DEVELOPMENT OF SOCIAL SKILLS IN CHINESE COLLEGE PHYSICAL EDUCATION CLASSES

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DEVELOPMENT OF SOCIAL SKILLS IN CHINESE COLLEGE PHYSICAL EDUCATION CLASSES

A DISSERTATION

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By

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Abstract

To date, there have been many studies in western and other countries investigating the effects of physical education (PE) as an intervention for students' social development in school, and multiple programs and models have been developed in this filed. Studies in China, however, have not yet caught up. The objective of this doctoral thesis was to make theoretical and pedagogical contributions to the fields of research and practice of developing college students' social skills in PE classes in China. First, the research and practice status of social development in PE was viewed. Next, limitations toward the status as well as interests of the current thesis were proposed. Then, five studies were conducted according to the interests.

Based on Riggio's (1986, 1989) Social Skills Inventory (SSI), ***Study 1*** developed a scale to assess Chinese college students' social skills in PE classes. Twelve items of the SSI were selected and modified by considering the specific context of PE classes and the native culture of China. The items were administered to 366 college students (194 male and 172 female) and answered using a five-point Likert scale. Exploratory and confirmatory factor analyses were performed, and based on the results, one item was deleted. Finally, a scale named 11 item of Social Skills Inventory (11-SSI) was developed. The new scale consisted of two subscales, namely, verbal skills and nonverbal skills, and the scores on the two subscales were found to be adequately reliable and valid. The differences in scores of the 11-SSI based on gender and grade were then analyzed. The results revealed that there were no significant differences in social skills between male and female students. However, a

significant difference ($p < 0.05$) in nonverbal skills was found between freshmen and sophomores, thus suggesting that there may be a tendency for students' nonverbal skills in PE classes to improve through curriculum learning each year.

Studies 2, ***3***, and ***4*** were conducted to explore the factors contributing to the development of students' social skills in PE classes. ***Study 2*** examined the relationships between college students' attitudes toward PE and their social skills in PE classes. A sample of 573 freshmen (269 male and 304 female) in China was investigated using the 11-SSI and the Students' Attitudes toward Physical Education Scale (Li, Chen, & Baker, 2014) consisting of five subscales (physical fitness, self-actualization and social development, PE curriculum, PE teachers, and PE teaching). The results of correlation and multiple regression analyses revealed that three aspects of attitude including self-actualization and social development, PE teacher, and PE teaching were related to the nonverbal skills of both male and female students. ***Study 3*** investigated the influence of sport experiences on social skills among Chinese college students in PE classes. The 11-SSI and a Chinese version of the Experience Scale in University Physical Education Classes (ESUPEC) (Shimamoto & Ishii, 2007) consisting of four subscales (self-disclosure, cooperation, challenge, and enjoyment) were administered to 302 freshmen (157 male, 145 female). The results of correlation and multiple regression analyses revealed that challenge and self-disclosure had a positive influence on the nonverbal skills of male and female students, respectively, and enjoyment had a positive influence on female students' verbal skills. ***Study 4*** assessed the relationships between teachers' social skills and students' social skills in PE classes. Teachers' social skills were assessed through the Student-evaluated Scale of Teacher's Social Skills (SSTSS), the items of which were selected from the Teacher's Social Skills Self-report

Scale (TSSSS) (Aikawa, 2011) and changed from a teachers' self-report to a student-evaluated style based on the specificity of the PE context and the native culture of China. The 11-SSI and the SSTSS consisting of two subscales (control and expressivity) were administered concurrently to the same sample (n = 302) as ***Study 3*** to evaluate students' social skills in current PE classes and their high school PE teacher's social skills while teaching PE, respectively. The results of correlation and multiple regression analyses revealed that the control domain of PE teacher's social skills had a positive influence on students' nonverbal skills. ***Studies 2***, ***3***, and ***4*** contributed to literature concerning the exploration of how college students' social skills can be developed through learning in PE. The work of the studies took a step towards providing educators with methods for effective development and efficient implementation of models and programs in PE classes.

Study 5 examined the effects of an eight-week PE program enriched with a combination of the "Are You Square?" game (Eldar et al., 2006) and the Fair Play game (Vidoni & Ulman, 2012) on college students' social skills in PE classes. Participants were 63 male students at Sanya University who selected the basketball course for the semester. The PE teacher randomly assigned those students to two basketball classes, an intervention class (n = 34) and a control class (n = 29). The intervention class received a program using a combination of the "Are You Square?" game and the Fair Play game, while the control group received the general teaching program. The 11-SSI was administered to all students in the two classes at both the beginning and the end of the eight-week program. The two factor (treatment × time) analysis of variance was used to analyze the differences between the social skills of students in the intervention class and control class. The results revealed that there was only marginally significant interaction ($0.05 < p < 0.10$) with regard to verbal

skills, on the other hand, there was significant interaction ($p < 0.05$) with regard to nonverbal skills, with significant improvement in the intervention class. The findings suggested that the combined-games program could make a noteworthy contribution to the development of college students' social skills, especially nonverbal skills in PE classes.

Finally, the implications of this thesis were discussed, and suggestions were proposed for designing and implementing a meaningful PE curriculum to aid in the development of students' social skills.

Chapter 1. Introduction

1.1. Background

In college, students' social development is as important as academic achievement. An important factor determines the status of a student's social development is his/her social skills level. Social skills provide students with the ability to make choices for strengthening their interpersonal relationships and fostering success, also for contributions to make a positive and safe school environment, and help them to develop resilience to deal with crises or stressful events in the future (NMHEC, 2002). Recently in China, however, researchers had found growing social problems, especially social skills deficiencies in college students **(Table 1.1**). An important reason may be the reduction of much face-to-face communications caused by over-using smart phones. Information technologies on smart-phone were developing very fast in recent years. Using smart phone had been becoming widespread and college students had become a big group of smart phone users. In China, until June, 2016, about 30.4% of 0.656 billion smart phone users were aged between 20 to 29 years and much of them were college students (CNNIC, 2016). Over-using smart phones occupied much of college students' leisure time and reduced a lot of opportunities to communicate with other students face-to-face, and consequently caused their social skills deficiencies (**Table 1.2, 1.3**). As social skills are related to successful college adjustment (Musashi, 2012), research attention should be paid to Chinese college students' social development status and more efforts should be made to promote their social

skills.

Table 1.1. Social problems in Chinese college students.

Deng, Long, Xu, & Song (2014)	Deficiency of social adaptation ability among the total sample
Liu (2012)	Deficiencies of communication initiative and communication skills
Qin (2013)	73.4% samples were in poor status of social adaptation ability
Wang (2012)[a]	42% samples were in deficiencies of communication skills and coordination abilities
Wang, Gou, Liu, & Huang (2017)	53. 40% samples were not well-developed in their interpersonal relationships
Wei et al. (2013)	Problems of interpersonal skills
Zhao (2012)	Samples were not good at active correspondence, appropriate decline, self-expression, and especially emotional support
Zhou & Wang (2013)	25% samples have no correct cognition about themselves and society; 50% samples were unfamiliar with communicative principles and techniques and not good at communication

Table 1.2. Situation of over-using smart phone in Chinese college students.

Chen & Zeng (2017)	59.4% ~ 75.7% samples from frontier ethnic regions were in medium level of mobile phone addiction
He & Xiao (2016)	More than 90% samples using smart phone over 2 hours a day
Shang (2014)	24.7% samples using smart phone over 2 hours a day
Xia (2013)	80% samples had dependence on mobile phone; 15.1% samples had severe dependence on mobile phone
Zhang et al. (2017)	9.7% samples from Wuhu city had smart phone addiction
Zou et al. (2017)	40.5% samples from Hainan province had mobile phone addiction

Table 1.3. Negative influences of over-using smart phone on social development in Chinese college students.

Jiang & Bai (2014)	Caused social alienation
Li, Ji, & Wu (2016)	Caused deficiencies of communication skills and social responsibility
Tong (2013)	Reduced imitativeness and responsibility in interpersonal contact
Wang (2014)[a]	Caused degeneration of interaction abilities
Wang (2014)[b]	Reduced imitativeness and sense of trust in interpersonal contact
Wang (2012)[b]	Caused college deficiencies of skills of emotional control and emotional sensitivity
Xia (2013)	Caused communication problems and deficiency in collective consciousness
Xia & Yang (2013)	Significantly related to interaction anxiousness, social avoidance, and social distress

1.2. Definition of Social Skills

Social skills are the skills employed when interacting with other people at an interpersonal level (Hargio, Saunders, & Dickson, 1994). They are the "specific component processes that enable an individual to behave in a manner that will be judged as 'component'" (Schlundt & McFall, 1985). They are the kinds of behavior that are essential for effective face-to-face communication between individuals (McGuire & Priestley, 1981), and they are used in interpersonal situations to obtain or maintain reinforcement from the environment (Kelly, 1982). Hargie (1986) identified six main aspects of socially skilled behaviors: (1) Goal directed, (2) Interrelated, (3) Should be appropriate to the situation in which they are being employed, (4) Identifiable units of behavior displayed by the individual, (5) Can be learned, and (6) Should be under the cognitive control of the individual. Riggio (1986) defined social skills as a multidimensional concept that includes emotional expressivity, emotional sensitivity, emotional control, social expressivity, social sensitivity, and social

control. Social skills are one of the most important indicators of one's social competence (Beauchamp & Anderson, 2010). There are many definitions of social skills. For instance, Coleman and Lindsay (1992) defined social skills as cognitive functions and specific behaviors that an individual engages in when interacting with others. Social skills enable one to interact with others successfully and can help people to experience a high level of happiness (Demir et al., 2012), self-esteem (Riggio, Throckmorton, & De Paola, 1990), and quality of life (Segrin & Taylor, 2007). A deficit in social skills may be a risk factor in the development of disorders such as autism (Laushey & Heflin, 2000), and psychosocial conditions such as depression (Segrin, 2000), social anxiety (Wenzel et al., 2005), and loneliness (DiTommaso et al., 2003).

1.3. Assessment of Social Skills

Studies on developing social skills measurement scales have been conducted for many years. Self-report measures have been commonly used in the area of social skills. Inventories are one of the most frequently used instruments to assess social skills (Clark & Watson, 1995). Over a number of years, assessments of social skills have been conducted for both clinical populations and non-clinical populations since social skills has increasingly become an area of interest for psychologists. For instance, two commonly used instruments, the Social Interaction Self-Statement Test (Horowitz et al., 1988) and The Inventory of Interpersonal Problems (Glass et al., 1982) focus primarily on the distress or anxiety of clinical populations. Several standardized instruments assessing basic social skills, such as Self-monitoring Scale (Snyder, 1974), Social Interpretations Test (Archer &

Akert, 1977), and The Affective Communication Test (Friedman et al., 1980), have been developed to assess aspects of social skills (e.g., nonverbal skills) of non-clinical populations. For non-clinical adults, Riggio (1986, 1989) through comprehensive studies developed a self-report measure, the Social Skills Inventory (SSI), which was designed to assess certain key dimensions of social skills. It became a standardized and representative instrument that came to be widely used by researchers in many countries (e.g., Cheng, 2005; Dereli & Karakuş, 2011; Perez et al., 2007; Horwitz et al., 2007). For example, Baron and Markman (2003) employed 18 items from the SSI and developed additional items for a new measurement to assess entrepreneurs' social competence. There have also been other standardized measures that were developed to evaluate adults' social skills, for instance, Kikuchi's (2007) Social Skills Scale (KiSS-18) and the Social Skills inventory-IHS-Del Prette (Del Prette & Del Prette, 2001). In China, Zhuang et al. (2004) revised the measurement developed by Baron and Markman (2003), and preliminarily applied it to college students. The internal consistency coefficients for sub-domains of the measurement were just on the acceptable level (0.52 ~ 0.77). Mao and Daibo (2006) developed a native social skills inventory for Chinese college students. The inventory still needs to be developed in balancing item quantity of subscales and improving reliability and validity. Cheng (2005) and Qian (2012) translated the SSI and demonstrated good reliabilities and validities of the two Chinese versions in assessing social skills in Chinese college students and in-service staffs, respectively.

1.4. Physical Education (PE) and Social Skills

An area of interest related to social skills is the relationship between PE and students' social development. PE is an educational process that can contribute to students' well-being and optimal development (Bucher & Wuest, 1999). PE is a school subjects that can contribute significantly to students' social development, as activities in PE class is literally social and different from what happens in other classes (Feşteu, 1998). Beyond sports-related skills and fitness outcomes, PE also contributes to students' social development by enhancing self-confidence and self-esteem, helping students learn to depend on one another, building a sense of teamwork and responsibility, instilling "good sportsmanship"， and developing the "whole person" (McHugh, 1995). PE class can create a numerous opportunities for students to interact with each other. It is one of the best venues in school to promote positive social behaviors (Eldar et. al., 2006), and it is a powerful mechanism for increasing social skills (González, Regalado, & Guerrero, 2010). PE curriculum offers specific opportunities, which are not available in other curriculum areas (Laker, 2000; Siedentop, 1991), for the practice of sportsmanship, courtesy, and their concomitants in social behaviors (Duncan & Watson, 1960). PE class has been recognized as an ideal environment in school to develop students' social skills (Eldar, Morris, DaCosta, & Wolf, 2006; González, Regalado, & Guerrero, 2010). In PE classes, students engage in considerable social interaction with their peers and the teacher through sport activity. PE facilitates socialization (Freeman, 2000); it is a powerful mechanism for increasing social skills (González, Regalado, & Guerrero, 2010).

1.5. Efforts on Social Skills Development in Chinese College PE

Over the last 20 years, a number of studies have investigated the effects of social skills training in school PE settings. Further, educators have attempted to put social skills training into practice. Based on previous studies and teaching experiences, some researchers have developed or completed theories or models on social development. Sport pedagogy towards PE has witnessed the development of those models and programs, for example, Metzler (2011) identified eight different instructional models that are commonly implemented in PE today (e.g., Cooperative Learning, Sport Education, & Teaching Personal and Social Responsibility). To date, considerable interests have been shown in applying instructional models and their hybridizations in PE to promote social skills of students in primary and secondary school levels in western and other countries. However, studies on the college level were corresponding limited, especially in China. With regards to the limited studies, Wei (2008) using an experimental approach examined the influences of a volleyball PE program that adopted the cooperative learning model on college students' social skills ("social adaptation abilities" in author's words). The findings indicated that program promoted students' social skills and improved interpersonal relationships. Wang and Sugiyama (2014) examined the effects of a new PE program on female college students' social skills. The program provided students with more opportunities to communicate with others in the classes by encouraging them to think of new exercises and discuss them with other team-members. The new program was found to have significantly influenced students' social skills.

1.6. Limitations and Interests

1.6.1. Limitations

1.6.1.1. Limitation of Measurement Development

To date, most of the measurements were developed or revised to assess personal or interpersonal social skills in social life. However, these measures can not be directly used to evaluate the social skills acquired by college students in the PE setting as there are differences between social skills acquired in the PE setting and those used in daily life. First, for examining social skills in specific contexts, there may be some unsuitable items in those scales. For example, the SSI item "At parties I can instantly tell when someone is interested in me," which is designed to assess a person's emotional sensitivity, is not suitable for testing social skills in a PE context. Second, in training literature, 'transfer' is defined as the degree to which trainees apply the attitude, knowledge, and skills gained in a training context to other contexts such as job settings (Wexley & Latham, 1991). Students' social assets or competencies are those behaviors that can be learned in one domain (e.g., sport) and generalized or transferred to other domains (e.g., school, family, workplace, community) (Maureen, Nicole, & Lindsay, 2014). According to Hommes and Van der Molen (2012), the ultimate goal of communication skills training is the transfer of training, which involves trainees actually using the learned skills in their daily lives. The transfer of skills occurs at the moment when students apply skills to a task that is different from the task in which the skills were originally learned (McKeachie, 1987). In school, much of the physical and social structure of the PE environment is different from the environment of

other subject areas (Smith & St. Pierre, 2009). In the unique setting of PE, through interactions with other students and teachers in sport activities, students can learn certain social skills that may facilitate initiation, development, and continuation of interpersonal relationships. These skills can help students successfully introduce and express themselves to others, solve problems in the right way, and make decisions correctly. Then, when students in their daily lives face situations similar to those encountered in PE classes, they may use the social skills they learned in these classes in these daily-life social contexts. Therefore, the social skills students acquire in the PE setting may be different from the social skills they use in their daily lives (Sugiyama et al., 2010) and this is where the phenomenon of skills transfer comes into play. Thus, it is somewhat unlikely that the instruments that were developed to assess students' social skills in daily life can accurately capture the true essence of the social skills acquired by students in the unique context of PE classes. Therefore, the scores of instruments need to be shown to be reliable and valid for measuring specific constructs (McDonald, 1999; Messick, 1989). An reliable and valid instrument that can successfully measure college students' social skills that acquire and use in the unique context of PE classes, is needed to be develop. Until now, only a few studies have evaluated students' social skills from the point of view of the differences between social skills acquired in PE class and those used or required outside PE class. One study was conducted by Sugiyama et al. (2010), who, by considering the different environmental contexts, developed scales for assessing students' psychosocial skills in PE and daily life. Maureen et al. (2014) developed a quantitative survey that can be used to evaluate the effects of youth development programs in teaching youth social, emotional, and behavioral competencies that can be generalized to other domains of daily life. The sport pedagogy

literature lacks an instrument that determines students' social skills that learned and used in the PE context. An instrument with valid scores is needed to be developed to garner meaningful results from studies that properly assess students' social skills acquired in PE. In China, no such scale has been created. Therefore, based on the difference in culture and education systems, it is suggested that a Chinese version for measuring social skills in PE must be developed.

