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Editors

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Vietnam.

ARTICLES

Research Article

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 Ishii[3], Ai Shibata[4], Hirokazu Arai[5] and Koichiro Oka[3]

[1]Graduate School of Sport Sciences, Waseda University, 2-579-15 Mikajima, Tokorozawa, Saitama 359-1192, Japan.
[2]Japan Society for the Promotion of Science, 5-3-1 Kojimachi, Chiyoda, Tokyo 102-0083, Japan
[3]Faculty of Sport Sciences, Waseda University, 2-579-15 Mikajima, Tokorozawa, Saitama 359-1192, Japan.
[4]Faculty of Health and Sport Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8574, Japan.
[5]Faculty of Letters, Hosei University, 2-17-1 Fujimi, Chiyoda, Tokyo 102-8160, Japan.

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-administered 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

Vandell, 2007; Schaefer et al., 2011; Ministry of Education, Culture, Sports, Science and Technology in Japan [MEXT], 2012). Considering these benefits, SBECSA 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 SBECSA expertly (Yamagata Prefecture Board of Education, 2010), the transfer of SBECSA teachers to other schools causing elimination of the SBECSA (Tokyo Metropolitan Board of Education, 2007), and considerable workload burden for teachers to manage the SBECSA (MEXT, 1997; Japan Senior High School Teachers and Staff Union, 2008; Whiteley and Richard, 2012). Thus, managing SBECSA 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 SBECSA (Tokyo Metropolitan Board of Education, 2008), which indicates that external coaches are valuable to SBECSA. 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 SBECSA 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 SBECSA 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 SBECSA as determined in a previous qualitative study (Aoyagi et al., 2013a), and determine whether a difference exists between SBECSA 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 SBECSA using external coaches and 163 teachers (64.4%) managed SBECSA 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 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 SBECSA. 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
	coordination between SBECSA teacher and parents	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
	lack of teachers who can technically coach	f34. inability of SBECSA teacher to coach technically	96.0	93.8	96.9
		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

Table 2. Cont'd

	growth of SBECSA teachers	f40. seeing growth of team members in terms of the SBECSA	72.0	87.7**	67.7
		f41. promoting SBECSA teacher's learning about coaching methods	88.8	86.2	89.4
	busyness of teacher	f42. promoting SBECSA teacher's learning about attitude toward team members	39.8	54.7**	32.5
system	compensation	f43. teachers' busyness of their work	76.2	87.7*	72.8
		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
	understanding from the school	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-administered 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**
		b9. too much value placed on winning	46.4	29.2	52.2**
	problem behaviour	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**
negative influences on teachers	increased burden on SBECSA teachers	b17. increased burden on SBECSA teacher	41.8	23.1	48.8**
		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**
system	declination of teacher's leadership ability	b28. declination of teacher's leadership ability	39.2	27.7	46.6**
	rudimentary system	b29. difficulty canceling the engagement of external coach once engaged in SBECSA	81.1	68.8	86.3**
		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 of system	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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Full Length Research Paper

Occupational stress coping strategies among lecturers in Ilorin metropolis, Nigeria

*OLAITAN, Olukunmi Lanre, TALABI, Adebayo Ebun, OLUMORIN, Charles Olabode, BRAIMOH, Kolawole Thomas

University of Ilorin, Ilorin, Nigeria

This study investigated occupational stress coping strategies among lecturers in Ilorin metropolis. The descriptive research design was employed and a total of one hundred and fifty (150) lecturers were selected from three (3) institutions, using a simple random sampling technique. Questionnaire was validated before using test re-test method of reliability with co-efficient 'r' 0.78. Five research hypotheses were formulated and data collected were analyzed using percentage and chi-square at 0.05 level of significant. The findings showed that, all the hypotheses were rejected. Based on the findings, recommendations and suggestions were made that could increase the interest of lecturers in Ilorin metropolis to participate in exercise activities for enjoyment and as occupational stress relief.

Key words: Occupational stress, Coping strategies, Lecturers, Physical Exercise.

