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EFFECTS OF TPSR INTEGRATED SPORT EDUCATION MODEL ON FOOTBALL LESSON STUDENTS' RESPONSIBILITY AND EXERCISE SELF-EFFICACY

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Effects of TPSR Integrated Sport Education Model on Football Lesson Students' Responsibility and Exercise Self-Efficacy

Chunoh WEI¹, Ronghai SU², Maochou HSU³

Abstract

Present academic elitism in command, parents busy at work and increasing divorce rate, and mass media's deviant value indoctrination result in serious upbringing problems of child, revealing the urgency and difficulty of character education. Physical education, presenting high behavior interaction, teaching students about morality, and facilitating students to present specific prosocial behavior, has been considered as an important goal of physical education. Taking a university in Fujian as the experimental object, total 204 students are preceded the 15-week experimental research with TPSR integrated sport education model. The experimental teaching research is preceded for three hours per week (total 45 hours). The research results are concluded as below: (1) TPSR integrated sport education model would affect responsibility; (2) TPSR integrated sport education model would affect exercise self-efficacy; (3) Responsibility shows significantly positive effects on cognition in exercise self-efficacy; (4) Responsibility reveals remarkably positive effects on motivation in exercise self-efficacy; (5) Responsibility appears notably positive effects on mood or affection in exercise self-efficacy. According to the results, suggestions are proposed, expecting to provide strategy and improvement reference and directions for the promotion of physical education students' responsibility and the enhancement of students' exercise self-efficacy.

Keywords: TPSR, sport education, football, responsibility, exercise self-efficacy, social behavior, social responsibility.

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Introduction

Present academic elitism in command, parents busy at work and increasing divorce rate, and mass media's deviant value indoctrination result in serious upbringing problems of children. It reveals the urgency and difficulty of character education. The importance of character education is apparent nowadays that the necessity is emphasized in family, school, society, and nationwide. Brushing teeth in the morning, sharing housework, and completing schoolwork are the responsible behavior of students. Since physical education presents high behavior interaction, teaches students about morality, and facilitates students presenting specific prosocial behavior, it is regarded as an important goal. The high emotion and behavior interaction characteristics of physical education provide good situations and opportunities for the development of character. It does not simply require situations to develop good character, but favorable instructional design and proper teaching strategies should also be applied. TPSR model provides students with a progressive learning goal. Different experience operation in sport activities could assist them in comprehending responsibility; the power to make decisions is gradually transferred in the teaching to give students more responsibility, cultivate correct responsible attitude, and perform similar responsible behavior in other living fields. Each student presents the basic responsibility development, which depends on the growth background and learning environment. For this reason, students' responsible attitude, intention, and behavior could be developed through learning. It is a part of character education to learn social behavior, develop sport ethics, and prepare for social life through the participation in sports.

TPSR model, through instructional events, could assist students in acquiring more cooperation experience in behavior and life, enhancing self and social responsibility, reinforcing the ability of self-effort and commitment setting, and self-determining the responsibility in the life experience. TPSR aims to have students, with progressive learning methods, comprehend the responsibility in the teams through the experience in various physical education activities and have teachers gradually transfer the power of decision to students in order to cultivate the correct responsible attitude to perform on the life. The core value of TPSR is to have students learn to be responsible for themselves and others; it is consistent with the core value of character promotion program of Ministry of Education. Exercise self-efficacy, as individual subjective evaluation or confidence of sport engagement, is related to an individual engaging in certain behavior or continuously engaging in certain behavior. The correlation between responsibility and exercise self-efficacy is worth of further discussion. The effect of TPSR integrated sport education model on football lesson students' responsibility and exercise self-efficacy is therefore discussed in this study, expecting to provide strategy and improvement reference and directions for the promotion of physical education students' responsibility and the enhancement of students' exercise self-efficacy.

