

Full Length Research Paper

Quantitative assessment of facilitators and barriers to using external coaches in school-based extracurricular sports activities

Kenryu Aoyagi^{1,2*}, Kaori Ishii³, Ai Shibata⁴, Hirokazu Arai⁵ and Koichiro Oka³

¹Graduate School of Sport Sciences, Waseda University, 2-579-15 Mikajima, Tokorozawa, Saitama 359-1192, Japan.

²Japan Society for the Promotion of Science, 5-3-1 Kojimachi, Chiyoda, Tokyo 102-0083, Japan

³Faculty of Sport Sciences, Waseda University, 2-579-15 Mikajima, Tokorozawa, Saitama 359-1192, Japan.

⁴Faculty of Health and Sport Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8574, Japan.

⁵Faculty of Letters, Hosei University, 2-17-1 Fujimi, Chiyoda, Tokyo 102-8160, Japan.

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School-based extracurricular sports activities contribute to positive youths' development. However, they are difficult to manage without the use of external coaches. The number of external coaches available and in use is currently insufficient, indicating that further recruitment is essential. The present study examined facilitators and barriers to the use of external coaches in school-based extracurricular sports activities, and whether any differences exist in the importance of these factors between teachers who do and do not use external coaches. A cross-sectional self-administrated questionnaire was provided to 1,880 teachers and the percentage agreement with each facilitator and barrier as applicable to their decision to use an external coach was determined. Data were received from 253 teachers. For 39/50 facilitators and 17/45 barriers, more than 50% of teachers considered the items to be applicable. There were 17 facilitators that had a significantly high rate of response in teachers who currently use an external coach. Teachers who do not use external coaches were significantly more likely to report barriers to be applicable than their counterparts that do use external coaches for 27/45 of the items. Revising recruitment strategies to reflect these important influencing factors would be an effective way to promote further recruitment of external coaches.

Key words: Extracurricular activities, human resource management, mixed methods approach, physical education, volunteer.

INTRODUCTION

Many sports activities are performed on school fields after classes finish for the day (Sport Council Wales, 2009; Edwards et al., 2011; Australian Bureau of Statistics, 2012). Engaging in these school-based

extracurricular sports activities(SBECSA) helps students to improve their physical, mental, academic, and social development (Fredricks and Eccles, 2006; Barnett, 2007; Dotterer et al., 2007; Lipscomb, 2007; Shernoff and

E-mail: ken-ryu.ao-yagi@ruri.waseda.jp. Tel/Fax: +81-4-2947-7189.

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Vandell, 2007; Schaefer et al., 2011; Ministry of Education, Culture, Sports, Science and Technology in Japan [MEXT], 2012). Considering these benefits, SBECSEA should be actively encouraged for positive youth development. However, there are several difficulties faced in terms of coaching and management of these programs such as lack of teachers who can coach SBECSEA expertly (Yamagata Prefecture Board of Education, 2010), the transfer of SBECSEA teachers to other schools causing elimination of the SBECSEA (Tokyo Metropolitan Board of Education, 2007), and considerable workload burden for teachers to manage the SBECSEA (MEXT, 1997; Japan Senior High School Teachers and Staff Union, 2008; Whiteley and Richard, 2012). Thus, managing SBECSEA using teachers as the primary coaching resource provides challenges to the current maintenance of these programs.

As a way to resolve the issues related to a lack of suitable in-school coaches, the use of external coaches (outsourcing of human resources) has been promoted (MEXT, 2013). An external coach is defined as a person who coaches a school-based extracurricular activity—not physical education in the regular school curriculum—as a substitute or support for a teacher. They are sometimes expert coaches living in the neighborhood, a graduate of the school, or a parent of the students (Sasakawa Sports Foundation [SSF], 2011). Benefits of using external coaches include an increase in student interest/participation and improvement in the coaching skills of teachers managing SBECSEA (Tokyo Metropolitan Board of Education, 2008), which indicates that external coaches are valuable to SBECSEA. However, difficulties in hiring external coaches (Miyagi Prefecture Board of Education, 2008; Yamagata Prefecture Board of Education, 2010; Williams et al., 2011) and the lack of external coaches in some regions and for certain types of sport have been reported (Nishijima et al., 2007; Nippon Junior High School Physical Culture Association, 2013). Therefore, promoting recruitment of external coaches is strongly needed. To increase recruitment of external coaches, it is important to develop effective recruitment promotion strategies.

