps the most social of school subjects (Laker, 2000), and physical education lessons involve many varied and intense emotions. Student’s character and personality can be tested in competitive games, and the positive management of feelings may be governed by a particular ability (Tugade & Fredrickson, 2001). Contemporary physical education, through its dynamic social nature and its different codes, provides a variety of opportunities for student interaction that requires performance of social skills such as self-control, goal setting, accepting, helping and cooperating with others (Hellison, 2011). Research evidence suggests that quality physical education contribute positively to students’ social and moral development (Hellison & Martinek, 2006), fair play behaviour (Vidoni & Ward, 2009), team building, cooperation, and development of social skills (Hunter, 2006).
Study originality/meaning. In our country this study is one of few studies which address senior high school age students’ education of social skills in physical education classes. In the context of physical culture and sports only middle school age students’ social adaptation peculiarities during physical education classes (Klizas, 2010), basketball school students’ social skills education peculiarities (Sirisas, 2005) and young basketball players’ self-efficacy and its education peculiarities (Brusokas, 2014) studies were carried out, however, there is lack of publications that would analyze by senior high school age students’ education of social skills in physical education classes. Therefore, this study provides new knowledge of the education of social skills in the field of research.

Study hypothesis – after the end of the educational experiment the senior high school age students will have more developed social skills in physical education classes.

The aim of the study – to reveal peculiarities of the education of social skills among senior high school age students in physical education classes.

2. Research methods

Instruments. To determine senior high school age students’ social skills in physical education classes following questionnaires were used:

Bulotaite and Gudzinskiene (2003) communication skills questionnaire aimed to students’ verbal and non-verbal communication skills assessment. The questionnaire consists of 30 items which students need to assess by the 4-points scale: 1 - „I fail to do that”, 2 - „I do not really lucky”, 3 - „I do pretty well”, 4 - „I do great success”. Communication skills composite score is composed of verbal and non-verbal communication skills scores totals. This study research sample Cronbach alpha coefficient was .71, each subscale internal consistency was also tested. Cronbach alpha coefficients ranged from .66 to .77. The Lithuanian version of the communication skills survey questionnaire has a reported internal consistence of .71 (Akelaitis, 2015).

Social Skills Rating System (Student form) (SSRS-S; Gresham & Elliott, 1990), comprising a self-report questionnaire for the 7th to 12th grade levels, consisting of 39 items to which each student responded based on two parameters: the frequency of the behavior and their perceived importance of the behavior. For the 39 items, the assessment method was based on the four dimensions defined by Gresham and Elliott (1990): cooperation, which includes behaviors such as helping others, sharing things and respecting rules and guidelines; assertiveness, which includes behaviors such as asking others for information or responding to the actions of others; empathy, which includes behaviors that show respect for the feelings and points of view of others; and self-control, which includes behaviors that are manifested in conflict situations, such as responding appropriately to provocation or in situations where there is no conflict but where it is necessary to compromise attitudes. In this study, we used only the cooperation (10 items) and assertiveness (9 items) skills intended parts of the questionnaire. Each item is rated on a 3-point frequency scale (0-never, 1-sometimes, 2-many times), based on respondents’ perception of the frequency with which they exhibit each behavior. In addition, the questionnaire includes a rating of importance on a 3-point scale (0-not at all important, 1-important, 2-very important). In the current study a Cronbach alpha of .70 was found for the SSRS-S total score (cooperation subscale – .67, assertiveness subscale – .66). The Lithuanian version of the SSRS-S ranges from .66 to .76 (Griciute, Gaizauskiene, & Vysniauskyte-Rimkiene, 2008).

Snai der’s social self-control evaluation methods (Rajgorodskij, 2000), consists of 10 items (e.g., “I can be friendly with people, which I don’t like”) which have to be replied by „yes” or „no”. Points from 7 to 10 show strong social self-control, from 4 to 6 – average, and from 0 to 3 – weak. This study research sample Cronbach alpha coefficient was .66. The Lithuanian version of the Snai der’s social self-control evaluation methods has an internal consistency value of .64 (Malinauskas & Malinauskiene, 2004).

