

Differences in teachers' burdens during school-based extracurricular sports activities according to teacher expertise

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Abstract:

Problem Statement: There is a notable burden placed on teachers to coach and manage school-based extracurricular sports activities. Outside of decreasing the time teachers are engaged in these activities, increasing teacher expertise may reduce this burden. However, the relationship between these burdens and teacher expertise is not well understood. **Purpose:** The purpose of the study was to clarify differences in these burdens according to teacher expertise. **Approach:** The study participants were 361 teachers who worked in public junior high or high schools and supervised school-based extracurricular sports activities. These participants completed cross-sectional self-administered questionnaire surveys. The main survey questions involved expertise and three types of burdens (i.e., temporal, psychological, and economic). Then, an analysis of variance, Kruskal-Wallis test, and multiple comparison were performed. **Results:** The results revealed that physical education teachers and non-physical education/expert teachers spent significantly more time and money on school-based extracurricular sports activities than did non-physical education/non-expert teachers. Conversely, physical education teachers and non-physical education/expert teachers experienced significantly less of a psychological burden than did non-physical education/non-expert teachers. In addition, physical education teachers spent more time and money, and experienced less of a psychological burden, than did non-physical education/expert teachers. **Conclusions:** The study considered teacher expertise in school-based extracurricular sports activities to affect the level of burden teachers experienced. Placing teachers with appropriate expertise into school-based extracurricular sports activities, providing teacher training to improve expertise, and utilizing external coaches would contribute to the reduction of these burdens.

Key Words: Teacher education, Teacher training, External coach, Human resource management, Work-life balance

Introduction

School-based extracurricular sports activities (SBECSAs) are widespread in Japan. Almost all junior high and high schools in Japan provide SBECSA, with 66.5% of junior high school students and 44.2% of high school students participating in SBECSAs (Sasakawa Sports Foundation, 2017). These SBECSAs are primarily coached and managed by schoolteachers.

Recently, the heavy burden placed on teachers regarding requests that they supervise SBECSAs has been considered a problem. Compared internationally, Japanese teachers work very long hours. Based on the Teaching and Learning International Survey (TALIS) 2013, Japanese teachers were engaged in extracurricular activities (e.g., after-school sports or cultural activities) for 7.7 hours per week on average (Organisation for Economic Co-operation and Development, 2013). This is the highest amount of time among all participating countries and regions (the average result of all participants was 2.1 hours per week on average). Weekend and holiday work hours have also been increasing for Japanese teachers. The average weekend working time allocated by these teachers to coach and manage SBECSAs has increased by around one hour per day from 2006 to 2016 (Ministry of Education, Culture, Sports, Science and Technology in Japan, 2017). Hence, reduction of days or hours for SBECSAs has been discussed (Central Council for Education, 2017; Japan Sports Agency, 2018).

However, drastically confining the time spent on SBECSAs could result in a negative influence on students. Participation in organized sports activities such as those performed in SBECSAs is reported to have positive effects on children physically (Kjønniksen, Anderssen, & Wold, 2009; Mota & Esculcas, 2002), academically (Fredricks & Eccles, 2006; Lipscomb, 2007), psychologically (Fredricks & Eccles, 2006; Shernoff & Vandell, 2007), and socially (Schaefer, Simpkins, Vest, & Price, 2011). In addition, it has been

reported that there is no correlation between the number of days spent participating in SBECASs and the mental health of teachers (Negishi, 2017). Thus, simply decreasing the temporal burden (i.e., the days or hours spent) would be an inadequate measure to reduce the overall burden placed on teachers by SBECASs. As an alternative perspective, it is probable that teacher expertise regarding SBECASs is related to the burden placed on them with respect to coaching and managing. A study by Teraoka and Matsumoto (2015) indicated that more number of teachers who had not received expert instruction in sports coaching or education had worries about coaching SBECASs than did teachers who had received such training. Furthermore, teachers who agreed with statements such as “I do not have necessary knowledge and technique to coach SBECASs” tended to have lower mental health scores (Negishi, 2017). However, no study has been conducted to clarify teacher expertise in relation to the actual burdens involved in the coaching and management of SBECASs. Understanding the relationship between expertise and burden would contribute to the body of information used to consider resolutions to reduce teacher burdens. Therefore, the present study aimed to reveal differences in these burdens according to teacher expertise.