1.6.1.2. Limitation of Mechanism Exploration

In recent years, development of social skills has been emphasized among other goals of physical education (PE) at school, such as improvement of physical fitness and sports skills, acquirement of knowledge in PE and sport, and development of instrumental personal dispositions. Research interested in the contribution of PE to students' social development goes back many years (Weiss & Bredemeier, 1990). PE provides students with opportunities to communicate with others and take different social roles to develop particular social skills (Svoboda, 1994). However, although we know much about the benefits of PE for students' social development, we know little about the mechanism how these benefits come out. Social skills development does not appear to occur automatically with participation in PE. Conversely, it should be achieved through teaching programs carefully designed by researchers and educators and taught by trained teachers who are competent in performing them. To date, a growing number of instructional models and programs (e.g., cooperative learning & sport education) have been developed and commonly implemented in PE (Metzler, 2011) and considerable interests have been shown

in applying instructional models and their hybridizations in PE to promote students' social skills. However, studies exploring the mechanism of how students' social skills can be developed are limited. Despite model-based programs and strategies, little attention has been paid to explore factors that can influence students' social skills, or explain how students' social skills can be improved during the learning process in PE. There may be certain factors that influence students' social development in PE. The key issue in educational research is to identify these factors to understand how PE promotes students' social skills. For effective development and efficient implementation of models and programs, it is necessary to study in this field. It is only through this knowledge that we can create a valuable learning environment and suitably implement programs in the environment to enhance students' social skills.

1.6.1.3. Limitation of Program Development in China

Prior quantitative studies have demonstrated strong evidence of social skills development in PE (Morris, 2003). Studies on the development social skills in PE have been conducted for several years in western and other countries. There have been a number of programs and models developed for students' social development in PE. However, until now, researcher has not retrieved any literatures that have implicated those programs and models have connections with students' development of physical skills. The reason may be that the development of physical skills is not the main objective of PE in those countries. In China, as the MEPRC (2002) stipulate, learning and developing physical skills is the main objective of PE classes; physical skills development is the most important component of the

PE curriculum. Generally, teachers' make much of their teaching efforts on students' development of physical skills. Recently, due to the arisen social problems in college students, researcher and educators have pay attention to, and create strategies for students' development of social skills in PE. However, the research and practice are in a nascent stage. When implementing model-based programs or strategies, in order to stabilize the acquired physical skills, motor practices should take place systematically on continuous lesson series. As a learning experience, the type of activities selected in programs (or strategies) should basically parallel the development of skillfulness, to make sure the activities itself gives the skills their significance and relevance. Therefore, the models and programs developed based on the different cultures can not be directly adopted in Chinese college PE. Generalization or transfer should be considered as implementing already-developed social skills education programs and/or procedures from other countries. However, because of the differences in educational systems, original programs and/or procedures for social skills education in school PE should also be developed. Basic studies should be conducted to develop a research foundation.

1.6.2. Interests

1.6.2.1. SSI

The SSI is a self-report measure that was developed by Riggio in 1986 and was revised in 1989. It is a standardized and representative instrument created to examine certain key dimensions of adults' social skills in daily life. The inventory has 90 items, including those

concerning basic social/communication skills, and these items are distributed across six subscales (15 items per subscale) that representing three basic communication skill dimensions (expressivity [sending ability], sensitivity [receiving and decoding ability], and control [ability to regulate communication]) in two separate domains, namely, the nonverbal (or emotional) domain and verbal (or social) domain (Riggio, 1989; Riggio & Carney, 2003). The skills measured by the subscales are emotional expressivity (EE), emotional sensitivity (ES), emotional control (EC), social expressivity (SE), social sensitivity (SS), and social control (SC). Each item has to be answered on a 5-point Likert scale ranging from "not at all like me" to "exactly like me," and the scores on the subscales range from 15 to 75. Cheng (2005) translated the SSI into Chinese to study the characteristics of the development of social skills of Chinese college students. Qian (2012) examined the reliability and validity of the SSI on a sample of Chinese in-service staff through precise translation and repetitive investigation. However, although the 90-item SSI has been world-wide used and its Chinese version has been demonstrated to be reliable and valid for testing Chinese college students' social skills, it is not concise and takes time to administer. The number of items of a psychosocial scale should ideally be limited (Sugawara, 1994). Further, the SSI was originally developed to evaluate people's social skills in daily life. Some items (e.g., "At parties I enjoy speaking…" and "I usually take the initiative and introduce myself to strangers") are not suitable for the unique contexts of PE.

1.6.2.2. Social Skills and Attitudes toward PE

It has historically been a goal of PE programs to develop students' positive attitudes

towards PE (Siedentop & Deborah, 2000) as it has been demonstrated that there are positive relationships between students' attitudes and learning outcomes (Papaioannou, 1994; Solmon, 2003), and students' attitudes could affect their future participation in physical activity (Carlson, 1995; Ennis, 1996; Silverman & Subramaniam, 1999; Subramaniam & Silverman, 2000; Zeng, Hipscher, & Leung, 2011). Attitude has been viewed by researchers as a single-, two-, or multi-component construct (Subramaniam & Silverman, 2000). The single-component view restricts the use of the term to the affective component. This view of attitude could result in measuring only part of an attitude (Oppenheim, 1992). The two-component view is that attitude involves the cognitive and affective aspects (Gonza`lez, 1992; Mohsin, 1990; Oppenheim, 1992). According to this framework, the cognitive component accounts for the beliefs about the characteristics of PE, and the affective component measures the degree of emotional attraction or feeling toward PE. Students' beliefs about PE affect their feelings toward the subject matter, which may subsequently determine the formation of attitude (Ajzen, 1993; Biddle & Mutrie, 2001; Eagly & Chaiken, 1993; Gonza`lez, 1992; Hagger et al., 2002). The multiple-component construct of attitude includes cognition, affect, and conation (Ajzen, 1993; Reddy & LaBarbera, 1985). Supporters of the multi-component construct (Hilgard, 1980; Reddy & LaBarbera, 1985) proposed that beliefs about the characteristics of an attitude object and feelings toward the attitude object impact behavior. However, the efficacy of this view has been doubted by researchers who suggest a lack of consistent relationship between overt behavior and the measured attitude (McGuire, 1989; Seeman, 1993). Some researchers have pointed out the important role played by behavioral intentions in linking attitude to behavior and proposed that, without the mediation of intention, the relationship between

attitude and behavior is weak (Biddle & Mutrie, 2001; Hagger et al., 2002).

While researchers have put much emphasis on the influence of attitude on student's academic outcomes and future participation in physical activities, as we know, little attention has been paid to the contribution of attitudes to social development. Sollerhed et al. (2005) noted a correlation between positive attitude toward PE and the feeling of a strong social bond among young people; Sugiyama (2012) proposed that students' positive attitudes toward PE may influence the improvement of certain types of nonverbal skills. Research on attitude towards PE often employs instruments that measure attitude using the two-component model (Phillips & Silverman, 2012; Subramaniam & Silverman, 2000). Investigating students' attitudes can reveal valuable information about what they think, feel, and know about PE (Graham, 1995). However, according to the limited studies focused on students' social development, the influences of attitudes were determined from the affective aspect. No study has explored the relationship between students' beliefs about characteristics of PE and social skills in the classes. Investigating the cognitive aspect of attitude may provide insight into PE from the students' perspectives and reflect the quality of materials provided by PE from several aspects. Examining student attitudes toward PE from the cognitive aspect can help us explore the factors that contribute to students' social development in the learning.

1.6.2.3. Sport Experiences and Social Skills

Students learn social behaviors in PE through sport and physical activities. PE maximizes opportunities for students to experience a somewhat parallel festive nature of sport (Bennett

& Hastie, 1997), and it provides opportunities for students to experience both objectionable and desirable forms of behaving. PE classes that implement instructional models can provide students with meaningful sport experiences (Hannon & Ratliffe, 2004; Siedentop, Hastie, & van der Mars, 2004; Slentz & Chase, 2003). Sport experience obtained by physical movement facilitates personal attributes and guides life values, interests, and careers (Fraser-Thomas & Cote, 2009). Positive sport experiences may provide a psychologically safe environment where individuals are willing to take risks and learn from their mistakes (Danish, Petitpas, & Hale, 1993), and these experiences may become what Zimmerman (1990) in the theory of Learned Hopefulness called "empowering experiences", which provide opportunities to learn skills and help individuals cope with stress and solve problems when living socially with others (Smith & Karp, 1997). In recent years, there have been growing interests to examine the effects of sport experiences on students' social development. A study conducted by Shimamoto and Ishii (2007) revealed that the sport experiences that involved self-disclosure had a positive influence on both male and female college students' life skills. Sugiyama (2012) in his study found that students' improvement of certain types of nonverbal skills could be influenced by their sport experiences in PE classes. However, studies in this field are still developing, especially in China. Students' social skills acquired through learning in PE classes may be different from those they use in daily life (Ding & Sugiyama, 2016). Adult behavior patterns are established and strongly influenced during the late adolescent and college years (Dishman & Dunn, 1988; Pearman & Valois, 1997). As we know, no study was conducted to examine the effects of college students' sport experiences on their social skills in PE classes.

1.6.2.4. Teachers' Social Skills and Students' Social Skills

Teachers' social skills are the social behaviors they enacted in the classes. The main objective of PE is students' physical and psychosocial development. Teachers develop aspects of PE that focus on students' learning outcomes. Teachers' behaviors impact students' learning and achievements (Engstrom, 2000). Their actions in organizing and teaching the PE process, such as preparing syllabi, choosing and using teaching strategies, and managing classes, largely determine whether or not students can receive high-quality learning experiences. Teachers, however, are powerful socializing agents. Besides parents, teachers are most frequently identified by youth as having the strongest influence on their beliefs and actions (Smokowski, Reynolds, & Bezruczko, 1999; Winfield, 1991). Teachers' behaviors could affect students' enjoyment (Cai, 1998; Cecchini et al., 2001; Chalmers, 1992; Hashim, Grove, & Whipp, 2008) and willingness for self-disclosure (Anita, Karen, & Mark, 1977) in PE. A teacher's behaviors toward students, such as recognizing their efforts, encouraging them, and showing patience, are related to students' positive experiences (Thompson, Mandigo, & Halas 1998). PE teachers may therefore be an important factor that contributes to students' social development.

1.6.2.5. "Are You Square?" Game and Fair Play Game

1.6.2.5.1. "Are You Square?" Game

"Are You Square?" (hereafter referred to as RUS) game (Eldar et al., 2006) is played on a

square ground which has four stations marked by objects (i.e., a hula hoop) or paintings in four corners. A same number of identical objects such as balls are placed within each station. Students are arranged in four equal teams and members of each team are in or beside of the station which belong to their team. The game challenge students to bring as many objects from other stations as they can to their own station in a limited time frame. The winning group is the group with the most objects. **Figure 1.1** shows the game set-up and **Figure 1.2** shows the game in action. Students in the game learn how to identify difficulties and deal with frustration when it is emerging. According to the content and feature of the game, it can be adapted to provide students with much opportunities of physical skill practice and communications, thus can contribute to both students' development of physical and social skills. Therefore, researcher selected the game in this thesis. There are some important game rules formulated as the following:

(1) When game is started by a opening whistle, each student run to any other station to pick one object and bring it to his/her own station.

(2) At a time each student can take only one object.

(3) Student can not interfere with students from other groups (e.g., no pushing, blocking, etc.)

(4) Students can not hide or block other stations.

(5) There is a game duration (typically is one minute) which must match the difficulty level of the activity.

(6) When the game is closed by an ending whistle, students must stop moving objects. Objects within each station will be counted for the group's score. If student do not arrive to his/her station at the end, he/she must leave the object on the floor (or return it to the station

which it was taken) and go back to his/her station.

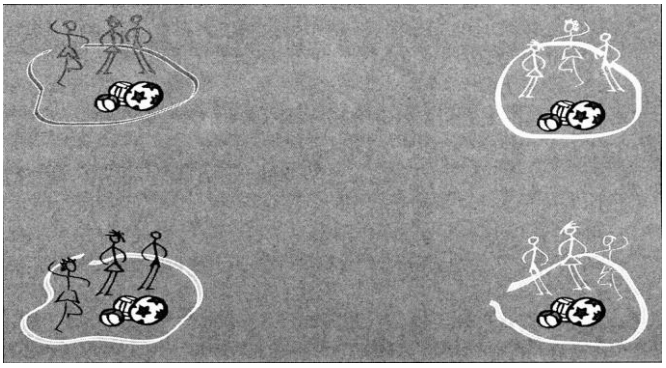

Figure 1.1. RUS game set-up.

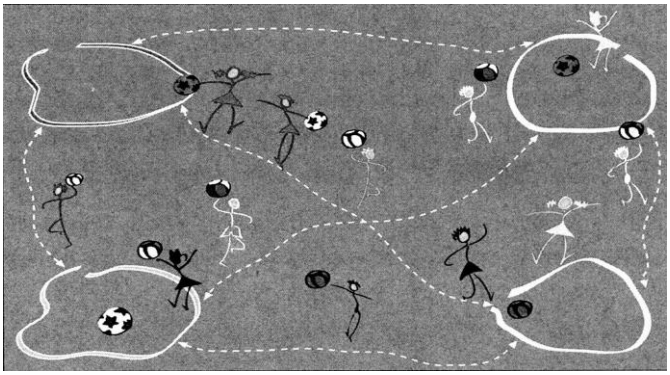

Figure 1.2. RUS game in action.

(Eldar et al., 2006)

1.6.2.5.2. Fair Play Game

The Fair Play game can teach students' positive behaviors and inappropriate behaviors in class through using the dependent group contingency. The contingency is that all members

of a group can be reinforced if a selected member (members) accomplished the goals of his/her/their group. The game can be combined with other games (e.g., RUS game) or strategies in PE class for both the development of physical and social skills. Therefore, researcher selected the game in this thesis. Vidoni and Ulman (2012) in their paper provided a detailed explanation about the content of Fair Play Game and how to implement it in PE. Based on their paper we here make a brief description of the game. Fair Play Game was developed to promote students' positive behaviors and reduce inappropriate ones in PE classes. It is a point system strategy that was designed based on the Dependent Group Contingency by which reward for all members of a group is made depend on the behaviors of a selected member or parts of the group. There are five steps of preparation will have to be completed to implement the Fair Play Game in PE. They are: (1) Define the target behaviors; (2) Identify the reinforcers; (3) Teach the Fair Play behaviors; (4) Select unidentifiable students; and (5) Prepare the point system chart.

(1) Define target behaviors

The core of Fair Play Game is to teach students target behaviors. Target behaviors are those positive behaviors which will be expected for students to perform (e.g., be a good listener & praising peers) or in some cases those inappropriate ones which will ask students to reduce (Cooper et al., 2007). Target behavior should be defined based on age, gender and behavioral level of students. The priorities of the class context (e.g., students seem to be not willing to follow rules in practicing) should also be considered in selecting target behaviors. **Table 1.4** shows some examples of target behaviors.

Table 1.4. Examples of target behaviors.

On-task behaviors
• Pass the ball only use the skills learned in that lesson
• Pass the ball within five seconds
• Kick the ball 20 times in one minute
Respect
• Follow the rules of the class
• Be a good listener
• Follow the rules of the game
Be helpful
• Support peers by cheering them up during the game
• Help peers get up when they fall
• Help set up equipment

(2) Identify reinforcers

Fair Play Game employs dependent group contingency to encourage students in learning target behaviors. Students will receive reinforcers if parts of them have achieved the specified goals in performing target behaviors. There are four categories of reinforcers that teachers may consider for using in the Fair Play Game. They are tangible reinforcers (e.g., stickers & trinkets), activity-oriented reinforcers (e.g., plus time of practice), social reinforcers (e.g., praise), and generalized reinforcers (e.g., points which can be accumulated to exchange for a final prize). However, snacks and soft drinks are not recommended.

(3) Teach the Fair Play behaviors

Teacher should provide detailed explanations of the Fair Play behaviors during the first and second units to make students understanding what, how, and when to perform those

behaviors. In the coming units, inform students the daily criterion of performing the behaviors and positively recognize students' exhibitions of those behaviors.

(4) Select unidentifiable students

Students of the class will be divided into a few numbers of teams in the first lesson and the division will be kept throughout the unit of instruction (e.g., a football unit). In each lesson, teacher tell the class that one student (or a few students) in each team will be randomly selected and the performance of Fair Play behaviors of this (or these) student(s) will be recorded. But the teacher will never reveal the name or identity of the student(s) to the class, even to the selected student(s). If the selected student(s) achieves the goals set up for that lesson, the whole team will receive rewards at the end of the lesson. The selected student(s) will be different each lesson and after each student has been selected once, then one (or few) of them will be selected again.

(5) Point system chart

It needs to prepare a chart on which each team's name was written horizontally. Add two columns under each team's name, one for goals and the other with goals achieved at that lesson. All teams will begin with one same goals to be achieved (i.e., perform at least one Fair Play behavior in the class). In the coming each lesson, one behavior will be added if all the goals have been achieved. However, if all the goals have not been achieved, the next lesson's goals will remain same. A team achieved its established goals will receive a point

every lesson. Members of a team will receive reinforcers if the team has been rewarded with a specified number of points. If a team has been awarded the earned points after certain (e.g., five) consecutive lessons the teacher may then consider awarding points every-other day. Thus, in order to be rewarded, the team must accomplish the goals on two consecutive days. **Table 1.5** is an example of the Fair Play Game Chart created by Vidoni and Ulman (2012).

Table 1.5. Example of a Fair Play Game chart in a 15-day volleyball unit.

DAYS	RED TEAM GOALS		BLUE TEAM GOALS		PURPLE TEAM GOALS		GREEN TEAM GOALS	
	Set	Achieved	Set	Achieved	Set	Achieved	Set	Achieved
1.	1	☺	1	☺	1	☺	1	☺
2.	2	☺	2	☺	2	☺	2	☺
3.	3	☹	3	☺	3	☺	3	☺
4.	3	☺	4	☹	4	☺	4	☺
5.	4	☺	4	☹	5	☺	5	☹
6.	5	☺	4	☺	6		5	☺
7.	6		5	☺	6	☺	6	☹
8.	6	☺	6		7		6	
9.	7		6	☺	7	☺	6	☺
10.	7	☺	7		8		7	
11.	8	☹	7	☹	8	☺	7	☺
12.	8		7	☺	9		8	
13.	8	☺	8		9	☺	8	☺
14.	9		8	☺	10		9	
15.	9	☺	9		10	☺	9	☺
TEAM POINTS	9		8		10		9	

(Vidoni & Ulman, 2012)

1.7. Purpose of This Thesis

Based on the limitations and interests proposed above, this doctoral thesis aimed to:

(1) Develop a scale to assess Chinese college students' social skills in PE classes.

