

## Enhancing Social Skills Through College Physical Education

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### Abstract:

This study examined the effect of a new physical education (PE) program that aimed at improving social skills for new university students. Participants were randomly divided into two control groups (35 female, mean  $\pm$  .853 years of age; 29 female, mean  $18.76 \pm .786$ ) and one experimental group (34 female, mean  $18.85 \pm .89$ ). We implemented a new physical education (PE) program in the experimental group, while the control groups received traditional lessons. Social skills (companionship, self-control, self-disclosure, and adaptation) were examined before and after the study term. We also analyzed the differences between the three groups after the first term. According to the results of two-factor analysis of variance indicated significant interaction effects between the experimental and control groups.

**Key Words:** PE lesson college student social development

### Introduction

During the 1980s, the Chinese government adopted the one-child policy in order to curb population growth. Many studies of the one-child policy have indicated that children have suffered impaired communication skills since its introduction (Mao, 2002; Hou, 2003; Kikuchi, 2007). Moreover, with the development of information technology, the wide availability of the Internet, and widespread use of cell-phones, indirect communication has increased. The present problem of Chinese students' gradual loss of social and communication skills has been previously studied, as has the use of university physical education (PE) as an intervention (Wang, 2011). Most attention has been given to the development of original scales of social and communication skills (Ronald, 1986). The lack of communication skills prevents college students from successfully navigating college social environments (Pitan, 2012). Enrico (2003) showed that social skills inversely correlated with emotional expressivity. Furthermore, social skills inversely correlated with psychological distress (Uchiyama, 2011). Thus, social skills may significantly influence mental health.

In recent years, there have been many studies on social skills, not only in China, but also in Japan, where social skills also appear to be declining. Many studies have shown that lack of communication is associated with interpersonal tension, having to repeat a year, and dropping out of school, which can lead students to experience considerable distress (Hashimoto, 2003; Sasaki, 2004 & Sugiyama, 2008). Previous research has also looked at the role of education for university students. Two of the most important goals in undergraduate education are character development and preparation for the working world (Simamoto, 2006). Social skills will prevent social maladjustment and make college life more meaningful (Nishida, 2009). Esra (2011) showed that attachment style was significantly correlated with social skills. In addition, degree of physical exercise has been shown to be significantly correlated with the ability to adapt socially (Xiao, 2007). Life skills can help people communicate with others (Danish & Wallace, 2002). Moreover, adolescents gain sportsmanship skills through sports participation (Danish & Wallace, 2002). PE lessons, due to their content and social circumstance, are experienced differently than are other subjects. Students who adjusted better in PE lessons had a better grasp of social skills (Sasaki, 2004). Particularly, direct engagement in exercise during PE lessons is expected. PE lessons provide the opportunity to teach students nonverbal social skills (Sugiyama, 2008). Team sports provide a natural social skills rehearsal space and chance to make contact with others regularly. Sports experience has been shown to be useful in character and personality development (Ueno, 1998).

PE lessons, such as class exercise programs and, dance, can help develop social skills (Simamoto, 2009). College students who participated in athletic clubs had better social skills than did non-athlete students (Nishida, 2009). Furthermore, PE programs specifically designed to enhance social skills are thought to be effective (Osman, 2010). It is important that PE teachers are available and able to model effective communication between students (Norlena, 2010). Nishida (2009) showed that the specific processes of PE lessons, intend to improve social skills can indeed facilitate students' social skill development.

However, in China, PE lessons emphasize learning motor skills and improving strength. While the effects of sports and exercise on social skill development have not been extensively explored, there have been a few such studies conducted in China. Wen (2007) created a social adaptation ability evaluation index system, but the application of this system towards social skills development was not discussed. Few studies have examined college students' social adaptation ability in China, and no original social skills scale for the Chinese has been developed. Hou (2002) used Kikuchi's Scale of Social Skills (KiSS-18), an 18 items scale developed by Kikuchi (1988) to measure social skills in university students. Mao (2003) adapted the scale for Chinese use.