Literature review

Son *et al.* (2017) stated that TPSR was originated in high school physical education to reflect children's attitude, value and behavior. The model provided students a progressive learning goal to assist them in comprehending responsibility through the operation of experiences in sport activities to further achieve holistic value. Particularly, it could assist students in presenting more holistic responsibility in face of individual and social problems. Prat *et al.* (2019) indicated that TPSR model assisted students in cultivating responsible attitude to change behavior and cultivate responsibility through self-determination. Teachers, through teaching, gave students more duty to enhance responsibility, present correct emotions and reasonable demands on the behavior and life, and further promote the learning of self and social responsibility as well as to make commitment in other living fields, set rules of life, and achieve holistic life. In informal development activities or goals, it could assist teachers and students in the needs. Ardoin *et al.* (2018) mentioned to apply TPSR level of responsibility program to guide and evaluate students' learning, understand individual behavior and learning effect to promote the good behavior, thinking, emotion, and concern, and stress on self-directed effect to achieve holistic society. Hortiguera Alcala & Garijo (2017) explained that teachers, in TPSR integrated sport education model, made proper heterogeneous grouping for group contest in the class, aiming to stress on individual participation and performance on learning achievement and have students understand the relationship between individual and teams to further cultivate communication skills, good value, honor, responsibility, and team coherence; it would positively enhance individual responsibility in the group. Buisic & Dordic (2018) indicated that traditional physical education model emphasized the learning of motor skills that it could hardly appear significant effects on the learning of responsible behavior; TPSR, on the other hand, could promote students' positive affection, attitude, and behavior learning that integrating TPSR into traditional physical education would remarkably affect students' responsible behavior and exercise self-efficacy. The following hypothesis is therefore proposed in this study.

H1: TPSR integrated sport education model would affect responsibility.

Kim, Kim, & Choi (2017) referred self-efficacy to the belief in completing a task before engaging in the task; it was self-confidence in specific situation and individual belief in the success; a person with higher self-efficacy would be more confident to complete certain task. Sierra *et al.* (2019) pointed out the important role of self-efficacy in behavior prediction; human behavior was goal-oriented; people involving in certain behavior to achieve the goal was not the prediction of results, but the expectation of personal ability; ones with higher evaluation of personal ability, compared to those with low evaluation of personal ability, would make efforts to implement the goal. Calabria-Lopes, Greco, &

Perez-Morales (2019) indicated that TPSR model applied level of responsibility program to guide and evaluate students' learning, understand individual behavior and learning effect to enhance the good behavior, thinking, emotion, and concern, and emphasize the possible effect of self-directed effect on self-efficacy. Pizarro *et al.* (2017) regarded exercise self-efficacy as sport confidence in special situation which was an important and critical psychological factor in individual sport learning and performance. An individual with stronger sport confidence could better understand sport conditions (e.g. adaptation to field, individual skills) and present the ability to face challenge and stronger self-efficacy. Ashraf (2017) explained TPSR integrated sport education model as to create physical education programs as professional sports seasons and emphasize authentic sport contest situations, allowing students learning in the sport contest context. Turner *et al.* (2018) stated that TPSR integrated sport education model, originated from game theory, applied gamified sport contest to modify rules suitable for program needs and student ability and hold contests, allowing students effectively participating in contests, comprehending sport norms, and sharing experience, as well as playing multiple roles and positions in the sport contest to be glad to accept oneself, effectively enhance exercise self-efficacy, learn leadership and decision-making, and show good interaction with teammates. Fleischman *et al.* (2019) pointed out the learning of "obeying", "assisting", and "respecting" others in the TPSR integrated sport education model program. The cooperative learning embedded in the model allowed students learning sport skills and teamwork, familiarizing competition rules, actively and pleasantly participating in contests to enhance self-efficacy, as well as cultivating responsible concepts, learning socialized behavior and attitude, and directly cultivating the character in affective and cognitive development to achieve the objective of physical education. Accordingly, the following hypothesis is proposed in this study.

H2: TPSR integrated sport education model would affect exercise self-efficacy.

Li *et al.* (2019) pointed out responsibility as students' duty in affective learning. Salzgeber *et al.* (2019) proposed self-responsibility as correct knowledge and respect of oneself, e.g. loving life, cherishing life, and full of confidence, as well as rationally and positively live in different environment; social responsibility, on the other hand, was the concern about social affairs and self-restraint, such as obeying public virtue, maintaining social order, and treating people with integrity. Cryan & Martinek (2017) indicated that people with high self-efficacy, with the self-convincing ability, regarded failure as temporary frustration, rather than final result, so that they could insist in obstacle, failure, and any negative results. On the contrary, those with low self-efficacy were not confident of the ability that they took failure as granted after the action frustration. In other words, ones with high self-efficacy presented the work motivation with higher responsibility and self-confidence. Thompson (2017) indicated that the establishment of responsibility would help improve self-efficacy. It revealed that adolescents with sufficient

agreement with themselves could better present behavioral intention similar to responsibility; the provision of adequate opportunities to experience success for adolescents in the process to reinforce the self-efficacy was a primary factor. Iskandar *et al.* (2017) regarded self-efficacy as the result of interacting with external environment, individual ability, and achievement performance; self-confidence generated in the process would decide the intrinsic motivation. In this case, self-efficacy would be different due to tasks, events, and individual responsibility. As a result, the following hypotheses are proposed in this study.