Previous surveys and studies have attempted to clarify the facilitators and barriers to effectively recruiting and using external coaches (Kanagawa Prefecture Board of Education, 2008; Miyagi Prefecture Board of Education, 2008; LaVoi and Dutove, 2012). However, most of them were conducted with a limited number of questions and limited sample groups; thus, the facilitators and barriers in the recruitment of external coaches may be only partially explained.

Using semi-structured interviews, Aoyagi et al. (2013a) qualitatively identified categories of facilitators and barriers to the use of external coaches, which included support from the school, positive (or negative) relationship with the external coach, and inadequate mediation systems; however, the extent to which each facilitator and barrier influenced recruitment of external

coaches was not discussed. Describing these facilitators and barriers with a quantitative method such as the mixed methods approach previously conceptualized by Creswell (2014) is important to determine an effective strategy that a large population of teachers could adopt. Additionally, it is unclear whether SBECSEA teachers using external coaches would perceive more facilitators and fewer barriers than those not currently using external coaches. Given the theory about balancing the tradeoffs of benefits and barriers before taking a given action (Prochaska and DiClemente, 1983; Marcus and Owen, 1992; Ling and Horwath, 2001), it is hypothesized that SBECSEA teachers who use external coaches perceive more facilitators and fewer barriers than those who do not. Therefore, the aims of the present study were to examine the importance of the facilitators and barriers to the use of external coaches in SBECSEA as determined in a previous qualitative study (Aoyagi et al., 2013a), and determine whether a difference exists between SBECSEA teachers who do and do not use external coaches.

METHODS

Study participants

A total of 1,880 teachers who worked at a public junior high or high school were given a cross-sectional self-administered questionnaire. Two hundred and fifty three teachers responded to the survey (response rate: 13.5%) and were included in the study analyses. Detailed participant characteristics are shown in Table 1. The number of teachers who worked at junior high schools and high schools were 107 (42.3%) and 142 (56.1%), respectively. There were 71 physical education teachers (28.1%). Sixty-five teachers (25.7%) managed SBECSEA using external coaches and 163 teachers (64.4%) managed SBECSEA without the use of external coaches.

Stratified random sampling was used for recruitment in the present study. One hundred and eighty-eight schools (94 junior high schools and 94 high schools) were selected from all 47 prefectures in Japan. Two junior high schools and two high schools were selected from each prefecture. Unified junior high schools and high schools, evening schools, and branch schools were excluded before the random sampling because they are minorities in the school system and may have biased the results. To avoid sampling bias such as only physical education teachers answering the questionnaire, 10 teachers were invited from each school.

Questionnaire

The questionnaire contained 50 items assessing perceived facilitators and 45 items assessing perceived barriers to using external coaches in SBECSEA. The items covered all facilitators and barriers revealed in a previous study that were considered representative of the target population based on exploratory qualitative analysis (Aoyagi et al., 2013a). Therefore, the questionnaire was considered to have high content validity (Creswell and Plano Clark, 2007). Participants were asked, "How do you perceive each item as facilitator (or barrier) to the use of external coaches?" Responses were set on a six-point scale ranging from "not applicable at all (0)" to "very applicable (5)". Each participant was also asked to complete a series of sociodemographic questions about their gender, age, type of school

Table 1. Characteristics of participants

	n	%
Overall	253	100.0
Gender		
Male	178	70.4
Female	74	29.2
Missing	1	0.4
Age group		
23-29	33	13.0
30-39	70	27.7
40-49	81	32.0
50-60	68	26.9
Missing	1	0.4
Type of school		
Junior high	107	42.3
High	142	56.1
Missing	4	1.6
Teaching subject		
Physical education and Health	71	28.1
Others	178	70.4
Missing	4	1.6
Status of SBECSA		
Engaged and use external coach	65	25.7
Engaged but don't use external coach	163	64.4
Not engaged	25	9.9
Missing	0	0.0

(junior high school or high school), and teaching subject. Whether or not they manage any SBECSA and make use of external coaches was also asked.