INTRODUCTION

According to latest health reports, stress is said to be one of the largest killer of man today (Health reports, 2008) Stress is now becoming more accepted as being crucially related to our total health-physical mental but emotional. According to the American Academy of Family Physician, majority of all physicians' visit are prompt by stress related symptoms that are known to cause or worse medical condition (Ayurveda, 2008). Occupational stress is our responses to specific stimuli called 'stress inducer' and they are the events that generally produce stress in a workplace. They may be temporary or chronic, leading to negative health consequence or outcome changing a person's life. Although life itself is dependent upon a certain form of stress, it is only when stress is handled

poorly by the body or mind that it becomes a health hazard (Olaitan, et al., 2010).

Two powerful body system cope with stress; the nervous system control the rapid body changes, While the endocrine system regulates the longer term pattern of stress response by relating hormones into the blood. The adrenal activities the sympathetic nervous system, reducing the normalizing effects of body function. This increase the metabolic rate, heart rate, circulation and blood pressure. In addition, effectiveness of the digestive system is diminished and disturbance in sleep patterns become common (Ayurveda, 2008).

A certain amount of occupational stress occurs every second of one's life in a workplace. There is no work

*Corresponding author E-mail. lanreolives@yahoo.com Tel: +234 80 763 33 763

without stress. However, crisis occurs when occupation stress is not manageable. Examples are students or works unrest, lecturer with load of teaching and make research work to be carried out in situation like this, it is the opinion of the researchers to draw attention of the general society, most especially lecturers to alert them on the basis of overcoming occupational stress through exercise activity which apparently has not been give much attention.

Lecturing Job and Stress

Stress

The response our bodies and minds have to the demands place on them – is a normal part of life and a normal part of any job (especially teaching job). What we think of 'Lecturing job and stress' is what happens when:

1. The challenge and demand of work become excessive.
2. The pressures of the institution surpass lecture's ability Satisfaction becomes frustration and exhaustion.
3. Workplace stress is usually the result of high demand on the job, real or perceives lack of control concerning those demands, poor day-to-day organization and communication and an unsupportive work environment (Olaitan, et al., 2010).

Exercise and stress

Exercise is the use of the body or mind that involves effort or activity. The search has shown that physical exercise is the best tension reliever. It is a very important remedy for occupational stress. Nothing eases occupational stress more than exercise. Exercise, when properly done, gives the body time to operate in the efficiency mode (Ellen, et al., 2007).

Benefit of exercise in managing Lecturers' occupational stress

Physical exercise is immensely beneficial in managing occupational stress (Issac, 2006). This for several reasons:

Exercise helps reduce occupational stress not only by the biochemical's it produces, but by reducing others produced by stress. When a person experiences occupational stress the sympathetic nervous system produces cortisone and hormones that – if left unaltered in the blood stream- produce harmful effect on blood vessels.

Exercise releases helpful chemicals in our brain and body that are good for body use.

1. Exercise develops and maintains a health body which directly reduces occupation stress susceptibility.
2. Occupational stress often produces exercise tense muscles, particularly in the neck, shoulder and calf muscles. Exercise activities can help loose these up, both as part of a general warm-up period and during the main workout.

Physical exercise improves cardiovascular function by strengthening the heart muscle, causing greater elasticity of the blood vessels, increasing oxygen throughout your body and lowering your blood levels of fats such as cholesterol and triglycerides. All of these, of course, mean less chance of developing disease heart conditions, such as strokes, or high blood pressure.

Mental exercise activities proves outlet for negative emotions such as frustration anger and irritability, thereby promoting a more positive mood and outlook exercise also warm and relaxes cold, thing muscles and tissues which contribute to occupational stress feelings.

1. Regular exercise reduces amount of adrenal hormones the body releases in response to occupational stress.
2. Exercise improves mood by producing positive biochemical change in the body and brain.
   Also, exercise activity releases greater amounts of endorphins, the powerful, pain-relieving, mood – elevating chemicals in the brain.
   Exercise, therefore, will keep your body functioning properly and will keep body feel both relaxed, refreshed and promotes deep restful sleep (Adeyeye, 2007).
   The psychological benefits from a regular exercise routine help to eliminate occupational stress.
   Other psychological benefit follow from a regular workout. Improving overall health and fitness help produce self-confidence. Beyond that, it helps lecturers realize that are exerting to improve their mind and body. That stress to overcome the feelings of helplessness and resultant passivity that so often accompany stress (James, 2007).