Therefore, the purpose of this study was to implement a new PE program for Chinese students and evaluate its effects. It was hypothesized that students' social skills would improve as a result of the new PE program.

## Method

### *Participants*

There were 34 female students ( $M = 18.63$ ;  $SD = .83$ ) from one class in the experimental group and 64 female students ( $M = 18.85$ ;  $SD = .89$ ) from two classes in the control groups. All participants were new students from a university in Dalian, China. Both the experimental and control groups participated in aerobic exercise lessons. PE is a required course for one academic year and is held once per week. We conducted this study on the PE program that ran from October 2010 through January 2011.

### *Measures*

**Social skills.** -Kikuchi (2007) developed a questionnaire consisting of 18 items to assess four social skill domains: companionship, self-control, self-disclosure and adaptation. Companionship, defined as the ability to contact other, is assessed by 6 items, and total scores range from 6 to 30 points. Self-control is measured by six items (e.g., "Can you find a problem in your job?"), and total scores range from 6 to 30. Self-disclosure consists of 4 items (e.g., "Can you introduce yourself well to others?") and scores range from 4 to 16. Finally, two items measure adaptation, ("Do you apologize immediately when you make mistakes?"), and scores range from 2 to 10. All items were rated on a 5-point Likert-type scale, with values ranging from 1 (not at all true of me) to 5 (very true of me). We measured among groups at the first lesson and the last lesson. This reliability of this questionnaire has been tested for Chinese students; the current sample yielded a Cronbach's alpha of .83.

### *Procedure*

A unique program was implemented in the experimental group. There were only 12 classes for our study, rather than the usual 15, because new students must undergo military training for one month (in October) every year. The new PE program for the experimental group was implemented as follows: first, the teacher introduced the course content and other pertinent class-structure-related information for the semester. In the second to sixth classes, 15 minutes of instruction were given to provide students with a basic understanding of health, the effects of exercise, and the influence of exercise on daily life. Students were also permitted to ask questions relating to health and sports during this time. Then, the teacher demonstrated the basic actions of aerobics for the remainder of the time. From the seventh to the eleventh class, all students were divided into six teams. They thought about exercise by themselves without any instruction. Although they were allowed to perform exercises taught by the instructor, they were encouraged to think of new exercises and discuss them with other members of the team. They practiced one set for 2-4 minutes, while the teacher provided feedback. Finally, each team gave a performance for the other students at the end of the class. The teacher captured the performances on videotape so that they could be shown to all groups at the last lesson.

The two control groups (35 and 39 students, respectively) participated in the typical lessons. They did not have any opportunity to deviate from the teacher's instruction. They were given no opportunity to speak with others, and had no opportunity to ask questions.

### *Data Analysis*

Independent samples t-tests were used to compare social skills before PE lessons across the experimental group, control group 1 and control group 2. A two-factor (group  $\times$  time) analysis of variance (ANOVA) tested the differences between the experimental and control groups before and after PE lessons. Data analysis was performed using SPSS Version 18.0 for Windows.

## Results

The results of the two-factor ANOVA are summarized in Fig. 1 - 4.

Fig. 1 displays the differences in companionship between the experimental group, control group 1, and control group 2. The analysis revealed a significant interaction (group  $\times$  time) effect ( $F(1, 95) = 8.986, p < .01$ ). Fig. 2 shows the significant interaction effect ( $F(1, 95) = 8.986, p < .01$ ) for self-control.

Fig. 3, shows the significant interaction effect ( $F(1, 95) = 7.086, p < .01$ ) for adaptation. Finally, Fig. 4, shows the significant interaction effect ( $F(1, 95) = 9.708, p < .01$ ) for self-disclosure.

Overall, the result of the ANOVA indicated a clearly significant difference in the four types of social skills (companionship, adaptation, self-disclosure and self-control) between the experimental and control groups.