H3: Responsibility shows significantly positive effects on cognition in exercise self-efficacy.

H4: Responsibility reveals remarkably positive effects on motivation in exercise self-efficacy.

H5: Responsibility appears notably positive effects on mood or affection in exercise self-efficacy.

Methodology

Responsibility. Referring to Kim *et al.* (2018), dimensions of self-respect and social temperance are covered in responsibility in this study: (1) *Self-respect*: Self-responsibility refers to correct knowledge and respect of oneself; (2) *Social temperance*: referring to individual concerns about human society and social affairs as well as self-restraint.

Exercise self-efficacy. Referring to Chen *et al.* (2018), self-efficacy in this study contains following dimensions: (1) *Cognition*: People with higher self-efficacy show higher ambition, longer point of view, and deliberations, are more willing to accept difficult challenge, and would firmly devote themselves to such challenges; (2) *Motivation*: Self-efficacy belief in being able to complete certain affairs would affect people' goal setting, action strategies, willingness to make efforts, insistence on challenge, and recovery to face frustration; (3) *Mood or affection*: When facing dilemmas or threats, the bearable pressure is mostly decided by people considering the ability to complete such affairs.

Research object and sampling data

Taking a university in Fujian as the experimental object, total 204 students are preceded the 15-week experimental research with TPSR integrated sport education model. The experimental teaching is preceded for 3 hours per week (total 45 hours). SPSS is used for analyzing the data, and factor analysis, reliability analysis, regression analysis, and analysis of variance are applied to test the hypotheses.

Analysis method

Analysis of variance is utilized for discussing the effect of TPSR integrated sport education model on responsibility and exercise self-efficacy, and regression analysis is further applied to understand the relationship between responsibility and exercise self-efficacy.

Results and discussion

Reliability and validity analysis

Responsibility, through factor analysis, is extracted two factors of “self-respect” (eigenvalue=2.377, $\alpha=0.84$) and “social temperance” (eigenvalue=1.968, $\alpha=0.86$). The cumulative covariance explained achieves 77.152%. With factor analysis, exercise self-efficacy is extracted three factors of “cognition” (eigenvalue=3.266, $\alpha=0.85$), “motivation” (eigenvalue=1.838, $\alpha=0.81$), and “mood or affection” (eigenvalue=2.352, $\alpha=0.91$). The cumulative covariance explained reaches 81.597%.

Effects of TPSR integrated sport education model on responsibility and exercise self-efficacy

Variance analysis of TPSR integrated sport education model to responsibility

According to analysis of variance, the effect of TPSR integrated sport education model on responsibility is discussed in this study, i.e. analyses and explanations of TPSR integrated sport education model and traditional teaching. From Table 1, TPSR integrated sport education model (4.16) shows higher self-respect than traditional teaching (3.64) and the former (4.01) reveals higher social temperance than the latter (3.25) that *H1* is supported.

Table 1. Variance analysis of TPSR integrated sport education model to responsibility

variable		F	P	Scheffe post hoc
TPSR integrated sport education model	self-respect	27.436	0.000***	TPSR integrated sport education model(4.16) >traditional teaching(3.64)
	social temperance	22.158	0.000***	TPSR integrated sport education model(4.01) >traditional teaching(3.25)

Note: * stands for $p<0.05$ and *** for $p<0.001$.

Variance analysis of TPSR integrated sport education model to exercise self-efficacy

According to analysis of variance, the effect of TPSR integrated sport education model on exercise self-efficacy is discussed in this study, i.e. analyses and explanations of TPSR integrated sport education model and traditional teaching. *Table 2* shows higher cognition in TPSR integrated sport education model (4.33) than in traditional teaching (3.92), higher motivation in TPSR integrated sport education model (4.25) and in traditional teaching (3.84), as well as higher mood or affection in TPSR integrated sport education model (4.11) than in traditional teaching (3.78). *H2* is therefore supported.