(2) Explore the factors influencing students' social skills in PE classes.

(3) Develop a program to improve students' social skills in college PE classes.

Chapter 2. *Study 1* - Development of a Scale to Assess Chinese College Students' Social Skills in Physical Education Classes

2.1. Purpose

The purpose of this study was to develop a context-specific instrument that can be used to accurately evaluate college students' social skills that are acquired in the context of PE classes.

2.2. Method

2.2.1. Instrument

2.2.1.1. Items Selected from the SSI

The SSI is a self-report measure that was developed by Riggio in 1986 and was revised in 1989. The inventory has 90 items, including those concerning basic social/communication skills, and these items are distributed across six subscales (15 items per subscale) that representing three basic communication skill dimensions (expressivity [sending ability], sensitivity [receiving and decoding ability], and control [ability to regulate communication]) in two separate domains, namely, the nonverbal (or emotional) domain and verbal (or social) domain (Riggio, 1989; Riggio & Carney, 2003). The skills measured

by the subscales are emotional expressivity (EE), emotional sensitivity (ES), emotional control (EC), social expressivity (SE), social sensitivity (SS), and social control (SC). Each item has to be answered on a 5-point Likert scale ranging from "not at all like me" to "exactly like me," and the scores on the subscales range from 15 to 75. Cheng (2005) translated the SSI into Chinese to study the characteristics of the development of social skills of Chinese college students. Qian (2012) examined the reliability and validity of the SSI on a sample of Chinese in-service staff through precise translation and repetitive investigation. In our study, the context of the items was based on the original version of the SSI and two Chinese versions that were translated by Cheng and Qian. Although the 90-item SSI has good validity, it is not concise and takes time to administer. The number of items of a psychosocial scale should ideally be limited (Sugawara, 1994). Therefore, researcher tried to develop a simplified version of the SSI that can be used to assess college students' social skills in PE classes. Further, when selecting items, researcher fully considered the specificity of the college PE context to ensure the core purpose of the study was met. The SSI was originally developed to evaluate people's social skills in daily life. Some items (e.g., "At parties I enjoy speaking…" and "I usually take the initiative and introduce myself to strangers") are not suitable for the PE setting; as a result, these items could not be used. In case of some items that have been used in the study, the wordings were changed in accordance with the unique contexts of PE and native Chinese culture. For example, the original item "I can fit in with all types of people, young and old, rich and poor" were changed to "I can fit in with all types of people in the PE class." Finally, 12 items were selected (**Table 2.1**).

Table 2.1. Items selected from the SSI.

1. When I feel sad or depress, others can hardly detect my feeling (1, EC).
2. I can fit in with all types of people in the PE class (6, SC).
3. When someone pays close attention to me I can instantly detect it (14, ES).
4. I feel very uncomfortable when being criticized (5, SS).
5. I am good at express myself by eyes (19, EE).
6. It is difficult for me to speak when facing all class members (30, SE).
7. I express as calm even if I'm very nervous (57, EC).
8. I am not gregarious (64, SC).
9. I can always detect others' feeling no matter how they pretend it (32, ES).
10. I don't like to be the focus of others' attention (67, SS).
11. I always have body touch with friends (55, EE).
12. I rarely talk in the class (79, SE).

Note:
(1). in ( ) are the number and sub-domain in original SSI;
(2). EE (emotional expressivity), ES (emotional sensitivity), EC (emotional control),
(2). SE (social expressivity), SS (social sensitivity), SC (social control)

2.2.2. Participants and Procedure

A survey was carried out in June 2014 and the participants were college students from two Chinese cities (i.e., Dalian and Sanya). They (n = 366) consisted of 189 freshmen (101 male, 88 female) and 177 sophomores (93 male, 84 female). A retest was conducted for 40 freshmen (23 male, 17 female). Selected items of the SSI were administered to the students, and the students in the test-retest group retook the questionnaires two weeks after the initial administration.

2.2.3. Data Analysis

Exploratory factor analysis was performed to examine factor components of the scale. The reliabilities of the scales were verified by calculating Cronbach's α coefficient and the

test-retest correlation *r*. Confirmatory factor analysis was used to determine the validity of the scale. A two-factor analysis of variance (ANOVA) was conducted to examine the age- and gender-based differences in social skills. Data were analyzed using SPSS 22.0 and Amos 22.0 for Windows.

2.3. Results

2.3.1. Exploratory Factor Analysis

In order to determine whether the items assessed distinct aspects of social skills, researcher performed an exploratory factor analysis by using the principal components method with varimax rotation, on the sample (n = 366) of the survey. Bartlett's test of sphericity (733.646) and the Kaiser-Mayer-Olkin (KMO) statistic (0.733) suggested that it was necessary and feasible to perform factor analysis. First, three factors were derived by setting the eigenvalues higher than 1.0. With regards to the eigenvalues, the eigenvalue of factor 1 was 2.214, that of factor 2 was 2.158, and that of factor 3 was 1.598. The curve on the scree plot (not shown here) became smooth after the second factor. As the items of the SSI reflected social skills in two domains, namely, verbal and nonverbal skills, researcher performed the factor analysis again by extracting the number of factors with 2, and suppressing the absolute values of factor loadings less than 0.30. The results revealed that except for item 2, all the items located on the factors were consistent with the domains from which the items were selected in the SSI. Then, similarly, the analysis was conducted for the third time, wherein item 2 were deleted. The result revealed that the factor loadings

were all greater than 0.4 except for item 11, for which the factor loading was 0.381. Finally, the 11 items were employed. The 11 item-SSI (11-SSI) included two subscales that were called “nonverbal skills” (factor 1) and “verbal skills” (factor 2) (**Table 2.2**).

Table 2.2. Results of the exploratory factor analysis of the 11-SSI (n = 366).

Item	Mean	SD	Factor loading	
			Factor 1 (Nonverbal skills)	Factor 2 (Verbal skills)
5	2.68	1.059	0.721	
9	2.90	1.072	0.711	
3	2.77	1.043	0.704	
1	2.54	1.089	0.561	
7	3.18	1.073	0.546	
11	3.23	1.177	0.381	
12	3.95	1.197		0.748
6	3.83	1.164		0.745
8	4.27	1.044		0.708
10	3.27	1.074		0.634
4	3.02	1.135		0.410
Eigenvalue			2.411	2.258
Variance explained (%)			21.916	20.531

2.3.2. Reliability of the 11-SSI

Cronbach’s α coefficient, which is a reliability index of internal consistency, was calculated to assess the reliability of the 11-SSI. The reliability coefficient of the total scale was 0.515 and the reliability coefficients of the subscales were 0.679 (for the verbal skills subscale) and 0.665 (for the nonverbal skills subscale). In addition, researcher conducted a correlation analysis for the two-week test-retest. The correlation coefficient r for the total scale was 0.926 and those for the subscales were 0.917 (for the verbal skills subscale) and 0.934 (for the nonverbal skills subscale). Thus, the results verified that the reliability of the

11-SSI was acceptable (**Table 2.3**).

Table 2.3. Results of reliability analysis for the 11-SSI (n = 366).

	Cronbach's α	Test-retest r
Verbal skills	0.679	0.917**
Nonverbal skills	0.665	0.934**
Total skills	0.515	0.926**

** $p < 0.01$.

2.3.3. Validity of 11-SSI

A confirmatory factor analysis was performed to assess the validity of the factor component of the 11-SSI in evaluating social skills in PE classes. **Figure 2.1** shows the results of the analysis. The goodness of fit index (GFI) was 0.946. The adjusted goodness of fit index (AGFI) was 0.917. The comparative fit index (CFI) was 0.881. The root mean square error of approximation (RMSEA) was 0.068. The results suggested that the hypothesized two-factor model that was developed based on the results of exploratory factor analysis fit the data reasonably well.

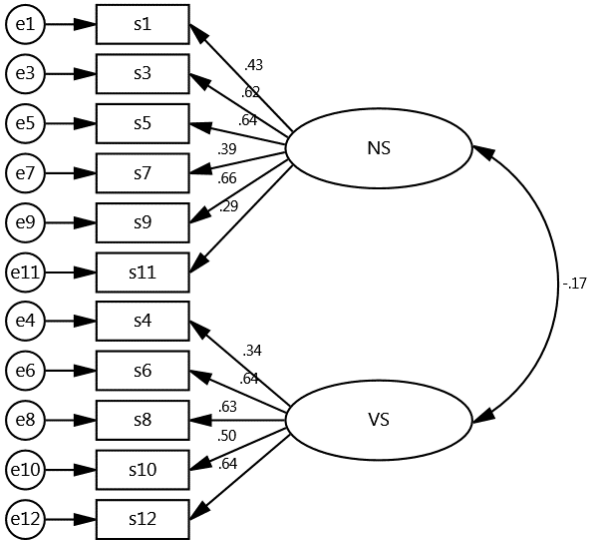

Figure 2.1. Results of the confirmatory factor analysis of the 11-SSI.

2.3.4. Age- and Gender- Based Differences in Social Skills

A two-factor (age × gender) analysis of variance (ANOVA) was performed to analyze the differences in social skills on the basis of age and gender. According to the results, there were no significant differences between the verbal skills, nonverbal skills, and total social skills of males and females; further, there were no significant differences between the verbal and total skills of freshmen and sophomores. However, there was a significant difference between the nonverbal skills of freshmen and sophomores ($F = 4.14$, $p < 0.05$). The results are presented in **Table 2.4**.

Table 2.4. Age- and gender- based differences in 11-SSI.

		Freshman (M*n* = 101, F*n* = 88)		Sophomore (M*n* = 93, F*n* = 84)		F (*df* = 1,364)		
		Mean	SD	Mean	SD	Age	Gender	Interaction
Verbal	Male	18.28	3.83	17.95	4.15	2.28	0.097	0.80
	Female	18.37	3.65	18.07	3.95			
Nonverbal	Male	17.49	4.08	17.61	3.59	4.14*	3.43	0.12
	Female	17.20	4.21	17.32	4.13			
Total	Male	35.76	4.56	36.54	4.71	3.17	3.21	0.07
	Female	35.57	5.68	36.12	5.73			

*$p < 0.05$, M: male, F: female.

2.4. Discussion

In this study, based on the SSI, researcher developed a scale to assess Chinese college students' social skills in PE classes. Researcher selected and modified 12 items of the SSI by considering the specific context of PE classes. The items had to be answered using a 5-point Likert scale and were administered to 366 college students. Exploratory and confirmatory analyses were conducted, and based on the results, 1 item was deleted. Consequently, the development of the instrument with valid and reliable scores for measuring college students' social skills in PE resulted in an instrument with 11 items representing two factors: verbal skills (five items), nonverbal skills (six items). Then, researcher analyzed the differences in scores based on gender and grade. The results revealed that there were no significant differences in social skills between male and female students. However, a significant difference in nonverbal skills was found between freshmen and sophomores. It is suggested that there may be a tendency for students' nonverbal skills in PE classes to improve through curriculum learning.

Upon graduation, college students are expected to apply their learning to the real-world

setting. However, this is the long-term expectation of their learning. During the four years that they study and live on the campus, they are also expected to apply their learning to their everyday social life. This is the expectation of the transfer of their learning, in other words, the expectation to grow into socially mature individuals. Recently, in China, an emergent area of research on social skills is the study of social skill in the context of college PE. Several researchers have begun studying the function and use of PE in the social skills development of college students (e.g., Wang & Sugiyama, 2014; Lv & Takami, 2015). However, based on the literature on transfer of learning in social psychology, we felt that it was necessary to exert caution when choosing instrument to evaluate the improvement of social skills. This is because the use of a measurement in a context different from that for which it was originally developed may not provide an accurate evaluation. Therefore, the general purpose of this study was to develop a scale that can be used to evaluate the social skills that Chinese college students acquired in PE classes. In this study, by considering the process of skills transfer, researcher distinguished the social skills that were acquired during PE from those that were used in daily life. The items included in the measure were selected from Riggio's SSI (1986, 1989), and were revised based on the unique contexts of PE and native Chinese cultural. Through exploratory and confirmatory research, researcher developed an 11 item-SSI. The 11-SSI consists of two sub-scales, namely, verbal skills and nonverbal skills. The reliability and validity of the 11-SSI were found to be acceptable, and the instrument can be used to evaluate college students' social skills in PE classes.

Adolescents' perceptions of their social skills in PE vary according to age and gender (Christodoulides et al., 2012). In this study, researcher used the new scale to examine age-

and gender- based differences in social skills. The results only indicated that there was a significant difference in nonverbal skills between freshmen and sophomores. This implied that as male and female college students mature into adults, their levels of social skills may remain more or less the same and even their verbal skills may not improve much; however, as they grow older, there is a considerable scope for their nonverbal skills to develop.

Therefore the 11-SSI can be used to assess the developmental outcomes of social skills in the specific context of PE classes. However, to our knowledge, evaluation studies have not assessed whether students perceive that they are able to successfully transfer social skills learned through PE to other domains and contexts. Thus, in order to examine the attribution of PE for students' social competence in life, a measure of social skills transfer is needed to be developed to enable the evaluation of PE in successfully teaching skills that students report using in other domains.

Chapter 3. Exploring the Factors Influencing Students' Social Skills in PE Classes

3.1. *Study 2* - Examining Relationships between the Cognitive Aspect of College Students' Attitudes toward Physical Education and Their Social Skills in Physical Education Classes

3.1.1. Purpose

The purpose of this study was to explore factors contributing to college students' social skills in PE through examining the relationships between the cognitive aspect of attitudes toward PE and social skills in PE classes.

3.1.2. Method

3.1.2.1. Instruments

3.1.2.1.1. 11 Item of Social Skills Inventory (11-SSI)

See ***study 1*** in Chapter 2.

3.1.2.1.2. Students' Attitudes toward Physical Education (SATPE)

The SATPE (Li, Chen, & Baker, 2014) is an inter-correlated model of college students' attitudes toward PE. The instrument consists of 26 items distributed across five subscales: physical fitness (4 items), self-actualization and social development (5 items), PE curriculum (5 items), PE teachers (6 items), and PE teaching (6 items). Items of each subscale describe the characteristics and/or attributes of PE toward the subscale domains. For example, the items "PE improved my levels of health and fitness" and "PE developed my motor skills" address the functions of PE in improving physical fitness; the items "My PE teacher is friendly" and "My PE teacher is highly professional and good at PE sports" are descriptions of PE teachers' character and teaching competence. Students are asked to indicate how strongly they agree with each description or comment using a six-point Likert scale including two negative and four positive agreement responses ranging from "strongly disagree" to "strongly agree." There is an identical score corresponding to each item so that the scores on the subscales range from 4 to 36. The model has demonstrated content validity and an average mean of internal consistency reliability coefficient of 0.76 for the five subscales with a sample of Chinese college students (Li, Chen, & Baker, 2014). Therefore, the SATPE is a reliable and valid instrument that assesses the cognitive aspect of college students' attitudes toward PE.

3.1.2.2. Participants and Procedure

Researcher carried out a survey in October, 2015. A sample of 573 first-year students (269 male, 304 female, mean age = 18.6 years) who had been studying at two universities in two

cities (i.e., Dalian & Sanya) in China for only one month were investigated. Students at the university in Dalian are 140 male and 159 female; students at the university in Sanya are 129 male and 145 female. All of the students were investigated using a questionnaire containing items of the SATPE and 11-SSI. First, researcher called the chairs of the PE departments of the two universities to acquire approval for the investigation. Then, after we had received permissions for the investigations as well as agreements of assistance from the two chairs, researcher posted questionnaires to the two PE departments. The two chairs called for teachers to administer the questionnaires. Each administration was carried out before a lesson in a quiet place (e.g., classroom or a play-ground far from other class groups) without distractions. The questionnaires were collected and returned by post after administration.

3.1.2.3. Data Analysis

Correlation analyses were performed to examine whether there were relationships between the cognitive aspect of students' attitudes toward PE and their social skills in PE classes. Multiple regression analyses were performed multiple to assess the influences of the cognitive aspect of students' attitudes toward PE on their social skills in PE classes. Data were analyzed using SPSS 22.0 for Windows.

3.1.3. Results

3.1.3.1. Results of Correlation Analyses

To determine whether there were relationships between the cognitive aspect of college students' attitudes toward PE and their social skills in PE classes, researcher performed correlation analyses separately on male (n = 269) and female samples (n = 304). Correlation coefficients were separately calculated for total attitude scores and scores of social skills variables (i.e., verbal and nonverbal skills). Results (**Table 3.1.1**) indicated that total attitude had a significant correlation with nonverbal skills in both male (r = 0.279, $p < 0.01$) and female students (r = 0.125, $p < 0.05$). However, no significant correlation was found between total attitude and verbal skills in either male or female students.

3.1.3.2. Influences of Attitudes on Social Skills

To determine whether the cognitive aspect of students' attitudes toward PE influences college students' social skills in PE classes, researcher performed multiple regression analyses separately on male (n = 269) and female samples (n = 304). First, collinearity diagnostics indicated that the collinearity for variables of attitude in each sample was weak (VIF = 1.356 - 1.798). Then, five aspects of attitude (i.e., physical fitness, self-actualization and social development, PE curriculum, PE teachers, and PE teaching) were entered to regress on each sample's verbal and nonverbal skills. Results (**Table 3.1.2**) showed that the R^2 of the regression equation in which attitudes were regressed on nonverbal skills reached the significant level in both male (R^2 = 0.172, $p < 0.001$) and female samples (R^2 = 0.103, $p < 0.01$). It indicated that attitudes had a strong influence on nonverbal skills in all students.