Material & methods

Participants and procedures

A cross-sectional self-administered questionnaire survey was conducted in January 2016. The study’s participants were teachers who supervised SBECASs primarily in public junior high or high schools. First, 200 public junior high schools and 200 public high schools were randomly selected from the list of all public junior high and high schools in Japan. Combined junior high and high schools, part-time schools, and schools having only correspondence courses were excluded to enhance the generality of the data. Participation requests, questionnaire samples, briefing papers for participants, and postcards for reply were sent to the principals of the selected schools. Principals were requested to indicate “acceptance or rejection” regarding participation in this study and provide the numbers of SBECAS teachers in their respective schools. A total of 73 schools (26 junior high schools (183 SBECAS teachers) and 47 high schools (489 SBECAS teachers)) agreed to cooperate in the study. Questionnaire sets were sent to each school and then distributed to SBECAS teachers. After answering the questionnaire, each SBECAS teacher directly returned to the researcher for the protection of their privacy. The research proposal was approved by the WASEDA University ethics board (No. 2015-185).

Questionnaire

Participants were asked to provide their sex, age, school type (i.e., junior high or high school), teaching subject, and expertise regarding SBECASs. Regarding SBECAS expertise, teachers were asked to provide a simple yes/no answer to the question “Are you an expert in the sport that you are mainly supervising during SBECASs?”

In terms of the temporal burden, participants were asked respondents about the yearly hours they allotted to 26 SBECAS-related tasks. The 26 tasks were presented as follows: 1) actual time spent participating in the practice of their SBECAS; 2) daily, weekly, monthly, and yearly practice planning, scheduling, and coordination with other SBECASs; 3) planning and coordination of practice games or events with other schools; 4) escorting students to practice games or events with other schools; 5) planning, preparing, and coordinating for competition; 6) escorting students to competitions and work performed as a competition manager, referee, or staff; 7) planning and coordination of residential training; 8) escorting students to residential training; 9) compiling lists of club members, member registrations, and competition entries; 10) collecting money from students, accounting management, equipment purchases, and financial reports; 11) maintenance, management, and environmental upkeep for SBECASs (i.e., facilities and equipment); 12) preparing and holding meetings with parents, daily communication with parents; 13) providing consultation and counseling for club members; 14) safety administration, monitoring the injuries and illnesses of club members; 15) review of and providing comments on the activity notes of club members; 16) pupil guidance and lifestyle guidance for club members; 17) study guidance for club members; 18) activity reports for school and student councils; 19) SBECAS publicity preparations; 20) SBECAS teacher conferences, in or out of school; 21) coordination with the classroom teachers of club members; 22) coordination with external coaches; 23) coordination with sports organizations in the community; 24) SBECAS steering committee tasks; 25) participating in training sessions to improve coaching skills, personal studying; and 26) planning and conducting local contributory activities through SBECASs. These tasks were revealed through the interview research for teachers (Aoyagi, Ishii, Shibata, Arai, & Oka, 2017).

With respect to each task, psychological burdens were assessed on a five-point scale as follows: “1. Not burdensome at all”; “2. Not very burdensome”; “3. Neutral”; “4. Slightly burdensome”; and “5. Very burdensome.” Economic burden was investigated by assessing yearly self-payments to coaching and SBECAS management costs for the following six categories: clothing (e.g., active wear and shoes), sports equipment, transportation costs, accommodation cost, expenditure on food and drink to promote positive relationships, and learning materials (e.g., textbooks or DVDs).

Analyses

Teacher expertise was divided into three categories based on previous study details (i.e., PE teachers, non-PE/expert teachers, and non-PE/non-expert teachers) (Aoyagi, Arai, & Oka, 2018). Temporal burden was calculated by totaling each respondent's hours from the 26 task categories. Two participants totaled over 8,760 hours each (i.e., their daily average was over 24 hours), and were thus excluded from the analysis. Regarding psychological burden, the average value of the 26 tasks was calculated. Then, tasks having no temporal burden were excluded from the calculation of psychological burden. Economic burden was calculated by totaling the expenditures of the six categories for each respondent. Participants with missing data were excluded.