Data collection procedures

Request letters for participation in the study along with a set of questionnaires (including instructions and a consent form) were first sent to the principals of the schools that had been randomly selected. The principals then distributed the questionnaire to teachers in the school. Finally, each teacher completed the self-administrated questionnaire and returned it to the researchers. The survey was conducted in 2012. Participants were informed of the purpose and design of the study, and all participants provided written informed consent. The research proposal was approved by the Ethics Board of Waseda University (No. 2011-241).

Analyses

To estimate the importance of each facilitator and barrier, percentages of applicability were calculated. Responses of 0–2 were defined as inapplicable answers and 3–5 were considered applicable. Percentages of applicability among SBECSA teachers who do and do not use external coaches were calculated separately. Chi-square tests ($\alpha = 0.05$) were conducted to verify

differences between the two groups for each facilitator and barrier. Any missing values were excluded. All analyses were conducted using IBM SPSS Statistics Version 21.

RESULTS

Of the 50 facilitators, more than half (50%) of the teachers indicated that 39 items were applicable (Table 2). Facilitators that over 90% of teachers reported to be applicable were: f1. improving technique of team members (96.0%); f6. desire to let team members become more skillful (92.8%); f10. providing stimulation for team members (91.5%); f15. growing in practice efficiency (95.2%); f16. having a diverse coaching method (93.6%); f17. being able to show examples of play (92.7%); f18. increasing practice method (90.2%); f34. inability of SBECSA teacher to coach technically (96.0%); and f38. having other viewpoints (91.6%). In terms of the system in place for recruitment of external coaches, more than half of teachers considered compensation and mediation systems as facilitators.

There were 17 items that had a significantly higher rate of response from SBECSA teachers who use external

Table 2. Percentages for facilitators of using external coaches

Large category (4)	Middle category (17)	Small category (50)	Overall	External coach	
				use	Don't use
benefits to SBECSA	growth of team members	f1. improving technique of team members	96.0	100.0	94.3
		f2. team member contact with adults other than teacher	77.1	80.0	76.3
		f3. learning about manners	53.0	78.5**	41.9
		f4. positive effect on mental phase	67.9	89.2**	60.0
		f5. showing communication with SBECSA teacher and external coach to team members	32.8	46.2*	28.8
		f6. desire to let team members become more skillful	92.8	95.4	92.5
		f7. ease of teaching team members courtesy toward external coach	66.7	75.4	66.3
	inspiring morale of team members	f8. increasing motivation of team members	87.1	96.9**	84.4
		f9. increasing confidence of team members	72.3	89.2**	67.5
		f10. providing stimulation for team members	91.5	95.4	89.2
		f11. having freshness for daily SBECSA	38.0	47.7	33.8
		f12. bracing climate of the SBECSA	69.0	87.7**	63.1
		f13. conveying enthusiasm about the sport	85.2	95.4**	81.9
		f14. conveying expectations of SBECSA teacher to team members	44.2	55.4	41.9
	improvement of practice quality	f15. growing in practice efficiency	95.2	100.0*	93.1
		f16. having a diverse coaching method	93.6	96.9	92.5
		f17. being able to show examples of play	92.7	96.9	90.6
		f18. increasing practice method	90.2	93.8	88.5
	enhancement of connection with local community	f19. utilizing a human network of external coaches	70.8	75.4	70.0
		f20. connection with local community	64.1	67.2	62.3
		f21. utilizing human resources of local community	80.7	80.0	80.0
	improvement of safety	f22. improvement of safety	72.8	78.5	72.5
		f23. dealing with members' injuries	71.9	75.4	74.4
	prevention of decline in coaching level by changes of SBECSA teachers	f24. maintaining coaching level when SBECSA teacher changes schools	83.1	80.0	86.9
		f25. ease of fit the SBECSA which has external coach when teacher changes schools	45.0	60.9**	38.1
	improvement of cogency	f26. having cogency	73.5	92.3**	66.3
		f27. becoming a bridge between SBECSA teacher and parents	14.5	25.0**	10.0
benefits to teachers	reduced burden on SBECSA teachers	f28. reduced burden on SBECSA teacher	80.3	90.8*	76.3
		f29. help for SBECSA teacher	86.7	92.3	84.4
		f30. being able to use time other than that spent on technical coaching	58.6	60.0	56.3
		f31. increasing number of coaches	82.4	84.6	81.9
		f32. no need for SBECSA teacher to learn about the sport	21.1	23.1	18.9
		f33. being able to allow the SBECSA teacher to rest	36.9	33.8	37.5
		f34. inability of SBECSA teacher to coach technically	96.0	93.8	96.9
	lack of teachers who can technically coach	f35. no teachers available to become an SBECSA teacher	75.5	66.2	78.6
		f36. worry for team members because of no technical coaching	78.7	73.8	80.0
		f37. complaints from team members regarding SBECSA teacher who cannot coach technically	67.1	60.0	70.0
	coaching from various perspectives	f38. having other viewpoints	91.6	92.3	91.3
		f39. closeness of external coach with team members	27.2	47.7**	21.1
		f40. seeing growth of team members in terms of the SBECSA	72.0	87.7**	67.7