Table 2. Variance analysis of TPSR integrated sport education model to exercise self-efficacy

variable		F	P	Scheffe post hoc
TPSR integrated sport education model	cognition	21.471	0.000***	TPSR integrated sport education model(4.33) >traditional teaching(3.92)
	motivation	33.544	0.000***	TPSR integrated sport education model(4.25) >traditional teaching(3.84)
	mood or affection	29.162	0.000***	TPSR integrated sport education model(4.11) >traditional teaching(3.78)

Note: * stands for $p < 0.05$ and *** for $p < 0.001$.

Correlation analysis of responsibility and exercise self-efficacy

Correlation analysis of responsibility and cognition

The analysis result, *Table 3*, reveals significant effects of self-respect ($\beta=0.247$, $P < 0.001$) and social temperance ($\beta=0.321$, $P < 0.001$) on cognition that *H3* is supported.

Correlation analysis of responsibility and motivation

The analysis result, *Table 3*, appears remarkable effects of self-respect ($\beta=0.221$, $P < 0.001$) and social temperance ($\beta=0.304$, $P < 0.001$) on motivation that *H4* is supported.

Correlations of responsibility and mood or affection

The analysis result, *Table 3*, shows notable effects of self-respect ($\beta=0.274$, $P<0.001$) and social temperance ($\beta=0.296$, $P<0.001$) on mood or affection that $H5$ is supported.

Table 3. Analysis of responsibility to exercise self-efficacy

dependent variable→	exercise self-efficacy					
independent variable↓	cognition		motivation		mood or affection	
responsibility	β	P	β	P	β	P
self-respect	0.247	0.000***	0.221	0.000***	0.274	0.000***
social temperance	0.321	0.000***	0.304	0.000***	0.296	0.000***
F	24.182		27.533		34.625	
significance	0.000***		0.000***		0.000***	
R ²	0.237		0.262		0.324	
adjusted R ²	0.213		0.243		0.307	

Note: * stands for $p<0.05$ and *** for $p<0.001$.

Data source: self-organized in this study.

Conclusion

The research findings show that teaching with TPSR integrated sport education model could promote football lesson students' responsibility and exercise self-efficacy. Football lesson students, in TPSR integrated sport education model, play different roles to develop self-potential, e.g. enhancing self-confidence and reinforcing punishment knowledge in the process of being a referee, enjoying the power of being a referee, constantly pursuing self-performance and positively making efforts in the contest process, and being glad to win when being a team leader. Football lesson students, from the learning in different roles, acquire more content, self-confidence, and achievement in physical education and enjoy satisfaction in the lesson. Since sports seasons are integrated into lessons, team contest becomes frequent activity that football lesson students could change contest systems and control the contest. In addition to experiencing the learning opportunity to be a referee, football lesson students could also enjoy the spiritual

and physical stimulation in the contest. Football lesson students do not simply contact football in classes, but would make practice after classes. The scores in each contest would affect the final result that students are full of fun about football and expect physical education.

Recommendations

Aiming at above research results, the following suggestions are proposed in this study.

- In consideration of low morality, selfishness, and indifference in the society, ineffective family function results in children lack of benign character learning channels. The development of good character requires situations, good instructional design, and proper application of teaching strategies. For this reason, education departments should positively integrate character education into school curricula for promoting students' character. Individual and social responsibility model (TPSR) could help students' affective development and shape students' good character and social behavior that it is worth of development in domestic physical education in schools.
- Physical education does simply stress on students' skill learning. Through fun teaching, the sport education model allows students positively interacting with peers in physical education, experiencing the favorite contest, and playing various roles in the contest or teams to enhance students' interests and motivation to actively participate in sports and cultivate good interpersonal interaction. Fully applying the teaching model to individual and social responsibility model (TPSR) could have students more comprehensively understand sports.
- It is suggested to hold physical education workshops and then develop relevant teaching materials for the comprehensive promotion to provide teachers with teaching application and reference. Having health and physical education advisory groups in counties and cities conduct relevant workshops, discuss with textbook publishers to integrate TPSR and SE into existing materials, and match with teacher trainings could comprehensively promote students' physical education learning interests and learning effectiveness.

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