An analysis was conducted to clarify the differences between temporal, psychological, and economic burdens among the expert groups. The independent variable was SBECSA expertise, while the dependent variables were temporal, psychological, and economic burdens. Because temporal and economic burden data were not considered as normal distributions from the frequency distribution table, a Kruskal-Wallis test (non-parametric test) was selected. Then, a Mann-Whitney test was conducted with the criterion of the Bonferroni correction for a multiple comparison. Regarding psychological burden, an analysis of variance and multiple comparison (i.e., a Tukey-Kramer test) were selected. Significant alpha level was set at 5%, while 10% was considered marginally significant. All analyses were processed using IBM SPSS Statistics Version 24.

Results

Participant characteristics

Completed questionnaires were obtained from 361 SBECSA teachers (response rate = 53.7%). Characteristic details are shown in Table 1. There were 286 males (79.2%) and 60 females (16.6%). The participants showed a wide distribution among age groups, with a mean age of 41.9 years (standard deviation [SD] = 10.8). There were 110 junior high school teachers (30.5%), and 247 high school teachers (68.4%). Regarding teaching subject and SBECSA expertise, there were 121 PE teachers (33.5%), 127 non-PE/expert teachers (35.2%), and 103 non-PE/non-expert teachers (28.5%).

Table 1. Participant characteristics

	n	%
Overall	361	100.0
Sex		
Male	286	79.2
Female	60	16.6
Missing	15	4.2
Age group		
20-29	51	14.1
30-39	87	24.1
40-49	68	18.8
50-	100	27.7
Missing	55	15.2
Mean±SD	41.9±10.8	
School type		
Junior high school	110	30.5
High school	247	68.4
Missing	4	1.1
Expertise		
PE teacher	121	33.5
Non-PE × Expert	127	35.2
Non-PE × Non-expert	103	28.5
Missing	10	2.8

PE: Physical Education

Group differences regarding temporal burden

There was a significant difference among groups regarding temporal burden ($\chi^2(2) = 52.998, p < .001$). Results of the multiple comparison are shown in Figure 1. PE teachers allotted significantly more time than did non-PE/expert teachers (i.e., 1,632.5 hours versus 1,206.5 hours, $U = 3150.0, z = 4.34, p < .001$). PE teachers also allotted significantly more time than did non-PE/non-expert teachers (i.e., 1,632.5 hours versus 839.3 hours, $U = 1704.0, z = 7.17, p < .001$). Non-PE/expert teachers spent significantly more time than did non-PE/non-expert teachers (1,206.5 hours versus 839.3 hours, $U = 3147.5, z = 3.07, p = .002$).

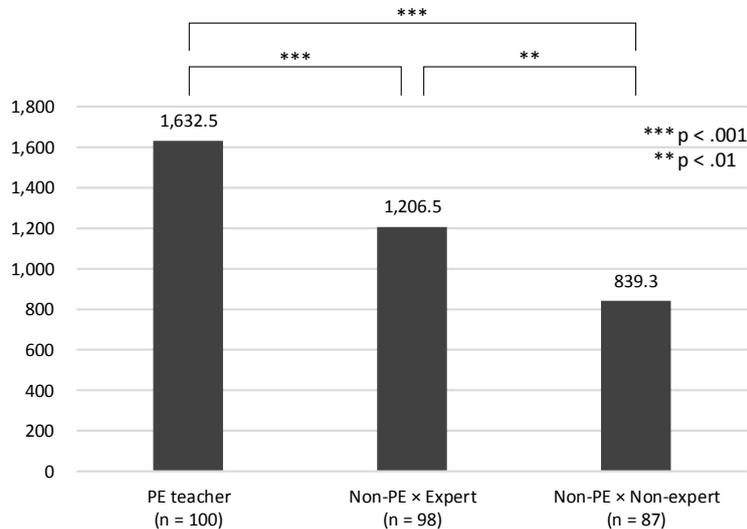


Figure 1. Group differences regarding temporal burden

Group differences regarding psychological burden

In terms of psychological burden, there were significant differences among groups ($F(2, 347) = 23.720, p < .001$). Results of the multiple comparison are shown in Figure 2. PE teachers recognized significantly fewer psychological burdens than did non-PE/expert teachers (2.30 versus 2.77, $p < .001$). PE teachers also recognized significantly fewer psychological burdens than did non-PE/non-expert teachers (2.30 versus 3.00, $p < .001$). Non-PE/expert teachers tended to feel fewer psychological burdens than non-PE/non-expert teachers (2.77 versus 3.00, $p = .073$).