Purpose of the study

The purpose of the study is to assess coping strategies to overcome occupational stress among lecturers in Ilorin metropolis.

Hypotheses

1. Exercise activities will not significantly overcome lecturers' occupational stress.
2. Time schedule by the lecturers will not significantly and overcome lecturers' occupational stress.
3. Lecturers' interaction with students will not significantly overcome occupational stress.

Table 1. Personal Characteristics of the Respondents

Variable	Frequency	Percentage(%)
Institution		
University of Ilorin, Illorin	50	33.3
Kwara State Polytechnic, Ilorin	50	33.3
Kwara State College of Education, Ilorin	50	33.3
Gender		
Male	95	63.3
Female	55	36.7
Religion		
Christianity	71	47.3
Islam	79	52.7
Age (in years)		
26-35	52	34.6
36-45	40	26.7
46-55	40	26.7
56 Years and above	18	12
Ethnic group		
Yoruba	122	81.3
Igbo	19	12
Hausa	6	6

4. Lecturers' health status will not significantly overcome occupational stress

5. Office workload will not significantly depend on overcoming lecturers' occupational stress.

RESEARCH METHODOLOGY

A multi-stage sampling technique was adopted to select 150 lecturers from Ilorin metropolis, Kwara State, Nigeria. A total of 50 lecturers each were chosen from, University of Ilorin, Ilorin, Kwara State Collage of Education, Ilorin and Kwara State Polytechnic, Ilorin. Some of the characteristics of the lecturers are shown in table 1. The questionnaire was developed by the researchers, which comprised two major areas. Section A, the personal information of the lecturers (5 items) and section B, occupational stress among lecturers (5 sub-sections) with responses in Likert rating scale format, thus; Strongly Agreed (SA), Agreed (A), Disagreed (D) and Strongly Disagreed (SD).

A test re-test method was used to ensure reliability. The reliability coefficient(r) 0.83 was obtained using thirty subjects from Ibadan metropolis, Oyo State, a separate population which is not part of the sampled population. To speed up the administration of the questionnaire 6 research assistants (2 to each institution) were employed and trained within two weeks, questionnaire were distributed and collected and the return rate was 100% that is 150.

RESULTS AND DISCUSSION

Table 1 showed that 33.3% of the respondents were

chosen from each institution, 63.3% were male while 36.7% were female. Also 47.3% were Christians and 52.7% were Islam. The table revealed that 34.6% were within the age range of 26 to 35 year, 26.7% were within the range of 36 to 35years and 46 to 55 years apiece and 12% were within the age range of 56 years and above. Finally, 81.3% of the respondents were Yoruba, 12.7% were Igbo and 6% were Hausa.

In the hypotheses testing (table2), since the calculated X^2 which is 18.98 is greater than the table value X^2 6, o 0.05= 1.64 the hypothesis was therefore rejected which means that overcoming occupational stress is dependent on use of exercise. The authors therefore concluded that exercise can be used to overcome occupational stress. This can be traced to the statement by Ellen, et al who concluded that, nothing eases stress more than exercise (Ellen, et al., 2007).

In hypothesis2, since the calculated X^2 of 32.09 is greater than the table value $X^2$6, 0.05=1.64 the hypothesis was therefore rejected, which means that overcoming lecturers' occupational stress is dependent on time schedule by the lecturers. The researchers therefore, concluded that time schedule by the lecturers can be use to overcome occupational stress. This is in line with Olaitan who asserted that, if every individual can programme their time well, they can incorporate relaxation in it to manage job stress (Olaitan, 2004).