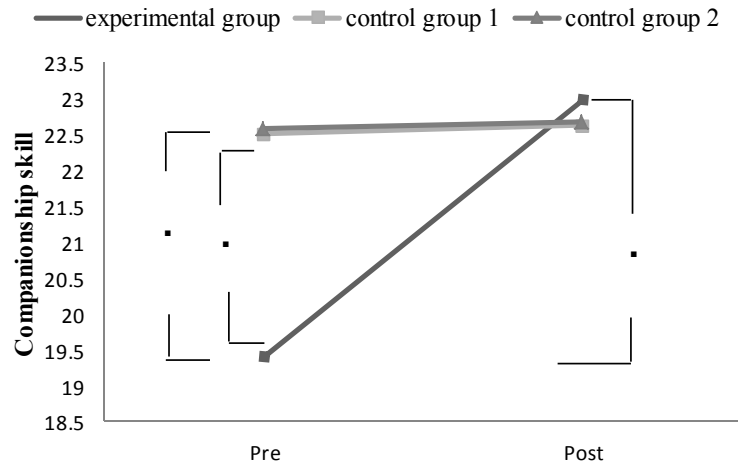


Fig. 1. Comparison of companionship skill for two groups.

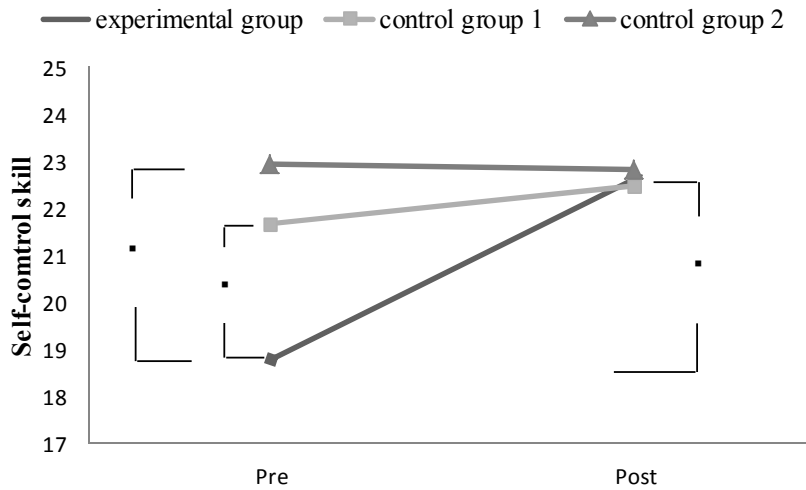


Fig. 2. Comparison of self-control skill for two groups.

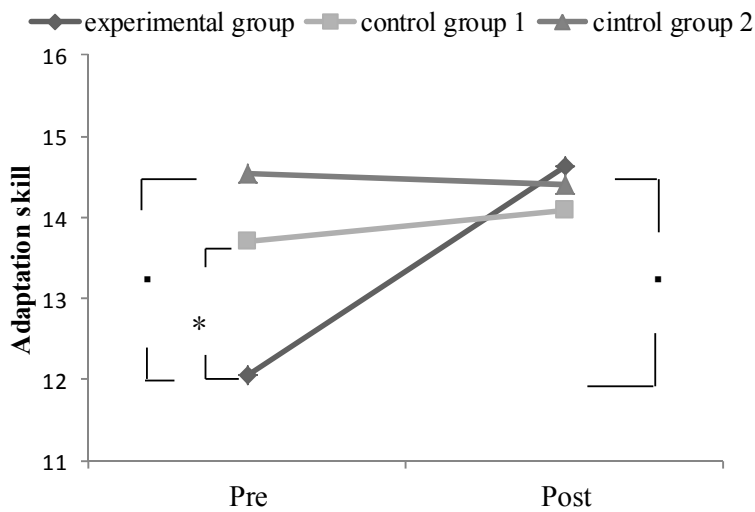


Fig. 3. Comparison of self-disclosure skill for two groups.