Subjective social adaptation scale (SSAS) (Legkauskas, 2000) was used to disclose satisfaction of the respondents with their social relations. The questionnaire consists of 14 items (e.g., “I have enough friends at school”), which students need to evaluate by interval Likert scale of 1 to 6, where 1 means „strongly disagree” and 6 – „strongly agree”. Some of the items (3, 8, 12, 14) were reverse coded. In this study the alpha coefficient was .88. The Lithuanian version of the SSAS has a reported internal consistency of .88 (Legkauskas, 2000).
Educational experiment was used as a method to verify the efficiency of the educational programme. The essence of the educational experiment was the social skills enhancing programme (Table 1) for senior high school age students in physical education classes.

Statistical Analysis. Research data were statistically processed using SPSS 18.0 (Statistical Package for Social Sciences). Descriptive statistics, means (M) and standard deviation (SD) were calculated for each of the items of the tests. We calculated the reliability of each dimension given by the index of Cronbach alpha internal consistence. A preliminary analysis used the Student t test for independent samples, comparing the experimental group with the control group with the aim of checking whether the two groups were homogeneous. Then, considering the recommendation of Arnau and Bond (2008), repeated measures (RM) multivariate analysis of variance (2 × 2 (Group × Time) MANOVA) was used in order to analyse the effects of the educational program. Wilks’s lambda was used to evaluate all multivariate effects; the significance level was set at .05. Effect sizes for F-statistics were expressed as partial eta-squared ($\eta_p^2$). According to Tabachnick and Fidell (2007) effect size based on $\eta_p^2 = .01$ corresponds to a small effect, $\eta_p^2 = .09$ corresponds to a medium effect, and $\eta_p^2 = .25$ represents a large effect.

Sample and procedure. The educational experiment has been carried out during 2015/2016 academic years. For the educational experiment, the random serial sampling method was used to form an experimental group of 25 and the control group of 26 senior high school age students (overall 51 subjects). There were no significant differences between the experimental (15.14 ± 0.35) and the control (15.15 ± 0.36) groups by age ($t$ (49) = -0.60; $p > .05$) and gender (experimental group: 11 boys and 14 girls; control group: 12 boys and 14 girls) ($\chi^2$ (1) = .02; $p > .05$). Both groups of subjects were from the same secondary school of Kaunas district. The educational experiment aimed at evaluating the social skills of senior high school age students in physical education classes before the educational programme and after it. The educational experiment was meant to enhance senior high school age students’ social skills in physical education classes. The experimental group participated in educational program of social skills that included thirty-five 15 minutes long (total: 8.75 hours), structural physical education classes. For the each component of social skills to develop, we used the same number of training sessions (7 sessions). Education influence on control group was not applied. Table 1 shows the educational program of social skills for senior high school age students in physical education classes.

Table 1. The educational program of social skills for senior high school age students in physical education classes

<table>
<thead>
<tr>
<th>No.</th>
<th>Educated social skills</th>
<th>Training sessions of social skills</th>
<th>Descriptions of training sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Communication</td>
<td>„Giving compliments”</td>
<td>Role playing and having a compliment circle where student can compliment each other about something that they did during the day allows students opportunities to practice using compliments</td>
</tr>
<tr>
<td>2.</td>
<td>Cooperation</td>
<td>„Pyramids”</td>
<td>Group members will attempt to build the different types of pyramids using the bodies of all the group members</td>
</tr>
<tr>
<td>3.</td>
<td>Assertiveness</td>
<td>„Eye contact”</td>
<td>Students are encouraged to use eye contact while telling their personal stories to the other members of the group</td>
</tr>
<tr>
<td>4.</td>
<td>Social self-control</td>
<td>„Green light, red light”</td>
<td>When a student hears the words “Red light!” he’s supposed to stop perform the previous sport exercise</td>
</tr>
</tbody>
</table>
Social adaptation

One person dribbles the ball while the other tries to take it away. Student after losing the ball has to say „I’m not mad at you, because you’re stronger this time”.