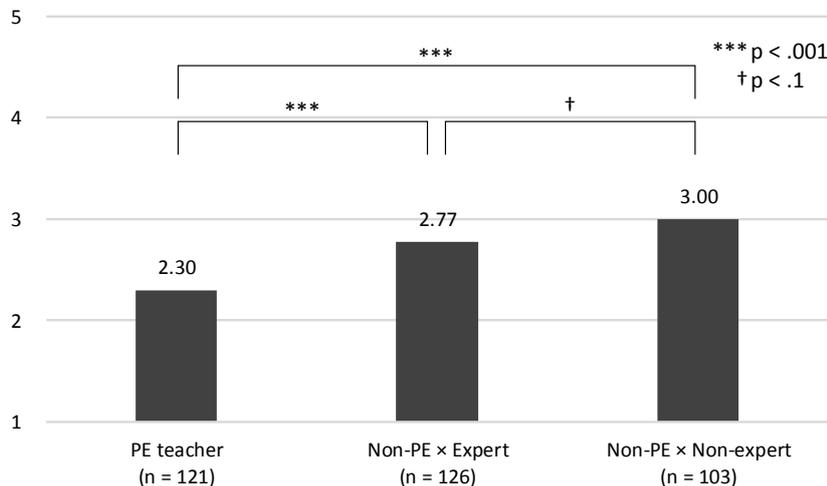


Figure 2. Group differences regarding psychological burden

Group differences regarding economic burden

Regarding economic burden, there were significant differences among groups ($\chi^2(2) = 39.651, p < .001$). Results of the multiple comparison are shown in Figure 3. PE teachers spent significantly more money than did non-PE/expert teachers (140,000 Yen versus 92,222 Yen, $U = 5415.0, z = 2.66, p = .008$). PE teachers also spent significantly more money than did non-PE/non-expert teachers (140,000 Yen versus 44,600 Yen, $U = 2817.0, z = 5.97, p < .001$). Non-PE/expert teachers spent significantly more money than did non-PE/non-expert teachers (92,222 Yen versus 44,600 Yen, $U = 3722.5, z = 4.29, p < .001$).

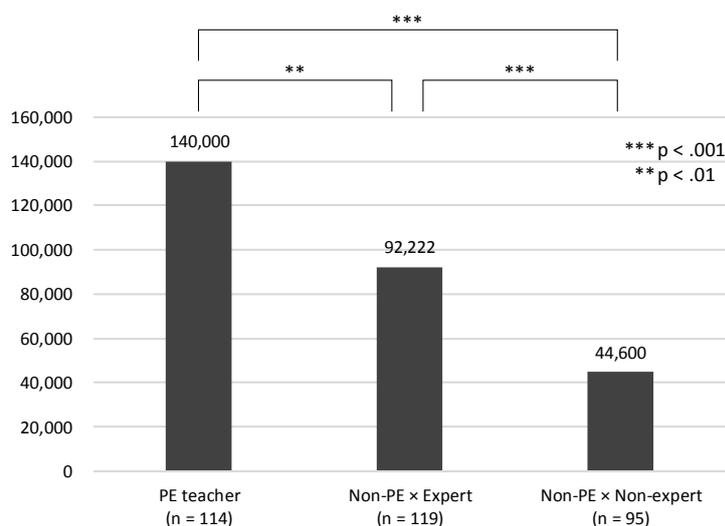


Figure 3. Group differences regarding economic burden

Discussion

The present study involved a self-administered questionnaire survey that was conducted on SBECSA teachers to reveal the differences in burden according to teacher expertise. Results indicated that PE teachers and non-PE/expert teachers spent more time and money than did non-PE/non-expert teachers. Notably, PE teachers experienced approximately double the temporal burden and triple the economic burden when compared to non-PE/non-expert teachers. Camiré, Rocchi, and Kendellen (2017) and Taniguchi (2003) indicated that PE teachers perceived more benefits to coaching SBECSAs than did non-PE teachers. Because PE teachers perceived a greater benefit, they may spend more time and money on these activities.