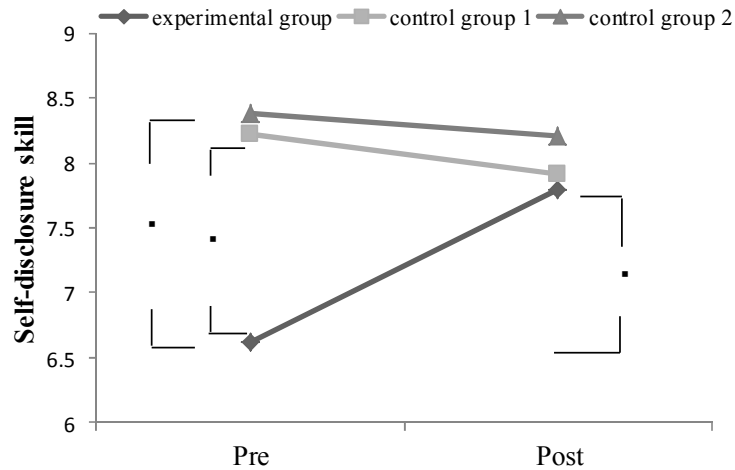


Fig. 4. Comparison of adaption skill for two groups.

We then performed t-tests to assess group differences in social skills before and after PE lessons. The results are summarized in Table 1. According to our results, there were significant differences between the two time points for the experimental group; positive changes were observed for companionship (pre-test mean = 19.14, SD = 3.44; post-test mean = 23.00, SD = 2.55), self-control (pre-test mean = 18.79, SD = 2.41; post-test mean = 22.65, SD = 3.09), self-disclosure (pre-test mean = 12.06, SD = 2.95, post-test mean = 14.62, SD = 2.67), and adaption (pre-test mean = 6.62, SD = 1.60, post-test mean = 7.79, SD = 1.12). All p values were < .01. On the other hand, no significant changes were found between pre-test and post-test for either control group 1 or control group 2.

Table 2. The results of one - way ANOVA among three groups

Factors		Pre				Post		
		Mean	SD	F(2,97)		Mean	SD	F(2,97)
companionship	experimental group	19.14	3.44	12.23**	experimental group>control group 1** experimental group>control group 2**	23.00	2.55	0.13
	control group1	22.51	2.64			22.63	3.65	
	control group2	22.59	2.81			22.69	3.20	
self-control	experimental group	18.79	2.41	14.65**	experimental group>control group 1** experimental group>control group 2**	22.65	3.09	0.07
	control group1	21.66	3.61			22.49	4.03	
	control group2	22.93	3.28			22.83	4.15	
self-disclosure	experimental group	12.06	2.95	5.549**	experimental group>control group 1* experimental group>control group 2**	14.62	2.67	0.32
	control group1	13.71	3.07			14.09	2.75	
	control group2	14.55	3.12			14.41	3.02	
adaption	experimental group	6.62	1.60	13.29**	experimental group>control group 1** experimental group>control group 2**	7.79	1.12	0.80
	control group1	8.23	1.52			7.91	1.46	
	control group2	8.38	1.50			8.21	1.35	

\*P<.05, \*\*P<0.01

Finally, a one-way ANOVA were performed to compare social skills domains among the groups (table 2).

As show in Table 2, although social skills total score was as high as expected, the results indicated no significant differences among the three groups at post-test. However, the ANOVA showed significant differences among the three groups for companionship ( $F(2, 97) = 12.229, p < .001$ ), self-control ( $F(2, 97) = 14.65, p < .01$ ), self-disclosure ( $F(2, 97) = 5.549, p < .01$ ) and adaptation ( $F(2, 97) = 13.292, p < .01$ ) at pre-test.