To develop the social skills of senior high school age students in physical education classes we used these stages of education: 1) description of a skill; 2) demonstration; 3) practice; 4) feedback; 5) reinforcement of educated skill. It is necessary describe each of these stages.

**Description of a skill** – during this stage of education the educator (physical education teacher) provides examples of educated social skills.

**Demonstration** – when students learn how to do something new, they acquire new skills or concepts. To support student’s acquisition of new social skills, we need to explain and demonstrate the skill and encourage student as they attempt to learn the skill. Skills can easily be lost at this stage.

**Practice** – once students acquire a new skill, they need to be able to use the skill proficiently or fluently. The educator (physical education teacher) provides multiple opportunities for them to practice and master this skill, as well as prompt students to use their new skills in new situations.

**Feedback** – it is providing information about how successful a student was applying a new skill in a simulated situation, emphasizing how much his/her behaviour coincided with the model’s behaviour. In this stage of education it is particularly important to provide positive social incentive – evaluation, praise.

**Reinforcement of educated skill** – when students apply their new skills to new situations, people, activities, and settings they demonstrate generalized use of these skills. For example, a child might learn a new skill in physical education class and then generalize that skill by using it at home (a different setting) or a student might learn a new skill with a physical education teacher and generalize it by using it with their parents (different people). Students need to be explained in what situations they can apply the developed skill. For this purpose, they are given homework after each training session. The aim of the homework is to reinforce the educated social skill and to encourage applying it in the natural environment (Joseph & Strain, 2004; Bierman, 2004; Vysniauskyte-Rimkiene, 2006; Brusokas, 2014).

We used several methods to teach senior high school age students’ social skills in physical education classes: modeling appropriate behavior, small groups, agility games and group discussions.

### 3. Results

Student’s $t$ test for independent samples showed that according to the components of social skills, the experimental and the control group before the experiment did not differ significantly: communication ($t(49) = -0.56; p = .58$), cooperation ($t(49) = -0.75; p = .46$), assertiveness ($t(49) = -0.62; p = .54$), social self-control ($t(49) = 0.42; p = .68$), social adaptation ($t(49) = -3.5; p = .73$).

Overall RM MANOVA results showed significant effect of the educational programme on the components of social skills among senior high school age students in physical education classes, i.e. the influence of group by time interaction was significant (Wilks Lambda = .67; $F(5,45) = 4.37; p = .002; \eta_p^2 = .33$).

Univariate tests of RM MANOVA confirmed effects of the educational programme on four components of social skills. After the end of the educational experiment experimental group students demonstrated better communication ($F(1,49) = 7.03; p < .05; \eta_p^2 = .13$), cooperation ($F(1,49) = 5.05; p < .05; \eta_p^2 = .09$), assertiveness ($F(1,49) = 8.06; p < .01; \eta_p^2 = .14$) and social adaptation ($F(1,49) = 16.31; p < .001; \eta_p^2 = .25$) skills in physical education classes. All of these significant changes demonstrate the impact of the educational programme on the social skills among senior high school age students in physical education classes. Univariate tests indicated that there no significant effect of the educational programme on the social self-control skills among senior high school age students in physical education classes ($p > .05$). The results are summarised in Table 2.
Table 2. Mean scores of social skills among senior high school age students in physical education classes before and after educational experiment ($M \pm SD$)*

<table>
<thead>
<tr>
<th>Social skills</th>
<th>Experimental group</th>
<th>Control group</th>
<th>Univariate tests of RM MANOVA Group × Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before experiment</td>
<td>After experiment</td>
<td>Before experiment</td>
</tr>
<tr>
<td>Communication</td>
<td>54.84 ± 13.83</td>
<td>63.00 ± 9.73</td>
<td>56.65 ± 8.82</td>
</tr>
<tr>
<td>Cooperation</td>
<td>12.52 ± 3.95</td>
<td>14.80 ± 3.00</td>
<td>13.35 ± 3.96</td>
</tr>
<tr>
<td>Assertiveness</td>
<td>10.96 ± 3.52</td>
<td>13.32 ± 2.51</td>
<td>11.58 ± 3.60</td>
</tr>
<tr>
<td>Social self-control</td>
<td>4.76 ± 1.48</td>
<td>6.00 ± 2.08</td>
<td>4.58 ± 1.65</td>
</tr>
<tr>
<td>Social adaptation</td>
<td>58.48 ± 9.25</td>
<td>68.16 ±10.10</td>
<td>59.38 ± 9.28</td>
</tr>
</tbody>
</table>

Notes*. ($M \pm SD$) – mean and standard deviation; ($\eta_p^2$) – effect size.

