THE STUDY OF ECCENTRIC CONTRACTION EFFECT ON STUDENT SOCIALITY

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Abstract

The purpose of this research was to determine the effect of eccentric contraction on sociality on students. Statistical society was second grade elementary students, on four educational areas, Shiraz, Iran. Samples were 80 students, clustered random selected. The research was applicable, quasi experimental, in design of pre-post test. For measuring social skill, a teachers’ rating of social skill questionnaire (TRSS) about students was used (Truscott, 1989). It was consists of 39 items. The validity was confirmed with university professors. The Cronbach’s alpha was 0.831. The reliability was measured 0.769. The TRSS items were on the Likert scale. The eccentric contraction exercised for 2 sections of 45 minutes per week, during 12 weeks. Data collection occurred after and before eccentric contraction. There is no significant effects on social skill by eccentric contraction among elementary students, was the hypothesis. Descriptive and statistical analysis like Leven test and paired sample t-tests were used. The result t= - 2.60 and df=79, presented there were significant differences on social skill before and after eccentric contraction (p< 0.05). Potentially, it seems eccentric contraction has the significant effect on social skill. Although the hypotheses were approved, results should carefully be interpreted.

Key words: eccentric contraction, sociality, peer relation, social competence.

Introduction

According to scientific researches, routine physical activities directly or indirectly have an important role in prevention and cure of diseases. Physical activity as a social factor in controlling and curing a lot of social problems and injuries is in height of specialist attention. On the other hand physical activities are of cheap and useful instruments in controlling stress, depression and aggression of present life (2). To get these goals, activities which are recreations and can perform in teams, obviously are effective to everyone. According to the fact, routine physical activities are the basic requirements in growing ages for school students. Although, the budget and time are inadequate for physical education in schools, using simple and available kinds of activity with minimum facilities is to the point. National educational program in Iran have a total and complete look to human, considering physical and mental aspects. This program consists of 11 learning areas. Attentions to physical, mental and emotional characters of 7 to 12 years old children in elementary schools are in main purposes (8, 20). In these ages, children like to play with friends, cooperate with them, enjoy playing and interested to learn social rules. Different kinds of games and various situations in sport help to make ready for future (12). Gymnastics as combination of various skills, rhythmical activity can perform single or team working. Nowadays coaches and athletes apply flexible activities as a complementary in sports such as swimming, cycling, wrestling, football, basketball and volleyball. Social skill is peoples’ impression without any harm. This definition consists of expressing happiness, appreciation and other behaviors that construct inter personal relations (8).

Specialists believed the social skill teaching program has to include all aspects of socialization (7). A study on German adolescents observed lower anxiety and depression scores, as well as less social behavioral inhibition, than their less active peers. The significant relationship between physical activity and self-image also remains after controlling for socioeconomic status (21). Activity in teenagers is significantly related to a favorable self-image (10-12). Psychosocial and behavioral changes among girls participating in two developmentally focused youth sport programs were assessed. Girls in grades three to eight participated in ‘Girls on the Run’ and ‘Girls on Track’. The programs resulted in social skill increases, enhanced cooperation (5, 17). Researchers felt that social skill was not related to enrolment in PE, but interestingly it was associated with the total amount of vigorous activity performed by the children. Subsequent analysis of a 55 minutes PE class revealed that only 19 minutes of this time was spent in moderate to vigorous activity and it was suggested that this was sufficient vigorous activity to impact on social skill (5). A study conducted with 214 six-grade students in Michigan found that students enrolled in PE had better social skill than students who were not enrolled in PE (7). In 2013, 314 elementary students were evaluated to determine if introducing daily classroom physical activity sessions affected their social skill. Students in the intervention group participated in daily 10-minutes classroom session in addition to their regularly scheduled 80-minutes PE class. Increasing in-school physical activity time by approximately 50 minutes per week, students receiving the extra physical activity time had better social skill scores (9).
Materials and methods

The research method was applicable, quasi experimental, in design of pre-post test. The independent and dependent variables in respective were eccentric contraction (EC) and social skill (SS).

Participant

Statistical society was second grade elementary students, on four educational areas, Shiraz, Iran. Random sample were 12 schools in 4 educational areas. A clustered random sample of 80 students in grade two with the age average of 7.5 was used from female elementary schools in Shiraz, Iran.

Procedure

Data collection occurred after and before performing EC. The EC was exercised in 12 weeks, a 45 minutes section per week. Teachers completed social skill questionnaires about students. Confidentially subject’s information and data was addressed.