Table.2. T-test on social skills before and after PE lessons among three groups

Variables		Pre-test		Post-test		t
		Mean	SD	Mean	SD	
companionship skill	practice group	19.14	3.44	23.00	2.55	4.93**
	control group1	22.51	2.64	22.63	3.65	.17
	control group2	22.59	2.81	22.69	3.20	.17
self-control skill	practice group	18.79	2.41	22.65	3.09	5.76**
	control group1	21.66	3.61	22.49	4.03	1.60
	control group2	22.93	3.28	22.83	4.15	.14
self-disclosure skill	practice group	12.06	2.95	14.62	2.67	4.44**
	control group1	13.71	3.07	14.09	2.75	.92
	control group2	14.55	3.12	14.41	3.02	.21
adaption skill	practice group	6.62	1.60	7.79	1.12	3.55**
	control group1	8.23	1.52	7.91	1.46	1.72
	control group2	8.38	1.50	8.21	1.35	.63

\*\*p<0.01

**Discussion**

In this study, we implemented a new PE program that differed substantially from traditional models in that it was more interactive and offered students the opportunity to communicate with others and act independently. As a result, we hypothesized that the program would improve students’ social skills. Traditional PE lessons typically do not include lectures on the relationship between exercise and health. The students simply follow the teacher’s instruction without necessarily understanding the benefits of a particular exercise. Traditional lessons also do not place any importance on interpersonal communication. In contrast, our program provided instruction concerning psychosomatic health and allowed students to discuss these issues with the teacher or other students. Thus, students not only exercise, but also obtain additional benefits from PE lessons in the form of health knowledge. These findings corroborate a recent report by Hashimoto (2006) that PE lessons’ should target lifestyle habits and choices, health status improvement, exercise habit promotion, and the improvement of social adjustment. In other words, PE lessons should be designed to improve students’ health status as well as their psychological ability and social adjustability (Hu & Jin, 2007). Therefore, it is expected that such lectures will be introduced into PE lessons to improve social skills as well as provide students with the opportunity to exercise.

Many insights are offered by the results of this study. Results revealed significant differences between the control and experimental groups. To understand the change in social skills (companionship, self-control, self-disclosure, and adaption), we performed t-tests for the three groups. By the end of the term, students exposed to our PE program obtained higher scores than did students who were in the control groups; indeed, companionship scores in the experimental group had significantly increased by the end of term. In contrast, there was no significant change in companionship in the two control groups. In a similar vein, the experimental group showed significant gains in self-control, self-disclosure and adaption. This supports the previous research of Xiao (2007), which showed that degree of participation in physical exercise affected social adaptation ability. This also supports the finding that PE lessons improve social skills (Sugiyama, 2004).

Meanwhile, no significant improvements in the two control groups were found, as indicated by our comparison of the three groups at post-test. However, there may have been other reasons for this finding, such as students’ social skills before the start of the PE programs. Indeed, there were significant differences across the three groups before the PE lessons. These analyses indicated that while there was no difference between the control groups, the two control groups began with better social skills than did the experimental group. It is possible that this pre-test difference allowed for a greater gain for the experimental group over the period of administration. Nevertheless, it is clear that social skills improved after the program, meaning that the program was effective. Our results were similar to those of Osman (2010), which indicated social sensitivity and total social skills improved after PE lessons.

Overall, students’ social skills increased after the new PE program. Specifically, we found that after PE lessons, it was easier for students to engage in social contact with others, independently problem-solve, and introduce themselves to others. Furthermore, students were more likely to apologize immediately after they made mistakes. In contrast, the control group showed almost no change. In view of this, we suggest that the new PE program was effective in improving social skills. As similarly suggested by Norlena (2010), PE provides an opportunity to improve students’ social development and life skills. However, there are several limitations to the present study. First, our experimental group consisted of only 32 students. A larger sample size is needed to evaluate the effects of the program on other components of PE. Second, the two control groups began with better social skills than the experimental group. Future studies should ensure that all groups begin at the same level.

Although social skills the scores of the experimental group increased significantly, their initial skills were significantly lower than were those of the control groups. Third, all participants in the present study were female. Future studies should include male students so that entire panoply of factors related to social skills in PE lessons can be explored. The results of this study may hold meaningful implications for the improvement of university PE programs.

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