Conversely, PE teachers and non-PE/expert teachers felt less of a psychological burden than did non-PE/non-expert teachers. A previous study revealed that teachers who had received expert instruction in sports coaching or education felt less worry about coaching SBECSAs compared to teachers who had not received expert instruction (Teraoka & Matsumoto, 2015). Another study indicated that teachers who had the knowledge and technique to coach SBECSAs felt less stress (Negishi, 2017). PE teachers and non-PE/expert teachers have more confidence in the coaching and managing of SBECSAs than did non-PE/non-expert teachers (Aoyagi et al., 2018). Learning about and gaining experience in physical education teacher education or own sport participation may increase confidence when coaching and managing SBECSAs and reduce the psychological burdens of teachers.

When considering the need to decrease the psychological burdens of teachers, it is important to match teacher expertise (i.e., playing, coaching, or learning experiences) with the SBECSA. Japanese public schools are constantly relocating teaching personnel. As such, a personnel coordinator should consider the SBECSA situation at each school as well as the expertise of the transferred teachers. Each school principal should also carefully consider the compatibility of SBECSAs and specific teachers when ordering teachers to supervise SBECSAs.

Alternatively, a workshop or training session designed to improve teacher expertise and confidence would be effective for reducing the related psychological burdens. The Japan Sports Association (JSA) developed and distributed the “model core curriculum” for coach training (JSA, 2016). According to a previous survey (JSA, 2014), 45.9% of junior high school SBECSA teachers and 40.9% of high school SBECSA teachers were non-PE/non-expert teachers. Additionally, these non-PE/non-expert teachers perceived the lack of expertise as the most significant problem. Thus, there is a large target population when designing workshops or training sessions. Furthermore, there are very few college classes regarding SBECSA teaching; these classes are not compulsory during teacher-training courses in Japan. Therefore, as Kamiya (2015) claimed, college classes that provide information about SBECSAs should be enhanced in Japanese teacher-training courses.

In addition, utilizing external human resource personnel who have expertise would be valuable. Interview and questionnaire research for SBECSA teachers indicates that teachers are able to learn coaching and communication methods for club members as one of the benefits of utilizing external coaches (Aoyagi et al., 2013; Aoyagi, Ishii, Shibata, Arai & Oka, 2014a). There is a successful argument regarding the use of external coaches to promote the learning of teachers and club members (JSA, 2018). Aoyagi, Ishii, Shibata, Arai and Oka (2014b) clarified that potential external coaches (i.e., people who have coaching motivations) make up 5.9% of the Japanese adult population. Particularly, 33.2% of people who had coaching credentials were motivated to coach SBECSAs. JSA (the largest coaching credential organization in Japan) registered over 500,000 credential holders in 2017 (JSA, 2017). In addition, a service matching coaches with

individuals seeking their expertise was recently established (JSA, 2018). It is important to cooperate with external coaches by using such support.

The result of the present study (i.e., PE teachers experienced less psychological burden compared to non-PE teachers regarding SBECAs, but spent more resources on such activities) imply that greater temporal burdens do not necessarily affect higher psychological burdens. While, it is also reasonable to assume the existence of a cause-and-effect relationship enabling PE teachers to allot more time to SBECAs because of less psychological burden. In future study, it is important to gain understanding about process of teacher burdens through a longitudinal design. Another limitation of this research involves the inability to deny the under- or overestimation of responses to the self-administered questionnaire design. There may also be a recall bias caused by the yearly question of the present study. However, teacher work is not consistent throughout the year (Japan Senior High School Teachers and Staff Union, 2007). SBECAs may involve tasks that are unsuitable for conducting weekly or monthly measurements (e.g., tasks relevant when entering the SBECAs or tasks performed during summer vacation). Therefore, the yearly question was considered appropriate for understanding overall teacher burden regarding SBECAs.

Conclusions

The present study concluded that PE teachers and non-PE/expert teachers spent more time and money, and perceived less psychological burden compared to non-PE/non-expert teachers. Teacher expertise in SBECAs was considered to affect teacher burdens. It is necessary to promote the appropriate matching of teachers and SBECAs duties, provide teacher training to improve expertise, and utilize external coaches.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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