Table 2. Cont'd

	growth of SBECSA teachers	f41. promoting SBECSA teacher's learning about coaching methods	88.8	86.2	89.4
		f42. promoting SBECSA teacher's learning about attitude toward team members	39.8	54.7**	32.5
	busyness of teacher	f43. teachers' busyness of their work	76.2	87.7*	72.8
system	compensation	f44. system that supplies external coach with compensation	60.6	61.5	60.1
		f45. increasing adoptable number of external coaches in system	51.0	46.2	51.6
		f46. ease of prescribing to external coach because of supplied compensation	59.7	55.4	61.6
	mediation of external coaches	f47. system that mediates external coaches	51.8	50.8	54.1
support	introduction from acquaintances	f48. availability of person to introduce external coach	47.8	49.2	46.3
		f49. strong connection with relatives	9.4	9.4	9.6
		f50. positive attitude of school regarding engagement of external coach	74.6	92.3**	66.5

Note. "f" placed in front of small category means "facilitator"; ** = $p < 0.01$; * = $p < 0.05$; Percentages exclude missing data.

coaches than those who do not. Six of these—f8. Increasing motivation of team members (96.9%; $p = 0.009$), f13. conveying enthusiasm about the sport (95.4%; $p = 0.009$), f15. growing in practice efficiency (100.0%; $p = 0.036$), f26. having cogency (92.3%; $p < 0.001$), f28. reduced burden on SBECSA teacher (90.8%; $p = 0.013$), and f50. positive attitude of school regarding engagement of external coach (92.3%; $p < 0.001$)—showed over 90% applicability.

With respect to barriers, 17/45 items were considered applicable by 50% or more of teachers (Table 3). Barriers that more than 60% of teachers perceived to be applicable were: b8. lack of knowledge about team member's life in school (67.1%); b14. conflicting opinions with external coach (73.9%); b29. difficulty canceling the engagement of external coach once engaged in SBECSA (81.1%); b31. unclear system of introduction of external coaches (73.3%); and b41. difficulty finding external coaches (65.1%). Additionally, one third to over 80% of teachers regarded issues such as a rudimentary system, lack of compensation, limitations of the system, lack of cognition about the system, and difficulty finding external coaches as barriers related with the system.

SBECSA teachers who do not currently use external coaches were significantly more likely to report barriers to be applicable than their counterparts for 27/45 items. Eight of these items—b2. having trouble with parents (63.8%; $p = 0.001$), b3. development of a complex human relationship (62.7%; $p < 0.001$), b5. mismatch of SBECSA teacher and external coach (70.6%; $p < 0.001$), b6.

external coach who cannot give pupils guidance (65.8%; $p < 0.001$), b8. lack of knowledge about team members' lives in school (76.9%; $p < 0.001$), b14. conflicting opinions with external coach (85.0%; $p < 0.001$), b18. attentiveness to external coach (66.0%; $p < 0.001$), and b29. difficulty canceling the engagement of external coach once engaged in SBECSA (86.3%; $p = 0.002$)—were perceived to be applicable by more than 60% of participants not currently using an external coach.

DISCUSSION

To explain the importance of facilitators and barriers in the use of external coaches in SBECSA and clarify whether differences existed in the perception of these items between SBECSA teachers who used external coaches or those that did not, a cross-sectional self-administrated questionnaire survey was given to junior high school and high school teachers across Japan. Nine facilitators perceived as applicable by over 90% of teachers could be categorized into general groups related to "growth of team members", "inspiring morale of team members", "improvement of practice quality", "lack of teachers who can technically coach", and "coaching from various perspectives".