Of the five aspects of attitude, self-actualization and social development was found to have a positive and significant influence on both male and female students' nonverbal skills (β = 0.261, t = 2.337, $p < 0.05$; β = 0.306, t = 3.382, $p < 0.001$); the PE teachers aspect was found to have a positive and significant influence on both male and female students' nonverbal skills (β = 0.256, t = 2.163, $p < 0.05$; β = 0.241, t = 2.019, $p < 0.05$); PE teaching was found to have a positive and significant influence on male students' nonverbal skills (β = 0.368, t = 3.063, p <0.001), and a positive influence that neared but did not reach the significant level on female students' nonverbal skills (β = 0.220, t = 1.997, p = 0.061). However, no significant influences of physical fitness and PE curriculum were found on either male or female students' social skills.

Table 3.1.1. Total attitude in relation to verbal and nonverbal skills in male and female samples.

	Total attitude	
	Male (n = 269)	Female (n = 304)
Verbal skills	0.034	0.068
Nonverbal skills	0.279**	0.125*

* $p < 0.05$, ** $p < 0.01$.

Table 3.1.2. Regression models of attitudes in relation to verbal and nonverbal skills in male and female samples.

	Verbal skills[a]				Nonverbal skills[a]			
	β	*SE*	*t*	R^2	*β*	*SE*	*t*	R^2
Male (*n* = 269)								
Physical fitness	0.005	0.168	0.039		0.040	0.156	0.319	
self-actualization and social development	-0.008	0.163	-0.054		0.261	0.089	2.337*	
PE curriculum	0.066	0.354	0.540		0.099	0.329	0.883	
PE teacher	0.110	0.216	0.851		0.256	0.132	2.163*	
PE teaching	-0.002	0.131	-0.017		0.368	0.122	3.063**	
				0.010				0.172***
Female (*n* = 304)								
Physical fitness	0.053	0.097	0.621		-0.095	0.099	-1.179	
self-actualization and social development	-0.055	0.093	-0.596		0.306	0.091	3.382***	
PE curriculum	0.148	0.269	1.692		0.079	0.274	0.924	
PE teacher	0.064	0.150	0.698		0.241	0.120	2.019*	
PE teaching	-0.105	0.087	-1.113		0.220	0.151	1.997†	
				0.020				0.103**

[a]Dependent variable. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, †$0.05 < p < 0.10$.

3.1.4. Discussion

Attitude is particularly important in the area of PE. The promotion of positive attitudes is one key component that impacts students' learning (Solmon, 2003). The purpose of this study was to explore the relationship between the cognitive aspect of college students' attitudes toward PE and their social skills in PE classes. First, through correlation analyses, positive and significant connections were found between attitudes and nonverbal skills. The findings can be the basis for determining the influences of attitudes on social skills. Then, by performing multiple regression analyses, researcher found that certain aspects of attitude may affect nonverbal skills in both male and female students. The cognitive aspect of students' attitudes toward PE is their beliefs about the characters of PE, and it can reflect the features from students' views of the PE they had experienced before. Therefore, through

examining the relationships between those attitudes and students' social skills, the factors facilitate students' social skills development in PE can be determined. The finding of this study that attitudes have positive influence on nonverbal skills may correspond to the results of studies that revealed developmental tendency (***Study 1***) and interventional feasibility (Sugiyama, 2012) of college students' nonverbal skills in PE classes.

PE provides important contexts in which students' socials skill levels can be influenced. According to the results, students' attitude that PE can facilitate their self-actualization and social development has a positive influence on their nonverbal skills. This indicated that students who had positive experiences of self-actualization (e.g., gaining confidence in participation) and social development (e.g., demonstrating personal and social responsibility) showed high levels of nonverbal skills. PE has the potential to provide students with positive sport experiences by bringing students together in a shared interest, providing a sense of belonging to a team, offering opportunities for developing valued competencies and capabilities, and developing social networks and community cohesion (Bailey, 2005). However, for students to acquire positive sport experiences in PE, constructions of careful planning, effective teaching, and meaningful learning are required (Carpenter, 2010), and teachers may play the crucial role for the realizations of these constructions. In this study, students who had high evaluation of the teachers showed high levels of nonverbal skills; students' attitudes toward PE teachers were found to be related to their nonverbal skills. This means that teachers themselves can influence students' social development. Besides parents, teachers are most frequently identified by youth as having the strongest influence on their beliefs and actions (Smokowski, Reynolds, & Bezruczko, 1999; Winfield, 1991). Students' social development is an ongoing process that often

requires the support of teachers and peers with whom they have close interaction during learning in classes. A teacher's positive social behaviors in the classes can be directly learned by students and copied in and out of the classes when interacting with others. Besides, teachers' behaviors could affect students' enjoyment (Cai, 1998; Cecchini et al., 2001; Hashim, Grove, & Whipp, 2008) and willingness for self-disclosure (Anita, Karen, & Mark, 1977) in PE. PE teaching is associated with variables what PE provides during the teaching process, such as teaching content, learning environment, and teaching strategies. The current study revealed that students' perceptions of PE teaching positively influence their nonverbal skills in both male and female students, although the influence in female students closely approached but did not reach the significant level. Therefore, the function of PE teaching on students' social development should be emphasized by educators to promote students' social skills. However, it must through careful organizing, such as choosing appropriate programs, creating positive learning environment, and using suitable teaching strategies, that the function of this factor be realized.

There were several programs or models developed for using in PE. Each of them contributed to certain aspect(s) of students' social development. Educators should use these programs or models, or those created by them, to develop students' social skills in PE classes. Students desire to be successful or to spend their time without academic pressure in PE class. If students were provided with a comfortable and confident learning environment, their enjoyment of PE would be increased, and their learning would be impacted (Ravizza & Stratton, 2007; Subramaniam & Silverman, 2007). Consequently, their social skills would be improved. Teachers should use various teaching strategies in implementing programs and creating positive learning environments. Games are one typical strategy

widely used by teachers at all levels of school. However, only games that contain enough skills-related physical activities, student-based designed challenges, and social interactions can work as a quality teaching strategy. In this study, the cognitive aspect of students' attitudes was used as a tool to examine the variable factors of PE that contributed to students' social skills development in the PE classes. The findings can help researchers and educators in this field more clearly understand the mechanism of how PE contributes to students' social development and can provide researchers and educators with suggestions on intervention program development, curriculum modification, and teacher professional training.

3.2. *Study 3* - Exploring Influences of Sport Experiences on Social Skills in Physical Education Classes in College Students

3.2.1. Purpose

The purpose of this study was to examine the influences of college students' sport experiences on their social skills in PE classes through validating an instrument that can be used to evaluate Chinese college students' sport experiences in PE classes.

3.2.2. Methods

3.2.2.1. Instruments

3.2.2.1.1. 11-SSI

See ***study 1*** in Chapter 2.

3.2.2.1.2. Chinese Version of Experience Scale in University Physical Education Classes (ESUPEC)

ESUPEC is a Japanese version developed by Shimamoto and Ishii (2007). It consists of 14 items in 4 subscales which are self-disclosure (four items), that is "expressing one's mind to

others in sport activities", cooperation (four items), that is "working together to reach goals in sport activities", challenge (three items), that is "achieving success that they had never got before in sport activities", and enjoyment (three items) which means "perceiving fun and pleasure in sport activities". Each item must be answered on a 4-point Likert scale ranging from "none" to "often have." In this study, the translation of the ESUPEC into Chinese version was conducted by three Chinese master course students who had been studying in Japan as foreign students for over four years. They were all in Japanese language major during university years and had passed the Japanese Language Proficiency Test of level 1.

3.2.2.2. Participants and Procedures

Researcher carried out two surveys in this study. College students of two universities in two cities (i.e., Dalian & Sanya) in China were investigated. In the first survey, the Chinese version of ESUPEC was administered to a sample of 366 students included 194 students at the university in Dalian and 172 students at the university in Sanya. Students at the university in Dalian are 100 freshmen (55 male, 45 female) and 94 sophomores (50 male, 44 female); students at the university in Sanya are 89 freshmen (46 male, 43 female) and 83 sophomores (43male, 40 female). Forty freshmen (23 male, 17 female) at the university in Dalian retook the questionnaire two weeks after the initial administration. The data of the first survey was used to test the reliability and validity of the Chinese version of ESUPEC for examining Chinese college students' sport experiences in PE classes. In the second survey, the Chinese version of ESUPEC and the 11-SSI were administered to a sample of

302 freshmen who had been studying in the school for only one month. The sample included 155 students (81 male, 74 female) at the university in Dalian and 147 students (76 male, 71 female) at the university in Sanya. The data of the second survey was used to assess the influences of sport experiences on social skills in PE classes. First, researcher called the chairs of the PE departments of the two universities to acquire approval for the investigation. Then, after researcher had received permissions for the investigations as well as agreements of assistance from the two chairs, researcher posted questionnaires to the two PE departments. The two chairs called for teachers to administer the questionnaires. Each administration was carried out before a lesson in a quiet place (e.g., classroom or a play-ground far from other class groups) without distractions. The second survey was conducted three months later after the first survey. Questionnaires of the two surveys were collected and returned by post after administration.

3.2.2.3. Data Analysis

Exploratory factor analysis was performed to examine factor components of the Chinese version of ESUPEC. Reliability of the scales was verified the by calculating Cronbach's α coefficient and the test-retest correlation coefficient *r*. Confirmatory factor analysis was used to determine the validity of the scale. Correlation analyses were performed to examine whether there were relationships between students' social skills and sport experiences. Multiple regression analyses were performed to assess the influences of students' sport experiences on their social skills. Data were analyzed using SPSS 22.0 and Amos 22.0 for Windows.

3.2.3. Results

3.2.3.1. Factor Components of the Chinese Version of ESUPEC

The Chinese version of ESUPEC was translated from the original Japanese version of ESUPEC. Due to the differences in subjects, PE curriculum, and social culture between the two countries, it was necessary to examine whether the items in Chinese version were in accordance with the items in original version in testing distinct aspects of sport experience. Therefore, researcher performed an exploratory factor analysis by using principal component method with varimax rotation, on the sample (n = 366) of the first survey. Bartlett's test of sphericity (1633.098) and KMO (0.851) suggested the necessity and feasibility of conducting factor analysis. Result (**Table 3.2.1**) of the analysis revealed 4 factors of which eigenvalues were all above 1.0. Factor components were consistent with the original version of which the items were located on 4 factors, namely, self-disclosure, cooperation, challenge, and enjoyment.

Table 3.2.1. Result of the exploratory factor analysis of the Chinese version of ESUPEC (n = 366).

Items	Mean	SD	Factor loadings			
			1	2	3	4
Self-disclosure						
I had expressed my feelings to others	2.574	0.812	0.742			
I had communicated my ideas to friends	2.845	0.786	0.820			
I had talked to someone about personal things	2.755	0.863	0.801			
Someone had often listened my words	2.874	0.844	0.726			
Cooperation						
I had been in teamwork	3.213	0.818		0.759		
I had coordinated with teammate to play	3.004	0.759		0.831		
I had cooperated with many people during play	3.032	0.791		0.851		
Teammates had encouraged each other	3.134	0.747		0.674		
Challenge						
I had been succeed in challenging what was impossible to me	2.733	0.804			0.753	
I had been succeed in challenging what was difficult to me	2.516	0.810			0.824	
I had been succeed in challenging what I had never done	2.365	0.893			0.751	
Enjoyment						
I had played in a harmonious class context	3.292	0.750				0.849
I had played in a relaxed way	3.321	0.743				0.819
I had played games and done free practices	2.816	0.896				0.530
Eigenvalues			2.814	2.596	2.218	1.931
Variance explained (%)			20.103	18.540	15.843	13.791

3.2.3.2. Reliability and Validity of the Chinese Version of ESUPEC

Cronbach's α coefficient, which is a reliability index of internal consistency, was calculated to assess the reliability of the Chinese version of ESUPEC. The reliability coefficient α of the total scale was 0.864 and those of the subscales were ranging from 0.688 to 0.860. In addition, researcher conducted a correlation analysis for the two-week test-retest. The correlation coefficient r for the total skills was 0.928, and those for the subscales were ranging from 0.911 to 0.934 (**Table 3.2.2**). Thus, the results verified that the scale was reliable in evaluating Chinese college students' sport experiences in PE classes.

Researcher performed a confirmatory factor analysis to assess the validity of factor component of the Chinese version of ESUPEC in evaluating sport experiences in PE classes (**Figure 3.2.1**). The Goodness of Fit Index (GFI) was 0.924. The Adjusted

Goodness of Fit Index (AGFI) was 0.888. The Comparative Fit Index (CFI) was 0.945. The Root Mean Square Error of Approximation (RMSEA) was 0.067. The result suggested that the hypothesized four-factor model developed based on the result of exploratory factor analysis fits the data reasonably well.

Table 3.2.2. Coefficients of internal consistency α and test-retest correlation r for the Chinese version of ESUPEC.

	Cronbach's α	Test-retest r
Self-disclosure	0.808	0.926**
Cooperation	0.860	0.917**
Challenge	0.773	0.911**
Enjoyment	0.688	0.934**
Total sport experience	0.864	0.928**

**$p < 0.01$.

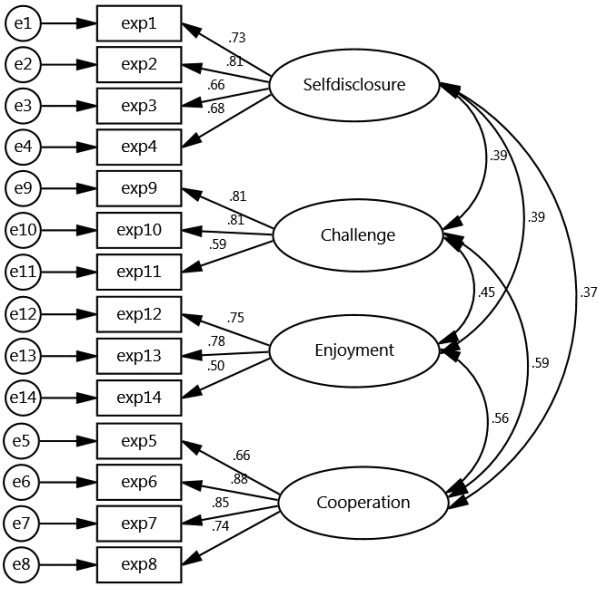

Figure 3.2.1. Result of the confirmatory factor analysis of the Chinese version of ESUPEC.

3.2.3.3. Results of Correlation Analyses

In order to determine whether there were relationships between college students' social skills and sport experiences in PE classes, researcher performed correlation analyses separately on male samples (n = 157) and female samples (n = 145) of the second survey. Results (**Table 3.2.3**) showed that sport experiences had a significant correlation with nonverbal skills in both male students (r = 0.447, $p < 0.001$) and female students (r = 0.217, $p < 0.01$). However, no significant correlation was found between sport experiences and verbal skills either in male students or in female students.

3.2.3.4. Influences of Sport Experiences on Social Skills

In order to determine whether various sport experience have an influence on college students' social skills in PE classes, researcher performed multiple regression analyses separately on male samples (n = 157) and female samples (n = 145) of the second survey. First, collinearity diagnostics indicated that the collinearity for variables of sport experience in each sample was weak (VIF = 1.221-1.755). Then, four aspects of sport experience (i.e., self-disclosure, cooperation, challenge, & enjoyment) were entered to regress on each sample's verbal skills and nonverbal skills. Results (**Table 3.2.4**) showed that the R^2 of the regression equation in which sport experiences were regressed on nonverbal skills reached the significant level both in male students (R^2 = 0.328, $p < 0.001$) and female students (R^2 = 0.110, $p < 0.01$). It is indicated that sport experiences had a strong influence on nonverbal skills in all students. Of the four aspects of sport experience, self-disclosure was found to have a positive and significant influence on female students' nonverbal skills (β = 0.318, t =

3.613, $p < 0.001$); challenge was found to have a positive and significant influence on male students' nonverbal skills ($\beta = 0.490$, $t = 3.733$, $p < 0.001$); enjoyment was found to have a positive and significant influence on female students' verbal skills ($\beta = 0.221$, $t = 2.255$, $p < 0.05$).

Table 3.2.3. Total sport experiences in relation to verbal and nonverbal skills in male and female samples.

	Total sport experience	
	Male (n = 157)	Female (n = 145)
Verbal skills	-0.006	0.030
Nonverbal skills	0.447***	0.217**

**$p < 0.01$, ***$p < 0.001$.

Table 3.2.4. Regression models of sport experiences in relation to verbal and nonverbal skills in male and female samples.