Instrument

Social skill was measured using the teachers’ rating of social skill questionnaire (TRSSQ). The TRSSQ consists of 39 items designed to measure social skill. Each of the TRSSQ item is a simple statement that can be answered on a Likert scale (27). The validity of the TRSSQ was reported between 50-70 (12). Professors suggested about facial and content validity based on these factors: matching with purposes, not suggesting definite answer, not being reverse item, simple, short and comprehensible item style. The reliability of the TRSSQ was reported between 0.65-0.93 (27). In this research 60 students were clustered randomly selected. The TRSSQ were answered by their teachers, the Cronbach’s alpha was 0.831. The Pearson correlation after 10 days on those students was 0.769.

Statistical analysis

Descriptive statistics was calculated. Paired sample t-test was conducted to examine if EC has any significant effects on social skill. \( \alpha = 0.05 \) was used in all analysis.

Results

The descriptive statistics for students in pre and post test is presented in table 1.

Table 1. The descriptive statistics for students in pre and post tests

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 2 in pre test</td>
<td>80</td>
<td>33.3</td>
<td>66.7</td>
</tr>
<tr>
<td>Grade 2 in post test</td>
<td>80</td>
<td>33.3</td>
<td>66.7</td>
</tr>
</tbody>
</table>

The descriptive statistics for social skill (SS) in pre and post test is presented in table 2.

Table 2. The descriptive statistics for SS in pre and post tests

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>SS in pre test</td>
<td>2.727</td>
<td>2.692</td>
<td>0.392</td>
</tr>
<tr>
<td>SS in post test</td>
<td>2.753</td>
<td>2.769</td>
<td>0.346</td>
<td>0.120</td>
</tr>
</tbody>
</table>

KS test that is calculated for SS normality in pre and post tests is presented in table 3. Null hypothesis: The distribution of social skill between students in pre and post tests is normal.

Table 3. KS test for normal estimate of SS pre and post tests

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>SS in pre test</td>
<td>0.829</td>
</tr>
<tr>
<td>SS in post test</td>
<td>0.468</td>
<td>0.981</td>
</tr>
</tbody>
</table>

The SS is normally distributed between students in pre and post tests. The Leven test for SS variance homogeneity is estimated in table 4. Null hypothesis: There is no homogeneity between social skill variances in pre and post tests.

Table 4. Leven test of SS

<table>
<thead>
<tr>
<th></th>
<th>Sig</th>
<th>F</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS</td>
<td>0.346</td>
<td>0.893</td>
<td>79</td>
</tr>
</tbody>
</table>

It is obvious SS variances after and before EC has homogeneity. The paired sample t-test for SS is shown in table 5. Null hypothesis: There are no significant effects on social skill by EC among students.

Table 5. The paired sample t-test for SS

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS in pre test - SS in post test</td>
<td>-2.60</td>
<td>79</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Based on \( df=79, t= -2.60 \) in \( p \leq 0.05 \), null hypothesis is rejected. There were significant differences after and before EC. So EC had significant effects on SS. In regard to table 2 it has increasing effect on SS.

Discussion and conclusion

Social teaching does not meet the needs of society in high schools in Iran (28). It is obvious the duty of socialization is an important goal for school teaching. The social output of PE in developing social relations is constructive in all layers of society. The researcher found EC had significant effects on SS among elementary students in grade two. Gaining flexibility and performing various kinds of motions made gymnastics interesting more than before.
This was supported with the studies mentioned (24-26, 11, 6). The influence of physical activity on self-esteem may be affected by the activity mode undertaken, although positive cognitive behavioral modifications have been observed across aerobics, strength, dance and flexibility activities (19). In present study, teachers reported along EC in 9th week students themselves requested for group activities. Other EC was not done in leisure times. Numerous studies have shown positive effects on SS and physical activity (3, 10, 14-18, 21-23, 25) and sports participation (5). In 1999 found that spending more time in PE did have effects on social skill when measured using a standardized test in elementary school.

The 2-year follow-up of the PE program showed pupils in the experimental group did significantly better in social skill when compared to controls (24). Also studies supported the results (1, 14). This study found performing simple and attractive activities such as EC in PE class assists students to become socialize. Still possible influence of this factor on the observed effects of physical activity cannot be ruled out, However the clustered random sampling controlled socioeconomic status but. It is possible that physical activity may be only a marker for greater levels of SS and may not be a causal factor. It is important to note that socioeconomic status acting as a mediator, may be the major cause.

References


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ISTRAŽIVANJE UČINKA EKSCENTRIČNE KONTRAKCIJE NA DRUŠTVENOST UČENIKA

Sažetak

Ključne riječi: ekscentrična kontrakcija, društvenost, vršnjački odnosi, socijalna kompetencija.

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