4. Discussion

The findings of the educational experiment confirm our research hypothesis that after the end of the educational experiment the senior high school age students will have more developed social skills in physical education classes. It was found that after the end of the educational experiment group students demonstrated better communication (a medium effect, $\eta_p^2 = .13$), cooperation (a medium effect, $\eta_p^2 = .09$), assertiveness (a medium effect, $\eta_p^2 = .14$) and social adaptation (a large effect, $\eta_p^2 = .25$) skills in physical education classes. All of these significant changes demonstrate the impact of the educational programme on the social skills among senior high school age students in physical education classes. This finding was similar to the findings of Ang and Hughes (2002), Alwell and Cobb (2009), Durlak, Weissberg, & Pachan (2010), Durlak and colleagues (2011) whose investigated the effectiveness of social skills interventions (effect sizes ranged from medium ($\eta_p^2 = .09$) to large ($\eta_p^2 = .26$)).

In meta-analysis of more than 200 studies of universal, school-based social emotional education programs from primary to secondary school, Durlak and colleagues (2011) also found that students who participated in such programs showed significant improvements in their social and emotional skills (effect size was large, Hedge’s $g = 0.26$), attitudes towards school (effect size was medium, Hedge’s $g = 0.11$), positive social behavior (effect size was medium, Hedge’s $g = 0.17$), academic performance (effect size was large, Hedge’s $g = 0.32$) and social relationships as well as a decrease in conduct-related problems (effect size was medium, Hedge’s $g = 0.14$) and emotional distress (effect size was medium, Hedge’s $g = 0.15$).

Various reviews of studies have found consistent evidence on the positive impact of school-based social emotional education programmes on students of diverse backgrounds and cultures from preschool to secondary school in social and emotional health (Zins et al., 2004; Payton et al., 2008; Weare & Nind, 2011; Durlak et al., 2011; Sleet et al., 2012; Sklad et al., 2012). The largest average effect sizes appear to be in social and emotional skills education, but the programs also enhanced academic achievement and reduced internalized and externalized conditions, such as anxiety, depression, substance use and aggressive and antisocial behavior (Payton et al., 2008; Weare & Nind, 2011; Durlak et al., 2011; Sleet et al., 2012; Sklad et al., 2012). Weare & Gray (2003) reported a wide range of academic, social and emotional benefits, such as improved positive behavior, better learning and academic progress, improved social cohesion and inclusion and better mental health. Meta-analytical review of 75 experimental or quasi-experimental studies on the effectiveness of universal school-based social emotional education programs in the USA and other parts of the world, including Europe, Sklad and colleagues (2012) reported the overall impact
on all the seven outcomes measured, namely, enhanced social skills, positive self-image, academic achievement, mental health, prosocial behavior, reduced antisocial behavior and substance abuse. Hallam, Rhamie and Shaw (2006) found that the education of social and emotional skills had a significant impact on student’s well-being, confidence, social and communication skills, relationships, prosocial behavior and positive attitudes towards school.

Study limitations. Limitations of the study is that it analyses only senior high school age students’ peculiarities of the education of social skills in physical education classes, although further study is worth to analyse middle or primary school age students’ peculiarities of the education of social skills in physical education classes as well and compare data of these age groups students.

5. Conclusion
By means of the educational experiment we established the effect of the social skills education programme for senior high school age students in physical education classes on their social skills: during the experiment the applied measures of educational impact had a statistically significant effect on the components of experimental group senior high school age students’ communication, cooperation, assertiveness and social adaptation skills.

References