	Verbal skills[a]				Nonverbal skills[a]			
	β	*SE*	t	R^2	β	*SE*	t	R^2
Male (n = 157)								
Self-disclosure	0.039	0.188	0.276		0.173	0.180	1.479	
Cooperation	-0.098	0.227	-0.623		-0.249	0.217	-1.887	
Challenge	-0.159	0.282	-1.009		0.490	0.271	3.733***	
Enjoyment	0.215	0.288	1.365		0.162	0.276	1.235	
				0.038				0.328***
Female (n = 145)								
Self-disclosure	-0.145	0.129	-1.594		0.318	0.123	3.613***	
Cooperation	-0.027	0.147	-0.225		0.038	0.139	0.364	
Challenge	0.020	0.165	0.202		0.034	0.157	0.365	
Enjoyment	0.211	0.181	2.255*		-0.088	0.171	-0.966	
				0.051				0.110**

[a]Dependent variable. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

3.2.4. Discussion

The current study assessed the influences of college students' sport experiences on their

social skills in PE classes through validating the Chinese version of ESUPEC. The Chinese version of ESUPEC was explored to have the same factor structure with the original Japanese version, and demonstrated to have reasonable internal consistency reliability and factorial validity. It means that despite the differences in students and PE curriculum between the two countries (i.e., China & Japan), the ESUPEC could be a common instrument in evaluating college students' sport experiences in PE classes. Through conducting correlation analyses, researcher examined relationships between students' sport experiences and their social skills. The findings provided the basis for the current study to explore the effects of sport experiences on social skills in PE classes. In this study, college students' sport experiences were found to have a positive influence on their nonverbal skills. However, the significant influences were from different aspects of sport experience among male and female students. Challenge, which means "achieving success that a person had never got before in sport activities", was found to have a significant influence on male students' nonverbal skills. PE provides an environment for students to join sport activities in which they can consciously seek out and test their abilities against what they perceive as a more challenging competition. People can gain confidence from overcoming obstacles or challenges and can be motivated to persist at an activity (Bandura, 1997). Male students are more active and competitive than female students to overcome challenges in sport activities. Therefore, if PE curriculums contain various sport activities in which students can successfully challenge what they had never done before, male students' nonverbal skills will possibly be promoted through learning in the classes. PE can provide challenges for students toward self (e.g., breaking a running record), objects (e.g., learning a football skill), and environment (e.g., completing an orienteering) (Kang & You, 2003). Researchers and

educators may use these challenges in their models or programs in the PE curriculum for the development of students' nonverbal skills, especially in male students. Self-disclosure, which means "expressing one's mind to others in sport activities", was found to have a significant influence on female students' nonverbal skills. The ability to reveal one's thoughts and feelings to others is a basic social skill for developing interpersonal relationships (Altman & Taylor, 1973). Female students tend to disclose more than male students, and they are more frequently the recipients of other's disclosure as well (Dolgin & Minowa, 1997). Thus, if more opportunities are provided to students to disclose their information to others in PE classes, female students will more possibly have the benefit of their nonverbal skills development. Students show higher self-disclosure to their best friends of same sex than others (Enomoto, 1987). In order to develop female students' nonverbal skills, teachers may lead them to choose their group members themselves when organizing group learning or cooperative games in PE classes. Besides, as teachers' communication behaviors could influence students' willingness of self-disclosure (Anita, Karen, & Mark, 1977), they should take care of their actions when teaching PE. In this study, enjoyment, which means "perceiving fun and pleasure in sports activities", was found to have a significant influence on female students' verbal skills. Sport enjoyment was associated with satisfaction of motor performance and higher degrees of perceived physical challenge and competence (Boyd & Yin, 1996; Brustad, 1988). Therefore, teachers should take consideration on the physical activity level when teaching female students in PE for the development of their verbal skills. Teachers should also take care of their behaviors as it has been demonstrated by studies (Cai, 1998; Cecchini et al., 2001; Hashim, Grove, & Whipp, 2008) that their actions were positively associated with students' enjoyment in PE.

Different aspects of sport experience were found to effect different social skills depending on the gender. This study made an effort for exploring how students' social skills can be developed through learning in PE. Sport experience was demonstrated to be a method and manner to promote students' social skills in PE classes. PE lessons should be structured in ways that students have the opportunities to achieve successes in challenging their physical competence, express their psychosocial sense to their peers, and experience pleasure and satisfaction through motor accomplishments and interactions with other students. The findings of the study contribute to effective development and efficient implementation of models and programs, and provide policy makers with suggestions on curriculum modification and teacher professional training. However, further studies still need to be conducted to examine the influences of various sport experience as well as other factors on students' social skills development in PE classes.

3.3. *Study 4* - Exploring the Relationships between Teachers' Social Skills and Students' Social Skills in College PE Classes

3.3.1. Purpose

This study aimed to explore the relationships between PE teacher's social skills and students' social skills in PE classes through developing a student-evaluate scale that can be used to assess teacher's social skills in PE classes.

3.3.2. Methods

3.3.2.1. Instruments

3.3.2.1.1. Items Selected from the Teacher's Social Skills Self-Report Scale (TSSSS)

The TSSSS (Aikawa, 2011) is a measurement developed to assess a teacher's basic social behaviors with students in classes. It has 46 items distributed across six subscales: beginning interrelation with children (12 items), solving conflict with children (11items), consideration toward children (10 items), emotion control (6 items), decoding children's nonverbal behavior (3 items), and claiming to children (4 items). Each item must be answered on a four-point Likert scale ranging from "not at all like me" to "exactly like me." There is an identical score corresponding to each item so that the scores of the scale

range from 46 to 184. The scale has demonstrated content validity and an internal consistency reliability coefficient of 0.938 in a sample of Japanese teachers (Aikawa, 2011). In this study it was needed to develop a student-evaluation scale to assess the teacher's social skill. Therefore, researcher selected the items of the TSSSS that could transform the wording from teacher self-reporting to the student-evaluation style. Moreover, when selecting items, in order to ensure that the core purpose of our study was met researcher fully considered the use of selected items to be in accordance with the specificity of the PE context in native Chinese culture; some selected items need to be reworded. Finally, 15 items of the TSSSS were selected (**Table 3.3.1**). Researcher employed these items in the first survey, in which students were to evaluate their high school PE teacher's social behaviors in classes by answering each of these items on a four- point Likert scale ranging from "not at all like him/her" to "exactly like him/her."

Table 3.3.1. Selected items in this study.

Items	Original subscale domain	
1. PE teacher got along well with each student in the class.	6	Beginning interrelation with children
2. PE teacher has great expression when teaching in the class.	9	
3. PE teacher is good at communicating with students in the class.	14	
4. PE teacher can join in students' conversation easily in the class.	19	
5. PE teacher uses gesture and posture often when talking in the class.	22	
6. PE teacher always greet students pleasantly in the class.	23	
10. PE teacher is good at opening a conversation with students in the class.	36	
9. PE teacher can deal with problems well in the class.	33	Solving conflict with children
11. PE teacher can calm students down easily when they are angry in the class.	38	
7. PE teacher is always serious when listening to students in the class.	26	Consideration to children
12. PE teacher respects students in the class.	42	
13. PE teacher can give a good respond to students' opinion in the class.	47	
15. PE teacher can give a consideration to students' emotion and feeling when talking with them in the class.	52	
8. PE teacher can control his/her emotion well when teaching in the class.	30	Emotion control
14. PE teacher praises or encourages students often in the class.	51	

3.3.2.1.2. 11-SSI

See ***study 1*** in Chapter 2.

3.3.2.2. Participants and Procedure

Same as ***Study 2***.

3.3.2.3. Data Analysis

Exploratory factor analysis was performed to examine factor components of the new scale. The reliability of the scales were verified by calculating Cronbach's α coefficient and the test/retest correlation *r*. Confirmatory factor analysis was used to determine the validity of the new scale. Correlation analyses were performed to determine whether there are relationships between teacher's social skills and students' social skills in PE classes. Multiple regression analyses were conducted to examine the influences of teacher's social skills on students' social skills in PE classes. Data were analyzed using SPSS 22.0 and Amos 22.0 for Windows.

3.3.3. Results

3.3.3.1. Exploratory Factor Analysis

Researcher performed an exploratory factor analysis by using the principal components

method with varimax rotation, on the sample (n = 366) of the first survey. Bartlett's test of sphericity (1122.840) and the Kaiser-Mayer-Olkin (KMO) statistic (0.922) suggested that it was necessary and feasible to perform factor analysis. First, we derived two factors by setting the eigenvalues higher than 1.0. With regards to the eigenvalues, the eigenvalue of factor 1 was 4.673 and that of factor 2 was 3.829. The curve on the scree plot (not shown here) became smooth after the second factor. Researcher then performed the factor analysis again by extracting the number of factors with 2, and suppressing the absolute values of factor loadings less than 0.30. The result revealed that the factor loadings were all greater than 0.4. Thus, the selected 15 item were all employed and according to the items distribution of the received two factor and original scale, researcher named the factor 1 "control" and the factor 2 "expressivity." Finally, the new scale was named "Student-evaluate Scale of Teacher's Social Skills (SSTSS)." The results are presented in **Table 3.3.2**.

Table 3.3.2. Results of exploratory factor analysis (n = 366).

Item	Mean	SD	Factor loading	
			Factor 1 (Control)	Factor 2 (Expressivity)
1	2.96	0.813	0.491	
8	2.98	0.842	0.693	
9	3.06	0.816	0.617	
11	2.74	0.849	0.608	
12	3.15	0.800	0.603	
13	2.92	0.818	0.781	
14	2.85	0.876	0.722	
15	2.89	0.916	0.769	
2	3.05	0.873		0.805
3	2.96	0.837		0.671
4	2.91	0.880		0.649
5	3.11	0.843		0.792
6	2.74	0.931		0.621
7	2.79	0.872		0.531
10	2.85	0.918		0.567
Eigenvalue			4.673	3.829
Variance explained (%)			31.156	25.528

3.3.3.2. Reliability of the SSTSS

Researcher calculated Cronbach's α coefficient, which is a reliability index of internal consistency, to assess the reliability of the SSTSS. The reliability coefficient of the total scale was 0.924 and the reliability coefficients of the subscales were 0.871 (for the control subscale) and 0.880 (for the expressivity subscale). In addition, researcher conducted a correlation analysis for the two-week test-retest. The correlation coefficient r for the total scale was 0.891 ($p < 0.01$) and those for the subscales were 0.875 ($p < 0.01$) (for the control subscale) and 0.909 ($p < 0.01$) (for the expressivity subscale). Thus, the results verified that the reliability of the SSTSS was acceptable. The results are presented in **Table 3.3.3**.

Table 3.3.3. Results of reliability analysis.

	Cronbach's α	Test-retest r
Control	0. 871	0.875**
Expressivity	0. 880	0.909**
Total skills	0. 924	0.891**

** $p < 0.01$

3.3.3.3. Validity of SSTSS

Researcher performed a confirmatory factor analysis to assess the validity of the factor component of the SSTSS in evaluating teacher's social skills in PE classes. **Figure 3.3.1** shows the results of the analysis. The goodness of fit index (GFI) was 0.926. The adjusted goodness of fit index (AGFI) was 0.933. The comparative fit index (CFI) was 0.945. The root mean square error of approximation (RMSEA) was 0.047. The results suggested that the hypothesized two-factor model that was developed based on the results of exploratory factor analysis fit the data reasonably well.

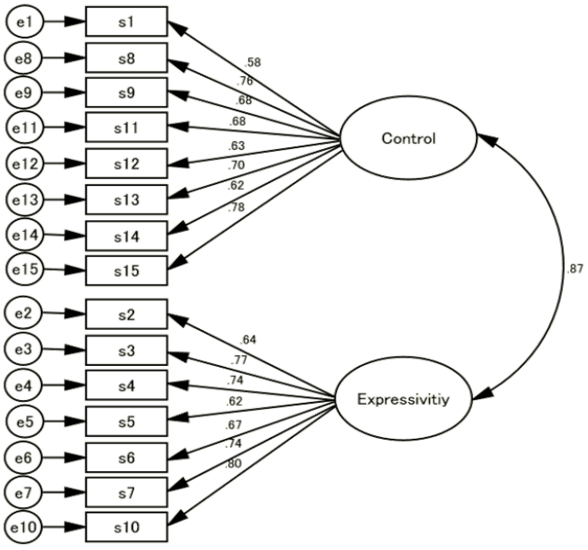

Figure 3.3.1. Result of confirmatory factor analysis.

3.3.3.4. Results of Correlation Analyses

Researcher performed correlation analyses to determine whether there were relationships between PE teacher's social skills and students' social skills in the classes. The analyses were separately performed on male samples (n = 157) and female samples (n = 145) of the second survey. Results (**Table 3.3.4**) showed that teacher's social skills had a significant correlation with nonverbal skills in both male (r = 0.221, $p < 0.01$) and female students (r = 0.147, $p < 0.05$). However, no significant correlation was found between teacher' social skills and verbal skills either in male or female students.

Table 3.3.4. Results of correlation analyses.

	Total teacher's social skills	
	Male (n = 157)	Female (n = 145)
Verbal skills	0.031	-0.003
Nonverbal skills	0.221**	0.147*

*$p < 0.05$, **$p < 0.01$

3.3.3.5. Results of Multiple Regression Analyses

Researcher performed multiple regression analyses to determine whether teacher's social skills have an influence on college students' social skills in PE classes. The analyses were separately performed on male samples (n = 157) and female samples (n = 145) of the second survey. First, collinearity diagnostics indicated that the collinearity for variables of teacher's social skills in each sample was weak (VIF = 1.235-1.731). Then, two aspects of teacher's social skill (i.e., control & expressivity) were entered to regress on each sample's

verbal and nonverbal skills. Results (**Table 3.3.5**) showed that the R^2 of the regression equation in which teacher's social skills were regressed on nonverbal skills reached the significant level in both male ($R^2 = 0.218$, $p < 0.01$) and female students ($R^2 = 0.107$, $p < 0.05$). It is indicated that teacher's social skills had a strong influence on nonverbal skills in all students. Of the two aspects of teacher's social skill, control was found to have a positive and significant influence on nonverbal skills in both male ($\beta = 0.373$, $t = 2.179$ $p < 0.05$) and female students ($\beta = 0.315$, $t = 2.056$, $p < 0.05$). However, expressivity was found to have no significant influence in either male or female students.

Table 3.3.5. Results of multiple regression analyses.

	Verbal skills[a]				Nonverbal skills[a]			
	β	*SE*	*t*	R^2	*β*	*SE*	*t*	R^2
Male (*n* = 157)								
Control	0.246	0.194	1.281		0.373	0.180	2.179*	
Expressivity	-0.238	0.231	-1.240		0.146	0.207	1.337	
				0.042				0.218**
Female (*n* = 145)								
Control	0.033	0.111	0.188		0.315	0.123	2.056*	
Expressivity	-0.039	0.115	-0.223		0.036	0.159	0.372	
				0.001				0.107*

[a]Dependent variable. *$p < 0.05$, **$p < 0.01$.

3.3.4. Discussion

The current study assessed the relationships between PE teachers' social skills and students' social skills in PE classes through development of a scale (SSTSS) that can be used examine PE teachers' social skills from students' views. The SSTSS was demonstrated to have good internal consistence reliability, and the resulting model produced by content

validity analysis appears to be a good model and instrument for measuring college students' evaluations of their teacher's social skills in PE classes. Therefore, the scores of this study provided a sound case for the use of the instrument in determining students' attitudes toward their teacher' social skills. Through conducting correlation analyses, researcher explored relationships that between teacher's social skills and students' social skills. The multiple regression analyses revealed that PE teacher's control domain of social skills had a positive influence on their nonverbal skills.

While students are the center of PE, teachers make all the aspects of PE focus on students' learning outcomes, such as physical and psychosocial development. Teachers' actions in organizing the PE process, such as making syllabi, choosing teaching strategies, and managing classes, determine whether or not students can receive the positive influences of PE. However, teachers should also realize the great potential of their social behaviors in influencing students' skills and take care of their actions when teaching PE. Teacher's social skills are displayed in various verbal and nonverbal ways. For example, a teacher's appearance expresses his/her attitude and may affect students' behavior; teachers should dress professionally. Wearing sports clothes gives one the appearance of a PE teacher more than do leisure clothes; a pair of basketball shoes are suitable wearing in a basketball class but running shoes are not, not to speak of non-sports shoes; wearing a hat outdoors is fine as they look professionally appropriate and it reduces the risk of skin cancer, but wearing hats indoors should be avoided. The teacher should communicate with students eye-to-eye and avoid wearing sunglasses. Most of all, a good first impression is very important and there really is no second chance to make it.

Chapter 4. *Study 5* - Promoting College Students' Social Skills in Physical Education Classes - A Combination of "Are You Square?" Game and Fair Play Game

4.1. Purpose

The purpose of this study was to investigate the effects of eight-week PE class enriched with a combination of RUS game and Fair Play game on college students' social skills in PE.

4.2. Methods

4.2.1. Game Design

4.2.1.1. RUS Game

This game is played on a square ground that has four stations marked by paintings in four corners. The boundary lines of the ground are marked using tapes. There are three basketballs placed within each station. Students are arranged in four teams and each team has its own station. When playing the game, students must move the basketballs from other stations to their own station within a limited time frame (one minute). Students must move the basketballs by using the skills and tactics for that lesson. Three students of each team

have to join each time when playing the game, as the quality of students' learning experiences is greater in small-group activities than in large-group activities (Peterson & Miller, 2004). Each time the game is started and ended by the sound of a whistle. **Table 4.1** shows the skills and tactics that students are demanded to use in each lesson. Other rules are the same as those described in **Chapter 1**.

Table 4.1. Skills and Tactics in RUS.

	Lesson							
	1	2	3	4	5	6	7	8
Skills	Holding ball Running	Holding ball Running	Holding ball Running Passing ball	Holding ball Running Passing ball	Dribbling	Dribbling	Dribbling Passing ball	Dribbling Passing ball
Tactics	Individual	Individual	Team	Team	Individual	Individual	Team	Team
Number	3	3	3	3	3	3	3	3

4.2.1.2. Fair Play Game

(1) Target behaviors

The target behaviors defined in this study are those positive behaviors that students are expected to perform and those inappropriate behaviors that students are asked to avoid during they e RUS game (**Table 4.2**).

Table 4.2. Examples of target behaviors in this study.

Respect
- Be a good listener
- Follow the rules of the RUS game

Be helpful
- Support peers by cheering them up during the game
- Encourage peers using physical contacts (e.g., high-fives & touch fists)

Inappropriate behaviors
- Use verbal violence
- Use physical violence

(2) Reinforcers

The reinforcers in this study are semester scores.

(3) Point system chart

All teams will begin with the same goal (i.e., listening). In the coming lesson, behaviors of one goal will be added if all goals have been achieved. However, if all goals have not been achieved, the next lesson's goals will remain the same. A team achieving its established goals will receive a point every lesson. Members of a team will receive one semester score if the team has been rewarded two points. If a team has been awarded the earned points after four consecutive lessons, then the teacher will award one score for one point in each of the coming lesson. Thus, in order to be rewarded, the team must accomplish all goals each day **(Table 4.3)**. For the goal of inappropriate behaviors, if there have been no behaviors of this kind, the goal is considered to have been achieved.

Table 4.3. Fair Play Game chart for eight-day RUS game unit.

Lesson	Team	Target behavor			Point
		Respect	Be helpful	Inappropriate behavior	
Example (Lesson 1)	A	✓			1
	B	✗			0
	C	✗			0
	D	✓			1
1	A				
	B				
	C				
	D				
2	A				
	B				
	C				
	D				
3	A				
	B				
	C				
	D				
4	A				
	B				
	C				
	D				
5	A				
	B				
	C				
	D				
6	A				
	B				
	C				
	D				
7	A				
	B				
	C				
	D				
8	A				
	B				
	C				
	D				

4.2.2. Instrument

4.2.2.1. 11-SSI

See ***Study 1*** in Chapter 2.