Considering these facilitators more fully, a lack of expertise would encourage an SBECSA teacher to recruit an external coach to gain various coaching perspectives and improve practice quality for the growth of team

Table 3. Percentages for barriers to using external coaches

Large category (4)	Middle category (17)	Small category (45)	Overall	External coach	
				use	Don't use
negative influences on SBECSA	poor relationship	b1. past failure to engage external coach	30.1	20.3	34.2*
		b2. having trouble with parents	56.2	38.5	63.8**
		b3. development of a complex human relationship	54.8	36.9	62.7**
		b4. break up of relationship between external coach and team members	43.0	21.5	49.4**
		b5. mismatch of SBECSA teacher and external coach	59.3	32.3	70.6**
	disregard of educational aspect	b6. external coach who cannot give pupils guidance	58.8	35.4	65.8**
		b7. lack of understanding of external coach about school policy	47.2	26.2	52.8**
		b8. lack of knowledge about team member's life in school	67.1	44.6	76.9**
	problem behaviour	b9. too much value placed on winning	46.4	29.2	52.2**
		b10. physical punishment	32.1	20.0	37.5*
		b11. sexual harassment	23.6	15.4	24.8
		b12. ranting	32.0	18.5	36.6**
		b13. misappropriating	12.9	6.2	14.4
	conflict of coaching policy	b14. conflicting opinions with external coach	73.9	46.2	85.0**
		b15. becoming practice of SBECSA harder	26.1	12.3	28.8**
	insufficient technical coaching	b16. developing a way to resolve immobilization of the external coach	12.0	3.1	16.1**
		increased burden on SBECSA teachers	b17. increased burden on SBECSA teacher	41.8	23.1
b18. attentiveness to external coach			58.1	38.5	66.0**
b19. feeling sorry for external coach because the SBECSA was not managed well			36.3	38.5	35.2
b20. burden of only seeing external coach's coaching			39.5	36.9	41.5
b21. the need to try hard if external coach engages in SBECSA	31.9		32.3	31.4	
decreased coaching opportunity for teacher	b22. availability of teacher who can technically coach the sport	56.0	46.2	59.7	
	b23. feeling of not having to depend on external coach	42.3	17.2	53.8**	
	b24. loss of enjoyment of coaching	16.9	10.9	19.3	
difficulty adjusting to external coach	b25. inconvenient practice time	55.6	41.5	58.4*	
	b26. no time for meetings	48.6	40.0	50.6	
inverted status	b27. stronger influence of external coach than SBECSA teacher on team members	48.6	33.8	53.8**	
	declination of teacher's leadership ability	b28. declination of teacher's leadership ability	39.2	27.7	46.6**
system		rudimentary system	b29. difficulty canceling the engagement of external coach once engaged in SBECSA	81.1	68.8
	b30. cumbersome procedure to enroll external coach		45.2	30.8	51.6**
	b31. unclear system of introduction of external coaches		73.3	64.6	76.6
	b32. uncertain system		48.4	36.9	51.6*
	b33. large burden on external coach		51.2	53.8	47.5
	lack of compensation	b34. little compensation	58.9	64.6	53.5
b35. difficulty prescribing to external coach because of a lack of compensation (volunteer)		55.6	49.2	59.0	
b36. burden of compensation		36.3	23.4	38.1*	
limitations system	of	b37. institutional limitation on number of external coaches	50.4	47.7	50.9

Table 3. Cont'd

		b38. institutional limitation on coaching frequency	46.8	41.5	47.2
	lack of cognition about system	b39. little knowledge of system	56.6	53.8	56.3
		b40. lack of dissemination of system	46.2	41.5	46.9
	difficulty finding external coaches	b41. difficulty finding external coaches	65.1	64.6	62.5
support	opposition from others	b42. negative attitude of school regarding engagement of external coach	27.6	16.9	30.4*
		b43. opposition to accepting external coaches who live outside of the local area	15.3	12.3	16.9
	lack of knowledge	b44. having had no ideas to promote engagement of external coach	18.8	9.2	23.0*
		b45. ignorance about engagement of external coach in the school	38.9	27.7	43.0*

Note. "b" placed in front of small category means "barrier"; ** = $p < 0.01$; * = $p < 0.05$; Percentages exclude missing data.

members, including morale. More than half of teachers also perceived compensation and mediation systems as facilitators to the recruitment of external coaches. Thus, state and local governments should improve and promote compensation support projects and human resource mediation systems that are currently in use in other areas of Japan (e.g. SSF, 2011; Kochi Prefecture Board of Education, 2013; Okayama Prefecture Board of Education, 2013) to promote increased use of external coaches. More SBECSA teachers who use external coaches, compared with those that do not, felt that understanding from their school was an important facilitator in their use of an external coach. It is not only the efforts of the SBECSA teacher but also support from the school principal and other teachers that are important in promoting recruitment of external coaches.