In hypothesis 3, since the calculated X^2 of 68.21 is

Table 2. Hypothesis Testing

S/N	Variable					Calc. X^2	df	Table Value	Decision
	Ho.1: Exercise and occupational stress	**SA**	**A**	**D**	**SD**				
1	I prefer exercise to overcome work stress	8	101	39	2				
2	Exercise maintains a healthy body which directly reduce work stress	90	10	48	1	18.98	6	12.59	Rejected
3	Exercise eases work stress	4	80	61	4				
	Ho.2: Scheduling of time and occupation stress	SA	**A**	**D**	**SD**				
4	I cannot set a said time for exercise activities because of my lecturing job	100	7	**40**	3				
5	I manage work stress with various exercise after working day	20	82	10	38	32.09	6	12.59	Rejected
6	I reserved time for regular teaching	49	90	6	5				
S/N	**Ho.3: Interaction and occupational stress**	**SA**	**A**	**D**	**SD**				
7	Always have discomfort lecturing a large class	51	2	44	53				
8	The interaction with students in the class gives me stress	11	91	9	39	68.21	6	12.59	Rejected
9	Interaction with students with lack of self coordination gives me stress	15	51	85	45				
S/N	**Ho.4: Lecturers' health status and occupational stress**	**SA**	**A**	**D**	**SA**				
10	Always tiered	20	71	40	10				
11	Students attitude make me fall ill	22	71	26	32	20.79	6	12.59	Rejected
12	Frequent illness from lecturing job	45	85	18	2				
S/N	**Ho.5: Productivity, office workload and occupational stress**	**SA**	**A**	**D**	**SA**				
13	The preparation of examination, and marking of script are stressful	91	16	41	2				
14	The workload in my office reduce my productivity	82	38	20	10	38.13	**3**	7.81	Rejected

greater than table value $X^2$6, 0.05=1.64 the hypothesis was therefore rejected, which means that overcoming occupational stress is dependent on the lecturers' inter-action with students. The authors therefore concluded that lecturers' interaction with students can be used to overcome occupational stress. The corroborates with Ellen, et al who said that, workplace stress is usually the result of high demands on the job and that there is need for individual worker to interact with other to relief them from occupational related stress(Ellen, et al, 2007).

In hypothesis 4, since the calculated X^2 of 20.79 is greater than table value $X^2$6, 0.05=1.64 the hypothesis was therefore rejected, which means that that overcoming occupational stress depends on lecturers' health status. It is therefore concluded that lecturers' health status has effect on overcoming occupational stress. This is in support of Adeniyi who pointed out that, workers' health can be protected through helping them to cope with stress, using various coping techniques (Adeniyi, 2000).

In hypothesis 5, since the calculated X^2 of 38.14 is greater than table value $X^2$6, 0.05 = 1.37, thereby rejected the hypothesis, which means that overcoming occupa-tional stress is dependent on office workload. It is therefore concluded that stress is dependent on office workload. This is confirmed by Copper who maintained that, job stress can hinder effectiveness at work and can

lead to low performance (Copper, 2004).

CONCLUSION

All the variables studied were found to be important in that case, the general level of awareness and interest of lecturers in the use of exercise to overcome occupational stress must continue to increase tremendously throughout the institutions in Nigeria, more especially when the lecturers are conscious of its importance to life and their career. In fact, a certain amount of stress is necessary to be able to perform the daily task of our life. Too much occupational stress (especially constant, unrelieved stress) however, can result in physical and mental illness.

RECOMMENDATIONS

Finally, exercises that will aid good rest and sleep have been found to be very important in the maintenance of good health on those who take part in exercise activities. In the view of the conclusion drawn from this study, the following recommendations were put forth.

Lectures should attend seminars, workshops and con-ferences on occupational health services, so as to improve their knowledge on occupational stress and related issues.

Lecturers should be encouraged to participate in sport, exercise and fitness programmes in other to maintain a good health status.

Also, tertiary educational institutions in Nigeria should explore other models being adopted in the developed countries and seek alternative source creating time/day for exercise programme use for overcoming their occupational stress.

Orientation services should be provided for lecturers by professionals in the field of occupational health, exercise and fitness programme.

Conflict of Interests

The authors have not declared any conflict of interests.

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