4.2.3. Participants and Procedure

The study was conducted between September 2014 and January 2015. Participants were 63 male students at Sanya University who selected the basketball course for the semester. The PE teacher randomly assigned those students to two basketball classes, an intervention class (n = 34) and a control class (n = 29). The intervention classes received the combined-games program, while the control class received the general teaching program. Students of both classes were introduced to the key skills they needed to master before practice or playing the game. The control class used traditional skill- and drill-based approaches. In the traditional drill and skill approach, students do the drills of passing, and dribbling of the basketball in place, and teachers model the correct way of executing the skill. In the combined-game program, students practice the basketball skills within the context of the RUS game demanding personal and teamwork-related challenges, and highlighting the learning of social aspects such as self-control, self-disclosure, and personal and social responsibility. For the intervention class, students were divided into four teams in the first lesson and the division was maintained throughout the duration of the program; the teacher provided detailed explanations of the RUS game and Fair Play behaviors during the first and second lesson to make students understand what, how, and when to perform such behaviors. In the coming units, inform students the daily criterion of performing the behaviors and positively recognize students' demonstrations of those behaviors; in each lesson, the teacher tell the class that one student (or a few students) from each team will be

randomly selected and the performance of Fair Play behaviors of this (or these) student(s) will be recorded. However, the teacher will never reveal the name or identity of the student(s) to the class, not even to the selected student(s). If the selected student(s) achieves the goals set up for that lesson, the whole team will receive rewards at the end of the lesson. The selected student(s) will be different in each lesson, and after each student has been selected once, one (or a few) of them will be selected again. The 11-SSI was administered to all students in the two classes at the beginning and at the end of the program, respectively.

4.2.4. Data Analysis

The two factors (treatment × time) ANOVA was used to analyze the differences between the social skills of the intervention group students and the control group students.

4.3. Results

The results revealed that there was only marginally significant interaction ($F = 2.95$, $0.05 < p < 0.10$) with regard to verbal skills, on the other hand, there was significant interaction ($F = 4.06$, $p < 0.05$) with regard to nonverbal skills, with significant improvement in the intervention class. **(Table 4.4, Figure 4.1, 4.2, 4.3)**

Table 4.4. Time- and group- based differences in social skills.

		Before		After		F (df = 1, 62)		
		Mean	SD	Mean	SD	Time	Group	Interaction
Verbal	Experimental	14.73	3.58	15.47	3.86	2.37†	1.33	2.95†
	Control	15.02	3.79	15.21	4.02			
Nonverbal	Experimental	17.93	4.02	19.54	3.74	8.96**	0.43	4.06*
	Control	17.69	4.19	18.62	4.25			
Total	Experimental	32.81	4.85	34.72	4.61	5.72*	0.05	3.07†
	Control	32.85	5.74	33.77	5.91			

*p < .05, **p < .01, †0.05 < p < 0.10.

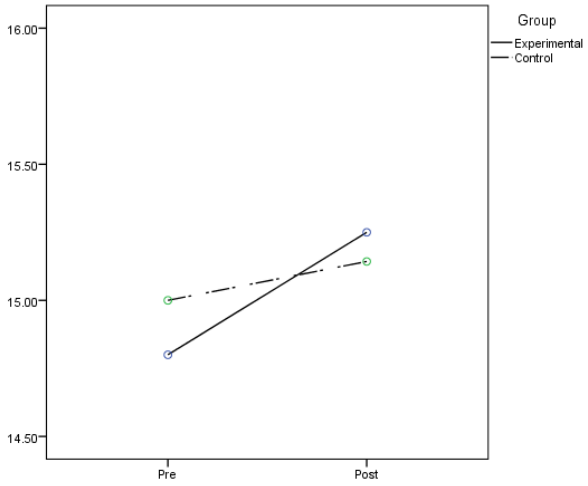

Figure 4.1. Difference in verbal skill.

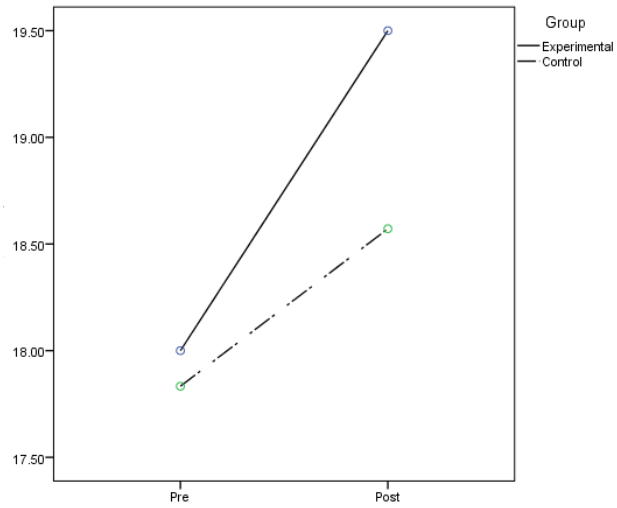

Figure 4.2. Difference in nonverbal skill.

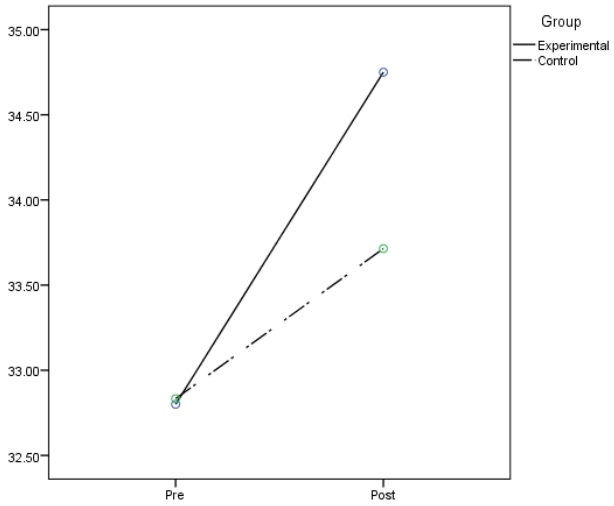

Figure 4.3. Difference in total skill.

4.4. Discussion

Many professionals believe that students automatically develop positive social behaviors

through engaging in games and physical activity (Ward, 1999). However, other researchers have suggested that students' social skills were not automatically developed (Buchanan, 2001). Games are essential and indispensable parts in school PE programs. As the RUS game and Fair Play game have certain effects on students' psychosocial development, this study used the combination of the two in the experimental class. The combined games has been validated and tested, showing that it is an effective intervention. The use of the combined games during PE classes contributes to improving students' social skills. Through their teams, students built a unique social system among the members of their teams and among the other teams. There are many practices of basketball skills in game situations; therefore, more class time is spent on these simulations. The combined game builds a competitive context in which students may easily exhibit undesirable behavior (e.g., break rules or show aggression). In the games, students challenged themselves to reduce the inappropriate behaviors and learn the positive ones. Therefore, the combined games created a competitive environment in which students can develop their physical and social skills. Social learning does not come as a natural outgrowth of participation in PE. It must occur when student socially interact with others in a carefully planned learning environment that provides favorable contexts for learning and opportunities to practice and gain satisfaction in practicing (Duncan & Watson, 1960). The approach used by the teacher in the intervention class is the construction of a contingency learning environment where students learn target behaviors through physical activity which require self-control. In order to create this environment, it is important to formulate rules for student behavior and administer the teaching process carefully. It should be made clear that the environment is built on the foundation of physical practices. The combined game is a tool that PE teacher

may consider integrating into their PE program to develop students' social skills. Physical activity is what makes PE unique from other school subjects. The development of skills is a primary objective for the teaching of PE. Development of a physical skill benefited by avid practices of that skill, and without practice activities, participants will demonstrate little improvement (Darts & Pangrazi, 2001). In this study, we use the combination of the two games in the intervention class. A benefit of the combination of the two games is that it can contribute to students' development of physical skills while creating more opportunities for developing basic motor skills such as passing, dribbling, or defending; another positive feature of these games is that they also benefit students' social skills development. The combination of two games is suitable for college PE. As the rules are relatively easy for college students to understand, it can be presented to students and then immediately put into practice. In a practice unit, members of each team should remain small in number in order to promote activity time and opportunities to learn. Small-sized-group games may not only create greater opportunities for skill development but also provide more opportunities for the development of social responsibilities. Teachers should promote the skill level along with students' skills acquisition. Students' movements during the game should highly connect to the skills that students learn during class. Students' performance in games should be just as they are when performing skills in a practice drill. PE teaching, however, should offset the time deficit by minimizing time spent in management and maximizing time spent on physical skill development. As Darst and Pangrazi (2001), and Rink (2006) suggested, PE lesson should engage students in skill practice for at least 50 percent of the available class time. Students are more likely to improve their skills and enjoy an activity if they have the opportunity to remain involved (Arnett, 2001). Researchers and educators

should have the sense to design and implement the games in which students can spend a great deal of time practicing physical skills and social skills at the same time.

Chapter 4. General Discussion

In China, research and studies on social skills education in school have been limited in recent decades, especially for PE. Due to competition among schools and parental choice, much more attention has been placed on students' academic achievement. Compared to other subjects, PE has always been considered less important. PE teachers place most of their effort on teaching sport skills. Recently, however, with the gradually rising psychosocial problems of younger generation, educators and researchers have begun to pay more attention to students' social development. The relationship between PE outcomes and students' social development has become a focus of research. However, compare with other countries, the research in this filed have not caught up. It is possible that the lack of policy, programs implementation, teaching development or teacher expertise in this area contributes to the backward condition of developing Chinese college students' social skills in PE classes. This thesis, by reviewing efforts on social development in PE, first found world-wide limitations as well as limitations in China and proposed research interests targeted these limitations. Thereafter, based on these interests, five studies were conducted to break through such limitations.

Social skills instruments used in the general living environment may not be affect for use in school PE. Therefore, through the ***Study 1*** in Chapter 1, a scale (11-SSI) that can be used to assess college students' social skills in PE classes was developed by considering the differences between students' social skills that were acquired during PE and those that were used in daily life. The 11-SSI demonstrated acceptable internal consistence reliability and

content validity in testing developmental outcomes of social skills in the specific context of PE classes. The first study also examined age- and gender- based differences in social skills and found a significant difference in nonverbal skills between freshmen and sophomores. The results implied that as male and female college students mature into adults, there is a considerable scope for their nonverbal skills to develop. It is suggested that there may be a tendency for students' nonverbal skills in PE classes to improve through curriculum learning.

There has been no supportive scientific evidence for the claim that the influences PE has on students' social skills will occur automatically. It is not the case that participation in PE will necessarily bring about a positive contribution to students' social skills development. There may be certain factors that contribute to students' social skills development in the complex context of PE. Identifying and understanding the factors that are associated with students' social skills are critical to effective development and efficient implementation of models and programs in the class. Therefore, exploring factors determining a pedagogical method to be effective in delivering the desired learning outcomes in teaching social skills should be the more relevant concerns for PE researchers and educators in current research. Studies in Chapter 2 were conduced to explore these factors. Studies in Chapter 2 contributed to efforts to explore factors that influence college students' social skills, and provide educators with methods for effective development and efficient implementation of models and programs in PE classes.

The beliefs about the characteristics and the degree of emotional attraction of the subject matter that students possess influence their achievement in all areas. Investigating the cognitive aspect of attitude may provide insight into PE from the students' perspectives and

reflect the quality of materials provided by PE from several other aspects. Examining students' cognitive aspect of attitudes toward PE can help us explore the constructional factors of PE that contribute to students' social development and provide useful information for researchers and educators interested in improving or reforming PE programs. In ***Study 2***, the cognitive aspect of students' attitudes was used as a tool to examine the variable factors of PE that contributed to students' social skills development in PE classes. Students' positive attitudes toward their self-actualization and social development, the PE teacher, and PE teaching were found to influence their nonverbal skills in class. PE has the potential to provide students with positive sport experiences by bringing them together in shared interest, providing a sense of belonging to a team, offering opportunities for developing valued competencies and capabilities, and developing social networks and community cohesion (Bailey, 2005). Therefore, PE programs designed to lead students involving various social interaction have advantages for students' social development.

Researchers and educators should consecutively develop and implement high-quality programs for students' social development in PE classes. Teacher's actions in organizing the PE process, such as preparing syllabi, choosing teaching strategies, and managing classes, determine other factors that can influence students' social development. Besides parents, teachers are most frequently identified by youth as having the strongest influence on their beliefs and actions (Smokowski, Reynolds, & Bezruczko, 1999; Winfield, 1991). Teachers should realize their great potential in influencing students' behavior and take care of their actions when teaching PE. The actions of teachers largely determine whether or not students can receive the positive influences of class. Teachers' behaviors could affect students' enjoyment (Cai, 1998; Cecchini et al., 2001; Hashim, Grove, & Whipp, 2008) and

willingness for self-disclosure (Anita, Karen, & Mark, 1977) in PE, which can influence students' social skills in the classes. Students can learn and copy teacher's behaviors during the learning process. Therefore, teachers should carefully perform their behaviors during the lessons. Students' social development is one aspect of the outcome delivered through PE teaching. PE teaching should choose appropriate programs, create a positive learning environment, and use suitable teaching strategies to provide students with positive learning experiences.

PE offers different experiences from those provided in other curriculum areas. Contexts that emphasize positive sport experiences and that are managed by committed and trained teachers are fundamental for realizing students' physical and psychosocial development. ***Study 3*** explored sport experiences that had a significant influence on students' nonverbal skills. People can gain confidence from overcoming obstacles or extreme challenges and can be motivated to persist at an activity (Bandura, 1997). PE provides an environment for students to join sport activities in which they can consciously seek out and test their abilities against what they perceive as more challenging competition. Teachers should carefully construct a challenging environment with opportunities for success in that environment. PE can provide challenges for students toward self, objects, and environment (Kang & You, 2003). Te challenge toward "self" implies an effort to break a record (e.g., running record) established by oneself or others, or represents the effort to acquire the best possible form and posture (e.g., dance & gymnastics); the challenge toward "objects" refers to challenges involving activities with objects such as sporting goods or equipment (e.g., football & jump roping); the challenge toward "environment" refers to challenging personal competence and confidence in a difficult and unfamiliar environment (e.g., mountain

climbing & orienteering). Whatever the challenge may be targeted towards, the common form is body movement activity. The movement forms that constitute challenge vary with age, gender, interest, and physical activity. According to Jewett et al. (1995), there are four criteria for selecting movement activities: relevance to goals and desired outcomes, qualitative aspects of the experience, individual appropriateness, and practicality. Depending on the experiences and the extent of students' learning, three types of strategies that are direct, shared, and guided, can be used to apply challenges in PE (Kang & You, 2003).

In the direct strategy, teachers select and design the basic level of challenge activities for students; in the next level of using the shared strategy, teacher and students choose challenge activities together; in the upper level, teachers can use guided strategies to guide students to set their own goals and plan learning activities. Self-disclosure is a process by which a person shares personal feelings, thoughts, experiences, and information with others (Derlega et al., 1993). The ability to reveal one's thoughts and feelings to others is a basic social skill for developing interpersonal relationships (Altman and Taylor, 1973). Dolgin and Minowa (1997), through a historical review of research about gender difference of self-disclosure found that women tend to disclose more than men, and that they are more frequently the recipients of other's disclosure as well. This may explain the result of this study; that is, if more opportunities are provided to students to disclose information about them in PE, female students will more likely have the benefit of their social skills development. According to Enomoto (1987), both male and female students show higher self-disclosure to their best friend of the same sex. Thus, teachers may lead students to choose their group members themselves when organizing group learning or cooperative

games in PE classes. Besides, Anita et al. (1977) also found that teachers' communication behaviors could influence students' willingness to self-disclose. Therefore, teachers should take care of their communication behaviors when teaching PE. In PE, enjoyment is the affective state or process of experiencing pleasure (Lorusso et. al, 2013). Physical activity is a venue for students to reach their social development. Wallhead and Buckworth (2004) in their review of studies, which explored the role of PE in promoting youth physical activity, revealed stronger associations between enjoyment and physical activity levels in female students than in male students. Achievement behavior, which motivates and provides perceptions of competence and self-determination, is the source of enjoyment (Deci & Ryan, 1985). Success in sport activities leads students to perceive PE classes as fun and enjoyable (Portman, 2003). High activity levels and indirect teaching methods may result in students' enjoyment. (Clumpner, 1979). Sport enjoyment has been found to be associated with satisfaction of motor performance and higher degrees of perceived physical challenge and competence (Boyd and Yin, 1996; Brustad, 1988). Teacher behaviors impact student learning and achievement (Engstrom, 2000). Chalmers (1992) found that teachers' exerted a major influence on female students' enjoyment of PE. The learning of sport-related skills combines a dynamic balance of challenge, skills, and enjoyment (Jackson & Eklund, 2004; Kretchmar, 2005). PE becomes a positive experience when students acquire new technical skills, have fun, participate in activities with their friends, and receive teachers' encouragement and praise (Charlotte & Marco, 2000; Portman, 2003). Students who perceived the learning as successful in PE classes rated their experiences as good (Shekitka, 2002; Portman, 2003). Teachers play an important role in implementing a successful PE curriculum. A teacher must consider a number of students' characteristics

including their ability level, gender, special needs, and past experience in PE when planning and implementing the curricula (Mitchell & Kernodle, 2004). Furthermore, teachers need to increase awareness and self-monitoring of both overt and covert behaviors.