In terms of the overall perception of barriers by participants, the following explanations could be considered. First, it is difficult to find external coaches. Even if there is mediation system, difficulties in getting introduced to external coaches and in cancelling the engagement of external coaches might make teachers hesitate to go through the process. Further possible reasons contributing to this hesitation is that external coaches do not usually know much about team members' lives in school, and they sometimes have conflicting opinions with SBECSA teachers. A previous report from a human resource organization indicated similar findings that a lack of transparency in the mediation system disrupted use of this system (Kanagawa Prefectural Center of Physical Education, 2007). Therefore, clear information on the processes involved is required for human resource organizations to properly manage mediation systems. Aoyagi et al. (2013b) suggested that implementing a trial period would be beneficial to identify the compatibility of an external coach with the SBECSA teacher and the team members (e.g. in terms of coaching principles, coaching method, and relationships). Given that SBECSA

is activity organized through the school (MEXT, 2008, 2009), the guiding (coaching) principles of the SBECSA teacher should be at the core of the activity, with frequent communication between the SBECSA teacher and any external coach brought in.

SBECSA teachers who do not use an external coach were more likely to perceive poor relationships with external coaches and their potential disregard of educational aspects as barriers. Additionally, conflicting opinions with the external coach and difficulty in cancelling the engagement of an external coach once engaged in SBECSA were similarly considered barriers for them. To resolve these issues, it is necessary for SBECSA teachers to conduct sufficient interviews before recruiting an external coach and to ensure frequent communication after recruitment of external coaches.

As hypothesized, SBECSA teachers who currently use external coaches found facilitators to be more important factors than barriers when it comes to recruiting external coaches. By contrast, SBECSA teachers who do not use external coaches found several barriers to be the most important factors in terms of considering recruitment of an external coach. According to the theory of decisional balance, people who are currently acting out certain behaviors recognize facilitators (benefits/pros) more, while those who have not yet performed the behavior see barriers (burdens/cons) more (Marcus and Owen, 1992; Ling and Horwath, 2001). The results of the present study are thus consistent with the theory of decisional balance. Although there is a possibility of a ceiling effect with respect to many of the items in the questionnaire, from the perspective of this theory, enhancing the facilitators and reducing the barriers that were shown to have significant differences in perception between groups would be effective in helping teachers make a decision about using external coaches. These particular facilitators and barriers could potentially be applicable to a large population of teachers. However, the facilitators and

barriers that were perceived important only by few teachers are also important; school principals and local policy makers should consider the usefulness of addressing these various facilitators and barriers on a case-by-case basis.

The current study has some limitations. First, the study used a self-administrated questionnaire, although the questions were developed through careful interview in a previous study (Aoyagi et al., 2013a). Second, the analysis was cross-sectional, thereby making it impossible to identify the cause and effect. However, the cause and effect relationship would not make a large difference in the ultimate practice of SBECSA because enhancing facilitators and reducing barriers would benefit teachers and promote recruitment of external coaches in both situations.

Despite these limitations, the present study adds quantitative support to the facilitators and barriers reported by Aoyagi et al. (2013a), which can be applied to improve the effectiveness of external coach recruitment and use.

Conclusion

A high percentage of teachers perceived many facilitators and barriers as applicable to their decisions on whether to use external coaches.

The present study made it possible to differentiate the importance of each facilitator and barrier from the teachers' point of view. Adapting recruitment strategies to reflect the facilitators and barriers that were especially highly perceived, particularly those facilitators highly perceived as important by SBECSA teachers who currently use external coaches and the barriers highly perceived as important by SBECSA teachers who do not, would be an effective strategy to promote recruitment of external coaches. In terms of future research, verifying the longitudinal effect of change for each facilitator and barrier will be needed to develop an effective promotion strategy toward recruitment of external coaches for SBECSA.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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