Students are the center of PE. Teachers make all the aspects of PE focus on students' learning outcomes, such as physical and psychosocial development. Therefore, among other factors in PE, PE teachers may be the key factor that contributes to students' social development. Teacher's behaviors are positively associated with students' enjoyment in PE (Cai, 1998; Cecchini et al., 2001; Hashim, Grove, & Whipp, 2008). ***Study 4*** explored the aspects of teachers' social skills that had a positive influence on students' nonverbal skills development. Teachers should be aware of their role and of their control behaviors in influencing students' social skills development. In China, PE teachers have been trained at normal universities or given high level specialized PE instructions (Zhou, 2006). A "normal university" is a university that trains students to become teachers, including PE teachers at all educational levels, while in other countries, there may be an institute called a "Teachers College" located within a university. PE teachers must specialize in at least one sport-related teaching field and understand other fields so that they can teach courses within almost all specializations. For college PE teachers, their teaching loads range from four to eight classes per week. Based on the national policy and school context, each college can develop and implement PE syllabi independently, and choose textbooks and teaching materials according to school specialties. Nevertheless, all schools' syllabi have a common formulation that besides students' physical development, PE teachers have the duty to teach social skills and ethics. To achieve these tasks teachers must overcome serious obstacles during the teaching process. While a wide range of physical activities in PE seem to

provide a valuable environment for students' social development, as far as we know, few teachers integrate social education into the teaching process of PE. The outcomes of students' social learning in PE class will depend on the teachers' abilities to plan and teach the curriculums. Teachers play an important role in designing and implementing a successful PE program. Teachers should be suitably trained so that they have the capability to choose or design programs, and implement the programs in teaching. Teachers should change the role of leading students to guiding them so that students can actively join activities and social connections, rather than passively absorb the curriculum. They should always behave carefully in order to act as appropriate models. Teachers should believe and keep in mind that that they can make a great impact on students' social development if they implement appropriate PE programs. They should create a positive learning environment in which students can feel comfortable and confident. Teachers should also increase awareness and self-monitoring of their control behaviors.

Determining what pedagogical approach will be most effective in delivering the desired learning outcomes of social development depends on the context and content of PE. Games can play an important role in a comprehensive PE program. ***Study 5*** explored the eight-week program, using combined games, and found that by carefully designing and performing them in classes, the games contributed to the enhancement of students' social skills. In China, the important role that PE has in promoting psychosocial competence is exemplified in the syllabus of college PE. Schools provide a volume of weekly PE. Universities in China run a two-hour PE lesson once per week. The lesson is compulsory for all students in their first and second school years. The PE classes vary across sports such as basketball, volleyball, soccer, aerobics, badminton, and tennis, to name a few.

Students can choose one sport-based class for the educational year. To maximize the success that PE has it is important that students perceive PE in a positive manner and enjoy being physically active. Learning sport-related skills can combines a dynamic balance of challenge, skill, and enjoyment and will sustain a physically active lifestyle (Jackson & Eklund, 2004; Kretchmar, 2005). Games should be considered a tool to accomplish the objectives of PE. A game program should make students experience success and enjoyment when participating. Students should be grouped by skill level or must be allowed to choose their own partners or teams. If they are carefully designed to connect with certain physical skills for students to practice, and consist of specific rules, they can contribute to students' physical and social development and make the PE curriculum fun. Therefore, games may be the best teaching strategies associated with implementing physical practices and teaching social behaviors. It is important for teachers and educators to understand the role games play in PE classes and incorporate games into courses associated with the PE program. Teachers should have a good understanding of what makes for good practice when they are teaching games.

There are limitations in this research. First, the 11-SSI was limited by small number size of items. It may due to the imperfect development and differences in culture toward the items. In future, it is better to develop a native measurement based on the feature of culture and PE curriculum. Second, students' sport experiences discussed in ***Study 4*** were not inclusive. PE class environment is particularly complex, and sport activities in PE are complicated processes in which students experience multiple changes of their physical and psychosocial status. Therefore, there may be other sport experiences that directly or indirectly affect students' social skills. An effort has been made in this study to assess the

impact of sport experiences on students' social skills in PE classes; however, further research in this field need to be conducted to explore the contribution of other sport experiences to social skills development. In addition, this thesis was limited by using only quantitative approach throughout all studies. In future studies, qualitative approach should be used in this research filed.

References

Aikawa, A. (2011). Development of a self-report scale to measure teacher's social skills. *Bulletin of Tokyo Gakugei University, Educational Sciences, 62*(1), 133-148.

Altman, I., & Taylor, D. A. (1973). *Social Presentation: The Development of Interpersonal Relationships.* New York: Holt, Rinehart and Winston.

Ajzen, I. (1993). Attitude theory and the attitude-behavior relation. In D. Krebs, & P. Schmidt (Eds.), *New Directions in Attitude Measuremen*t (pp. 41-57). New York: de Gruyter.

Anita, E. W., Karen, S. G., & Mark, J. N. (1977). The impact of teacher behavior, teacher sex, and student sex upon student self-disclosure. *Contemporary Educational Psychology, 2,* 124-132.

Archer, D., & Akert, R. M. (1977). Words and everything else: verbal and nonverbal cues in social interpretation. *Journal of Personality and Social Psychology, 35,* 443-449.

Arentt, M. (2001). The effect of sport-based physical education lessons on physical activity. *Physical Educator, 58*(3), 158-168.

Bailey, R. (2005). Evaluating the relationship between physical education, sport and social inclusion. *Educational Review, 57*(1), 71-90.

Bandura, A. (1997). *Self-efficacy: The Exercise of Control.* New York: Freeman.

Baron, R. A., & Markman, G. D. (2003). Beyond social capital: the role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing, 18,* 41-46.

Beauchamp, M. H., & Anderson, V. (2010). SOCIAL: an integrative framework for the development of social skills. *Psychological Bulletin, 136,* 39-64.

Bennett, G., & Hastie, P. (1997). A sport Education curriculum model for a collegiate physical activity course. *Journal of Physical Education, Recreation and Dance, 68,* 39-44.

Biddle, S. H. J., & Mutrie, N. (2001). *Psychology of Physical Activity: Determinants, Well-Being and Interventions.* New York, NY: Routledge.

Boyd, M. P., & Yin, Z. N. (1996). Cognitive-affective sources of sport enjoyment in

adolescent sport participants. *Adolescence, 31,* 383-395.

Brustad, R. J. (1988). Affective outcomes in competitive youth sport: the influence of interpersonal and socialization factors. *Journal of Exercise and Sport Psychology, 10,* 307-321.

Buchanan, A. M. (2001). Contextual challenges to teaching responsibility in a sports camp. *Journal of Teaching in Physical Education, 20,* 155-171.

Bucher, C. A., & Wuest, D. A. (1999). *Foundations of Physical Education and Sport.* The McGraw-Hill Companies, New York.

Cai, S. X. (1998). Student enjoyment of physical education class in three teaching style environments. *Education, 118,* 412-421.

Carlson, T. B. (1995). We hate gym: student alienation from physical education. *Journal of Teaching in Physical Education, 14,* 467-471.

Carpenter, E. J. (2010). The Tactical Games Model Sport Experience-An examination of Student Motivation and Game Performance during an Ultimate Frisbee Unit. Doctor dissertation, University of Massachusetts.

Cecchini, J. A., Gonzalez, C., Carmona, A. M., Arruza, J., Escarti, A., & Balague, G. (2001). The influence of physical education teacher on intrinsic motivation, self-confidence, anxiety, and pre- and post-competition mood states. *European Journal of Sport Science, 1,* 1-11.

Chalmers, S. (1992). The influence of teachers on young women' experiences of physical education. *New Zealand Journal of Health, Physical Education and Recreation, 25*(4), 3-6.

Charlotte, B., & Marco, O. (2000). The physical education experience and its impact on the lifestyles of students outside school. *Physical and Health Education Journal, 66*(4), 41.

Chen, L., Zeng, M. (2017). The Present situation of local college students' mobile phone addiction in frontier minority areas. *China Journal of Health Psychology, 25*(9), 1400-1403.

Cheng, K. (2005). *On Research about the Characteristics of Social Skills Development of College Students in Changsha*. Master's Dissertation, Hunan Normal University, China.

China Internet Network Information Center (CNNIC). (2016). *The 38th China Statistical*

Report on Internet Development.
http://www.cnnic.cn/gywm/xwzx/rdxw/2016/201608/t20160803_54389.htm

Christodoulides, E., Derri, V., Tsivitanidou, O., & Kioumourtzoglou, E. (2012). Differences in social skills of Cypriot students in the physical education class. *Journal of Physical Education and Sport, 12*(3), 371-380.

Clark, L. A., & Watson, D. (1995). Constructing validity: basic issues in objective scale development. *Psychological Assessment, 7*(3), 309-319.

Clumpner, R. (1979). Maximizing participation and enjoyment in the PE classrooms. *Journal of Physical Education, Recreation and Dance, 50*(1), 59-61.

Coleman, W. L., & Lindsay, R. L. (1992). Interpersonal disabilities: social skill deficits in older children and adolescents: their description, assessment, and management. *The Pediatric Clinics of North America, 39*(3), 551-567.

Cooper, J. O., Heron, T. E., & Heward, W. L. (2007). *Applied Behavior Analysis.* Upper Saddle River, NJ: Merrill/Prentice Hall.

Danish, S., Petitpas, A., & Hale, B. (1993). Life development interventions with athletes: life skills through sports. *The Counseling Psychologist, 21*, 352-385.

Darts, P., & Pangrazi, R. (2001). *Dynamic Physical Education for Secondary School Students* (4th ed.). Boston: Allyn and Bacon.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-determination in Human Behavior.* New York: Plenum Press.

Del Prette, Z. A. P., & Del Prette, A. (2001). *Inventory of Social skills: Application Manual, Calculation and Interpretation.* São Paulo: Casa do Psychologist.

Demir, M., Jaafar, J., Bilyk, N., & Ariff, M. R. (2012). Social skills, friendship and happiness: a cross-cultural investigation. *The Journal of Social Psychology, 152*, 379-385.

Deng, K., Long, C., Xu, L., & Song, H. (2014). Analysis and countermeasures on the ability of independent college students' social adaptation. *Bulletin of Sport Science and Technology, 22*(7), 25-27.

Dereli, E., & Karakuş, Ö. (2011). An examination of attachment styles and social skills of university students. *Electronic Journal of Research in Education Psychology, 9*(2),

731-744.

Derlega, V., Metts, S., Petronio, S., & Margulis, S. T. (1993). *Self-disclosure*. SAGE Publications.

Dishman, R., & Dunn, A. (1988). Exercise adherence in children and youth: implications for adulthood. In R. Dishman (Ed.), *Exercise Adherence: It's Impact on Public Health* (pp. 155-200). Champaign, IL: Human Kinetics.

DiTommaso, E., Brannen-McNulty, C., Ross, L., & Burgess, M. (2003). Attachment styles, social skills and loneliness in young adults. *Personality and Individual Differences, 35*, 303-312.

Dolgin, K. G., & Minowa, N. (1997). Gender difference in self-presentation: a comparison of the roles of flatteringness and intimacy in self-disclosure to friends. *Sex Roles, 36*, 371-380.

Duncan, R. O., & Watson, H. B. (1960). *Introduction to Physical Education.* New York: The Ronald Press Company.

Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes.* Orlando, FL: Harcourt Brace Jovanovich.

Eldar, E., Morris, D., DaCosta, R., & Wolf, T. (2006). "Are You Square?" a game for developing self-control and social skills. *Strategies, 19,* 17-21.

Engstrom, D. (2000). Correlations between teacher behaviors and student evaluations in high school physical education. *Physical Educator, 57*(4), 193-201.

Ennis, C. D. (1996). Students' experiences in sport-based physical education: (more than) apologies are necessary. *Quest, 48*(4), 453-456.

Enomoto, H. (1987). Self-disclosure patterns of college students and their gender differences in the patterns. *The Japanese Journal of Psychology, 58,* 91-97.

Feşteu, D., (1998). Social Learning through Physical Education Lessons in Romania. Doctorate Thesis, Brunel University, UK.

Fraser-Thomas, J., & Cote, J. (2009). Understanding adolescents' positive and negative developmental experiences in sport. *The Sport Psychologist, 23,* 3-23.

Freeman, J. F. (2000). The essential context for gifts and talents. In K. A. Heller, F. J. Monks, R. Sternberg, & R. Subotnik (Eds.), *International Handbook of Research and*

Development of Giftedness and Talent (pp. 573-585). Oxford: Pergamon Press.

Friedman, H. S., Prince, L. M., Riggio, R. E., & DiMatteo, M. R. (1980). Understanding and assessing nonverbal expressiveness: The Affective Communication Test. *Journal of Personality and Social Psychology, 39*, 333-351.

Glass, C. R., Merluzzi, T. V., Biever, J. L., & Larsen, K. H. (1982). Cognitive assessment of social anxiety: development and validation of a self-statement questionnaire. *Cognitive Therapy and Research, 6,* 37-55.

Gonza`lez, V. E. (1992). *On Human Attitudes: Root Metaphors in Theoretical Conceptions.* Go¨teborg, Sweden: Vasastadens Bokbinderi AB.

González, M. C., Regalado, M. M., & Guerrero, J. T. (2010). Teaching and learning social values: experience of resolution of conflicts in the classroom of physical education across the learning of social skills. *Journal of Human Sport and Exercise, 5,* 497-506.

Graham, G. (1995). Physical education through students' eyes and in students' voices: implications for teachers and researchers. *Journal of Teaching in Physical Education, 14*(4), 478-482.

Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: predictive validity and the contribution of additional variables. *Journal of Sport and Exercise Psychology, 24,* 3-32.

Hannon, J. C., & Ratliffe, T. (2004). Cooperative learning in physical education. *Strategies, 17,* 29-32.

Hashim, H. A., Grove, J. R., & Whipp, P. (2008). Testing a model of physical education enjoyment and physical activity among high school students. *Journal of Research in Health, Physical Education, Recreation, Sport and Dance, 3,* 95-99.

Hargie, O. (1986). Communication as skilled behaviour. In O. Hargie (Ed.), *A Handbook of Communication Skills* (pp. 12). Croom Helm, London/New York University Press, NY.

Hargio, O., Saunders, C., & Dickson, D. (1994). *Social Skills in Interpersonal Communication* (3rd ed.). Routledge, London and New York.

He, M., & Xiao, H. (2016). A Survey on college students' use of mobile phone and countermeasures for bad habit - Taking a medical college for example. *Journal of Xinyu*

University (China), 21(5), 101-104.

Hilgard, E. R. (1980). The trilogy of mind: cognition, affection, and conation. *Journal of the History of the Behavioral Sciences, 16*(2), 107-117.

Hommes, M. A., & Van der Molen, H. T. (2012). Effects of a self-instruction communication skills training on skills, self-efficacy, motivation, and transfer. *European Journal of Open, Distance and E-Learning, 1,* 1-11.

Horowitz, L. M., Rosenberg, S. E., Baer, B. A., Ureno, G., & Villasenor, V. S. (1988). Inventory of interpersonal problems: psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology, 56,* 885-892.

Horwitz, I. B., Horwitz, S.K., Brandt, M. L., Brunicardi, F. C., Scott, B. G., & Awad, S. S. (2007). Assessment of communication skills of surgical residents using the Social Skills Inventory. *The American Journal of Surgery, 194*, 401-405.

Hou, G. M., Zhang, H. T. (2011). Research and inspiration of relationship between college PE courses and undergraduates' social skills. *Journal of Shandong Institute of Physical Education and Sports, China, 27*(12), 90-92.

Jackson, S. A., & Eklund, R. C. (2004). The flow scales manual. Morgantown, WV: *Fitness Information Technology.*

Jewett, A. E., Bain, L. L., & Ennis, C. D. (1995). *The Curriculum Process in Physical Education.* Dubuque, IA: WC Brown.

Jiang, Y., & Bai, X. (2014). College students rely on mobile internet making impact on alienation: the role of society supporting systems. *Psychological Development and Education (China), 5*, 540-549.

Kang, S., & You, J. (2003). Developing a challenge program in school physical education. *Physical Educator, 60,* 20-27.

Kelly, J. A. (1982). *Social Skills Training: A Practical Guide for Interventions.* Springer, New York.

Kikuchi, A. (2007). *Measure Social Skill: Handbook of Kiss-18.* Toukyou: Sankou Digital Production Press, pp. 110-115.

Kretchmar, R. S. (2005). *Practical Philosophy of Sport and Physical Activity.* Champaign: Human Kinetics.

Laker, A. (2000). *Beyond the Boundaries of Physical Education*. London, New York: Routledge Falmer.

Laushey, K. M., & Heflin, J. (2000). Enhancing social skills of kinder-garden children with autism through the training of multiple peers as tutors. *Journal of Autism and Developmental Disorders, 30,* 183-193.

Li, F., Chen, J., & Baker, M. (2014). University students' attitudes toward physical education teaching. *Journal of Teaching in Physical Education, 33*(2), 186-212.

Li, J., Ji, C., & Wu, X. (2016). Study on the influence of smart phone upon the interpersonal communication of university students. J*ournal of Hebei University of Economic and Business (China)*, *16*(2), 9-11.

Liu, L. (2012). Survey and thinking on interpersonal communication among college students. *Journal of Ankang University (China)*, *24*(4), 108-111.

Lorusso, J. R., Pavlovich, S. M., & Lu, C. L. (2013). Developing student enjoyment in physical education. *Physical and Health Education Journal, 79*(2), 14-18.

Lv, L., & Takami, K. (2015). The relationship between social skills and sports activities among Chinese college students. *Psychology,* 6, 393-399.

Mao, X. H., Daibo, I. (2006). The development of Chinese university-students social skills inventory. *Chinese Mental Health Journal, 20*(10), 679-683.

Maureen, R. W., Nicole, D. B., & Lindsay, E. K. (2014). Assessing impact of physical activity-based youth development programs: validation of the Life Skills Transfer Survey (LSTS). *Research Quarterly for Exercise and Sport, 85,* 263-278.

McDonald, R. P. (1999). *Test theory: A unified treatment.* Mahwah, NJ: Lawrence Erlbaum.

McKeachie, W. J. (1987). Cognitive skills and their transfer: discussion. *International Journal of Educational Research, 11*(6), 707-712.

McGuire, W. J. (1989). *The Structure of Individual Attitudes and Attitude System.* In A. R. Pratkanis, S. J.

McGuire, J., & Priestley, P. (1981). *Life After School: A Social Skills Curriculum.* Pergamon, Oxford.

Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational Measurement* (3rd ed.) (pp.

13-104). New York, NY: Macmillan.

Metzler, M. W. (2011). *Instructional Models for Physical Education* (3rd Ed.). Scottsdale, AZ: Holcomb Hathaway.

Ministry of Education of the People's Republic of China (MEPRC). (2002). *Guidelines for National College PE Curriculum* (全国普通高等学校体育课程教学指导纲要).

Mitchell, M., & Kernodle, M. (2004). Using multiple intelligences to teach tennis. *Journal of Physical Education, Recreation and Dance, 75*(8), 27-30.

Mohsin, S. M. (1990). *Attitude: Concept, Formation and Change.* Darya Ganj, New Delhi: Wiley.

Morris, G. S. D. (2003). Social responsibility through physical activity. In A. Laker (Ed.), *The Future of Physical Education: Building a New Pedagogy* (pp. 54-81). London: Routledge.

Musashi, Y. (2012). The Relationship between Social Skills and School Adjustment in University Students. *The Journal of Morioka University, 29,* 57-64.

National Mental Health and Education Center (NMHEC) (2002): *Social Skills: Promoting Positive Behavior, Academic Success and School Safety.*
http://www.naspcenter.org/fastsheets/socialskills_fs.html

Oppenheim, A. N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement.* New York: St. Martin's Press.

Papaioannou, A. (1994). Development of a questionnaire to measure achievement orientations in physical education. *Research Quarterly for Exercise and Sport, 65*(1), 11-20.

Pearman, S., & Valois, R. (1997). The impact of a required college health and physical education course on the health status of alumni. *Journal of American College Health, 46,* 77-85.

Perez, J. E., Riggio, R. E., & Kopelowicz, A. (2007). Social skill imbalances in mood disorders and schizophrenia. *Personality and Individual Differences, 42*(1), 27-36.

Peterson, S. E., Miller, J. A., (2004). Comparing the quality of students' experiences during cooperative learning and large-group instruction. *The Journal of Educational Research, 97*(3), 123-133.

Phillips, S., & Silverman, S. (2012). Upper elementary school attitudes toward physical education. *Measurement in Physical Education and Exercise Science, 16,* 316-327.

Portman, P. A. (2003). Are physical education class encouraging students to physically active-Experience of ninth graders in their last semester of required physical education. *Physical Educator, 60*(3), 150-161.

Qian, J. (2012). *Validity of the Chinese Version of the Social Skills Inventory for In-Service Staff.* Master's Dissertation, East China Normal University, China.

Qin, L. (2013). *Study on the Relationship between College Students' Social Adaptation Ability and Parenting Style, Occupation Tendency.* Master's Dissertation, Chongqing Normal University, China.

Ravizza, D. M., & Stratton, R. K. (2007). Students' perceptions of physical education teachers' caring. *Research Quarterly for Exercise and Sport, 78*(1), 70-72.

Reddy, S., & LaBarbera, P. (1985). Hierarchical models of attitude. *Multivariate Behavioral Research, 20,* 451-471.

Riggio, R. E. (1986). Assessment of basic social skills. *Journal of Personality and Social Psychology, 51,* 649-660.

Riggio, R. E. (1989). *Manual of the Social Skills Inventory.* Palo Alto, CA: Consulting Psychologists Press.

Riggio, R. E., Throckmorton, B., & De Paola, S. (1990). Social skills and self-esteem. *Personality and Individual Differences, 11,* 799-804.

Riggio, R. E., & Carney, D. C. (2003). *Social Skills Inventory Manual* (2ed ed.). Redwood City, CA: MindGarden.

Rink, J. (2006). *Teaching Physical Education for Learning* (5th ed.). Boston: McGraw-Hill.

Schlundt, D., & McFall, R. (1985). New directions in the assessment of social competence and social skills. In L. LAbate, & M. Milan (Eds.), *Handbooks of Social Skills Training and Research* (pp. 23). Wiley, New York.

Seeman, M. (1993). A historical perspective on attitude research. In D. Krebs, & P. Schmidt (Eds.), *New Directions in Attitude Measurement* (pp. 3-20). New York: de Gruyter.

Segrin, C. (2000). Social skills deficits associated with depression. *Clinical Psychology*

Review, 20, 379-403.

Segrin, C., & Taylor, M. (2007). Positive interpersonal relationships mediate the association between social skills and psychological well-being. *Personality and Individual Differences, 43,* 637-646.

Shang, Y. (2014). An analysis on the mobile phone dependence based on a survey in Yulin University. *Journal of Yulin University (China), 24*(3), 103-105.

Shekitka, M. (2002). Physical education experiences and lifelong activity. *Journal of Physical Education, Recreation and Dance, 73*(6), 10.

Shimamoto, K., & Ishii, M. (2007). A study of influence on life skills of sport experience in physical education classes in college students. *Japanese Journal of Sport Psychology, 34,* 1-11.

Siedentop, D. (1991). *Developing Teaching Skills in Physical Education*. Mountain View, CA: Mayfield.

Siedentop, D., & Deborah, T. (2000). *Developing Teaching Skills in Physical Education* (4th ed.). Mountain View, CA: Mayfield.

Siedentop, D., Hastie, P. A., & van der Mars, H. (2004). *Complete Guide to Sport Education.* Champaign, IL: Human Kinetics.

Silverman, S., & Subramaniam, P. R. (1999). Student attitude toward physical education and physical activity: a review of measurement issues and outcomes. *Journal of Teaching in Physical Education, 19*(1), 97-125.

Slentz, T. C., & Chase, M. A. (2003). Climbing mount everest: a new challenge for physical education adventure education. *Journal of Physical Education, Recreation and Dance, 74,* 41-43, 54.

Smith, B. T., & Karp, G. G. (1997). The effect of a cooperative learning unit on the social skill enhancement of third grade physical education students. *Proceeding from Annual Meeting of the American Educational Research Association.* Chicago, IL.

Smith, M. A., & St. Pierre, P. E. (2009). Secondary students' perceptions of enjoyment in physical education: an American and English perspective. *The Physical Educator, 66*(4), 209-221.

Smokowski, P. R., Reynolds, A. J., & Bezruczko, N. (1999). Resilience and protective

factors in adolescence: an autobiographical perspective from disadvantaged youth. *Journal of School Psychology, 37,* 425-448.

Snyder, M. (1974). The self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30,* 526-537.

Sollerhed, A. C., Ejlertsson, G., & Apitzsch, E. (2005). Predictors of strong sense of coherence and positive attitudes to physical education in adolescents. *Scandinavian Journal of Public Health, 33*(5), 334-342.

Solmon, M. A. (2003). Student issues in physical education classes: attitudes, cognition, and motivation. In S. J. Silverman, & C. D. Ennis (Eds.), *Student Learning in Physical Education: Applying Research to Enhance Instruction* (pp. 147-163). Champaign, IL: Human Kinetics.

Subramaniam, P. R., & Silverman, S. (2000). Validation of scores from an instrument assessing student attitude toward physical education. *Measurement in Physical Education and Exercise Science, 4*(1), 29-43.

Subramaniam, P. R., & Silverman, S. (2007). Middle school students' attitudes toward physical education. *Teaching and Teacher education, 23,* 602-611.

Sugawara, K. (1994). Process of preparing a psychosocial scale. In M. Yamamoto, & Y. Matsui (Eds.), *File of Psychosocial Scale* (pp. 637-652). Tokyo: Kakiuchi-Shuppan.

Sugiyama, Y., Shibukura, T., Nishida, T., Ito, T., Sasaki, B., & Isogai, H. (2010). Development of scales for psychosocial skills in physical education and life skills. *Journal of Health Science, 32,* 77-84.

Sugiyama, Y. (2012). *Process of Acquisition, Improvement, and Development of Nonverbal Skills through Physical Education* (Grant No. 21500564). Research Report, JSPS KAKENHI.

Svoboda, B. (1994). *Sport and Physical Activity as a Socialization Environment: Scientific Review Part 1.* Strasbourg, France: Council of Europe.

Thompson, L., Mandigo, J., & Halas, J. (1998). What do pre-service elementary teachers perceive as positive and negative experiences in physical education? *Physical and Health Education Journal, 64*(4), 26-29.

Tong, X. (2013). *The Effect of Mobile Phone Network on College Students' Interpersonal*

Contact and Countermeasure Research. Material Dissertation, Dalian University of Technology, China.

Vidoni, C., & Ulman, J. D. (2012). The fair play game: Promoting social skills in physical education. *Strategies: A Journal for Physical and Sport Educators, 25*(3), 26-30.

Wallhead, T., & O'Sullivan, M. (2005). Sport education: physical education for the new millennium? *Physical Education and Sport Pedagogy, 10,* 181-210.

Wang, X. L., & Sugiyama, Y. (2014). Enhancing social skills through college physical education. *Journal of Physical Education and Sport, 14*(2), 158-163.

Wang, Y. (2012)[a]. *Research on the Countermeasures of Social-Adaptability for the Post-90s Students.* Master's Dissertation, Harbin University of Science and Technology, China.

Wang, W. (2012)[b]. I*nter-Personal Problems in Mobile-Addiction College Students: An Exploration Based on Emotion Expression and Emotion Recognition.* Master' Dissertation, Zhejiang Normal University.

Wang, Y. (2014)[a]. *The Research on the Effect of Mobile on College Students' Interpersonal Contact.* Master's Dissertation, Tianjin Normal University, China.

Wang, Y. Y. (2014)[b]. *The Effect of Mobile Phone Network on College Students' Interpersonal Communication Research.* Mater's Dissertation, Anhui Agricultural University, China.

Ward, P. (1999). The Saber-tooth project: curriculum and workplace reform in middle school physical education. [Monograph]. *Journal of Teaching in Physical Education, 4,* 379-489.

Wei, Z. (2008). *Experimental Study about Influences of Cooperative Learning Pattern on College Students' Social Adaptation Ability in Physical Education.* Master's Dissertation, Yunnan Normal University, China.

Wei, M. et al. (2013). Interpersonal skills of undergraduate in medical university. *China Journal of Health Psychology*, *21*(9), 1416-1418.

Weiss, M., & Bredemeier, B. (1990). Moral development in sport. In: K. Pandolf, & J. Hollowszy (Eds.), *Exercise and Sport Sciences Reviews-Volume 18* (pp. 331-374). Baltimore, Md: Williams and Wilkins.

Wenzel, A., Graff-Dolezal, J., Macho, M., & Brendle, J. R. (2005). Communication and social skills in socially anxious and nonanxious individuals in the context of romantic relationships. *Behaviour Research and Therapy, 43,* 505-519.

Wexley, K. N., & Latham, G. P. (1991). *Development and Training Human Resources in Organizations* (2nd ed.). Glenview, Illinois: Scott, Foresman.

Winfield, L. F. (1991). Resilience, schooling, and development in African-American youth: a conceptual framework. *Education and Urban Society*, *24,* 5-14.

Xia, L. (2013). *The Current Situation and Influence of Contemporary University Students' Mobile Phone Use - Take Two Universities in Wuhan as Example.* Master's Dissertation, HuaZhong University of Science and Technology, China.

Xia, M., & Yang, M. (2013). College students' use of social networks and its influence on social communication ability. *China Higher Medical Education, 6,* 9-10.

Zeng, H. Z., Hipscher, M., & Leung, R. W. (2011). Attitudes of high school students toward physical education and their sport activity preferences. *Journal of Social Sciences, 7*(4), 529-537.

Zhang, M. et al. (2017). An analysis of the current situation and influencing factors of the addiction of smartphone in Wuhu city. *Journal of Changzhi Medical College (China), 31*(4), 258-261.

Zhao, Q. (2012). *Analysis of Current Situation of Contemporary College Students' Interpersonal Interaction and Empirical Research of the Development of Contemporary College Students' Interpersonal Interaction Ability.* Master's Dissertation, Shandong University, China.

Zhou, J., & Wang, L. (2013). The urgency of reinforcing the communicative ability of university students - The survey and analysis of university students' communicative ability. *Journal of Hubei University of Technology (China), 28*(3), 113-118.

Zhou, N. (2006). *An International Perspective on Teacher Education: Teacher Education Reform, Teacher Professional Standard and School-based Teacher Development.* Shanghai, China: East China Normal University Press.

Zhuang, M. K., Gan, Y. Q., & Liu, H. H. (2004). The revision and preliminary application of social skills scale. *Chinese Mental Health Journal, 18*(11), 755-759.

Zimmerman, M. (1990). Toward a theory of learned hopefulness: a structural model analysis of participation and empowerment. *Journal of Research in Personality, 24*, 71-86.

Zou, Y. et al. (2017). The status of mobile phone addiction and its relationship with personality in the college students of Hainan. *Chinese Journal of Health Psychology, 25*(9), 1372-1375.

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Appendices

1. 11-SSI

	完全不像我	有一点像我	比较像我	非常像我	完全像我
1. 不高兴或沮丧时，我能表现得让同学和老师很难觉察出来。	1	2	3	4	5
2. 若有同学注意我，我能立即觉察到。	1	2	3	4	5
3. 受到批评或责备让我觉得很不舒服。	1	2	3	4	5
4. 我善于用眼神作表达。	1	2	3	4	5
5. 在全班同学面前讲话对我来说是件困难的事。	1	2	3	4	5
6. 我认为自己不太合群。	1	2	3	4	5
7. 即使内心很紧张，我也能表现得很淡定。	1	2	3	4	5
8. 无论同学或老师怎么掩饰自己，我似乎总能觉察出他/她的真实情感。	1	2	3	4	5
9. 我不喜欢成为同学和老师注意的焦点。	1	2	3	4	5
10. 我常与关系要好的同学有肢体的碰触。	1	2	3	4	5
11. 我很少说话。	1	2	3	4	5

2. SATPE

	非常不同意	很不同意	有点同意	比较同意	很同意	非常同意
1. 体育课有助于增进我的体质健康。	1	2	3	4	5	6
2. 体育课有助于发展我的运动技能。	1	2	3	4	5	6
3. 体育课有助于减轻我的学业压力。	1	2	3	4	5	6
4. 体育课有助于提升我的动作表现。	1	2	3	4	5	6
5. 体育课能使我获得自信。	1	2	3	4	5	6
6. 体育课能激发我参与体育活动的动机。	1	2	3	4	5	6
7. 体育课能使我结识更多的朋友并相互学习。	1	2	3	4	5	6
8. 体育课能促进我的个人成长。	1	2	3	4	5	6
9. 体育课能展示我个人的和集体的责任心。	1	2	3	4	5	6
10. 体育课是一门重要的课程。	1	2	3	4	5	6
11. 体育课致力于让体育得到更多的重视。	1	2	3	4	5	6
12. 体育课能使我学有所用。	1	2	3	4	5	6
13. 体育课能提供给学生更多的学习机会。	1	2	3	4	5	6
14. 体育课致力于培养学生参加校外体育活动的意识。	1	2	3	4	5	6
15. 体育老师具备专业的知识和技能。	1	2	3	4	5	6
16. 体育老师有足够的教学热情。	1	2	3	4	5	6
17. 体育老师能传授最新的体育知识。	1	2	3	4	5	6
18. 体育老师很清楚他/她应该教什么。	1	2	3	4	5	6
19. 体育老师能考虑到学生的喜好和需求。	1	2	3	4	5	6
20. 体育老师平易近人。	1	2	3	4	5	6
21. 体育教学鼓励学生的自主性和拼搏精神。	1	2	3	4	5	6
22. 体育教学营造有挑战性的学习环境。	1	2	3	4	5	6
23. 体育教学生动有趣，很具吸引力。	1	2	3	4	5	6
24. 体育教学关注教学反馈，因材施教。	1	2	3	4	5	6
25. 体育教学在恰当的时间采用合理的教学手段。	1	2	3	4	5	6
26. 体育教学提供足够的练习时间。	1	2	3	4	5	6

3. ESUPEC

	没有	偶尔有	时常有	经常有
1. 有过能向别人表达自己心情的时候。	1	2	3	4
2. 有过向朋友传达自己想法的时候。	1	2	3	4
3. 有过与其他人谈论个人问题的时候。	1	2	3	4
4. 有人会经常倾听我的言论。	1	2	3	4
5. 有过同团队协作的时候。	1	2	3	4
6. 有过与队友配合的时候。	1	2	3	4
7. 有过与多人协作的时候。	1	2	3	4
8. 有过与队友相互鼓励的时候。	1	2	3	4
9. 对于自己觉得很难的，有过挑战成功的时候。	1	2	3	4
10. 对于自己觉得达不到的,有过挑战成功的时候。	1	2	3	4
11. 对于从未尝试过的，有过完美地挑战成功的时候。	1	2	3	4
12. 有过课堂气氛非常融洽的时候。	1	2	3	4
13. 有过轻松愉悦的课堂体验。	1	2	3	4
14. 有自由练习和对抗比赛的时候。	1	2	3	4

4. SSTSS

	完全不同意	不太同意	有点同意	非常同意
1. 体育老师和每个学生都关系融洽。	1	2	3	4
2. 体育老师课堂上表情丰富。	1	2	3	4
3. 体育老师擅长与学生沟通。	1	2	3	4
4. 体育老师能很容易地融入到学生们的谈话中。	1	2	3	4
5. 体育老师讲话时经常使用各种手势和身体姿势。	1	2	3	4
6. 体育老师总是很热情地与学生打招呼。	1	2	3	4
7. 体育老师会很认真地倾听学生表达的想法。	1	2	3	4
8. 体育老师上课时能很好的控制自己的情绪。	1	2	3	4
9. 体育老师能很好地处理课堂上发生的问题。	1	2	3	4
10. 体育老师很擅长与学生发起谈话。	1	2	3	4
11. 体育老师在学生有怨言的时候能很好地进行抚慰。	1	2	3	4
12. 体育老师很尊重学生。	1	2	3	4
13. 体育老师能很好的回应学生提出的意见。	1	2	3	4
14. 体育老师经常给予学生表扬或鼓励。	1	2	3	4
15. 体育老师在沟通时会照顾到学生的情绪和感受。	1	2	3	4

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