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A Longitudinal Study of the Impact of the Peer Support Programme on a Japanese Male-Dominated High School Through 6 Years Practices

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Abstract: This study explored the impact of the peer support programme on pupils at Japanese technical high school for over 6 years. A total of 268 pupils (an intervention group 112; a control group 114) were invited for the study and the pupils of the intervention group were given peer support training and they joined its supporting activities. All the pupils were assessed three times by adopting IRS, RSES10 and GHQ28. The results showed that the programme seemed to give positive influences on the peer supporters in terms of IRS, RSES10 and GHQ28. Also, both group members were classified into low-scoring groups and high-scoring groups, depending on their scores at the first assessment. Then, the results of analysis showed that the pupils from both low & high-scoring groups significantly improved their scores in IRS. In RSES10 and GHQ28, the pupils from the low-scoring groups improved their scores, but those from the high-scoring groups did not improve much. As a conclusion, even in a technical high school where the majority of pupils was male pupils (over 90%), the peer support programme seemed to give positive influences on the peer supporters in terms of IRS, RSES10 and GHQ28.

Keywords: *GHQ28, interpersonal relationship, male pupils, peer support, self-esteem.*

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Introduction

Peer support is an approach that builds on the helpfulness and altruism characteristic of friendship by extending it beyond friendship to the wider peer group. Cowie and Wallace (2000) argued that through peer support interventions, young people can learn to deal with conflict and to relate to one another in a more constructive, non-violent way. The peer support approaches have been continually developed over the past 50 years in Western Nations. In Japan, the peer support approaches were introduced to school education in the early 1990's when several children's issues had been exacerbated such as bullying, youth suicide, class disruption and school absenteeism (Ministry of Education, Culture, Sports, Science and Technology, 2001). The peer support approach was applied as a part of preventive methods against these issues, and since the year 2000 has gained popularity amongst schoolteachers and researchers. In Japan, the peer support approaches have been facilitated by several educational groups, and the Japan Peer Support Association (JPSA) was the largest and most influential organization across, which have had great influences on the theoretical developments of the peer support and its practices.

In the study of peer support, which was applied in educational settings, there were several research issues which were described in previous studies (e.g., Houlston & Smith, 2009). One of the issues was that there were not much quality longitudinal studies, which were designed to examine the impact of peer support programmes between an intervention group and a control group (Baginsky, 2004). There were several longitudinal studies, but most of them were partially based on the qualitative data which were derived from participant's self-reports to show their feelings about the impact of the peer support.

Another issue was that there were not many studies regarding male peer supporters' practices. Due to the nature of peer support activities, such as caring for others, male pupils tend not to be involved into the activities as a peer supporter. Even if male pupils joined the peer support activities, their dropout rate was generally high comparing to those of female pupils.

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It seems that male pupils did not want to be regarded as a "teacher's pet" by other male pupils. Also, male pupils might think that joining peer support activities was a threat to their sense of masculinity (Olweus & Endresen, 1998). Hence, the peer support programme seemed not to be adapted well in male-dominated school environments. Considering these issues, this study was designed to examine the impact of the peer support programme on mainly male pupils while adopting a long-term peer support practice.

Methodology

Objectives

The research objectives were as follows;

1) To evaluate the impact of the peer support programme on the peer supporters comparing to the control group in terms of a long-term practice.

2) To evaluate the impact of the peer support programme at the male-dominated school by utilizing existing school activities as a part of peer support activities.

Participant and Data Collection

Participants were invited from a state technical high school which was located in a large city in Aichi Prefecture, Japan. The school has about 840 pupils in total and 93% of them were male pupils. As the intervention group, annuary twenty pupils were invited and most of them were members of the school health committee.

Table 1. Participants and Years

		2005	2007	2008	2009	2010	2011	Total
Intervention Group	Total	20	21	20	22	25	24	112
	M/F	19/1	17/4	17/3	21/1	23/2	23/1	100/12
Control Group	Total	18	23	17	14	14	28	114
	M/F	10/0	21/2	17/0	13/1	12/2	27/1	108/6

Scales

For the evaluation of the peer support programme, the following scales were adopted. Interpersonal Relationship Scale (IRS) is a 6-item scale for assessing self-assertion, self-understanding, open-mindedness, understanding of others, sensibility and reliability. The items are rated on a 5-points Likert scale and the larger numbers indicates more skillful. The scale was originally developed for assessing impact of Structured Group Encounter. Interpersonal Relationship Scale yielded relatively high reliability for the samples (α=0.83).

Rosenberg Self Esteem Scale (RSES10) is a 10-item scale for evaluating individual self-esteem. The items are rated on a 5-point Likert format, and the larger numbers indicates one's higher self-esteem. RSES10 yielded acceptable reliability for the samples (α=0.75)

General Health Questionnaire (GHQ28) is a 28-item screening device for assessing somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. The items are rated on a 4-points Likert scale from 0 ("strongly disagree") to 4 ("strongly agree"), that the smaller number indicates healthier condition. GHQ28 yielded acceptable reliability for the samples (α=0.77).

The self-evaluation questionnaire has 10 items (questions), which were rated on a Likert scale and provided some space for free descriptive answers about their experiences of the activities.

Procedure

This study was conducted from 2005 and 2011 (for over 6 years). The peer support programme had been applied as a part of the school health committee activities from 2005 to 2011. The school health committee members were selected from each class, and they were given the peer support training by a school nurse who was a qualified trainer of the Japan Peer Support Association (please see the table 2; The contents of training sessions).

Table 2. Contents of Peer Support Training Sessions

Level	Session	Objectives	Month	Note
Basic course	1	Orientation meeting, Birthday chain (Cultivating companions) Egogram (Self-understanding)	Apr.	
	2	Breathing technique (Relaxation) Ideal Egogram (Self-understanding), Drawing (Be receptive to others)	May	Volunteer work
	3	Trust walk (Understanding the importance of support) Assertion (How to response)		
	4	Breathing (Relaxation), Meditation (Concentration) Listening I: Active listening (Listening skill)	Jun.	
	5	Breathing technique (Relaxation), Meditation (Concentration) Listening II: Memories, Understanding images (Listening skill)		
	6	Getting together, Ideograph word chain (Non-verbal communication) Listening III: Understanding other's feeling (Sensing from his expression)	Jul.	
	7	Questions, Open-ended question/ Close-ended question Listening IV): One way/Interactive communication (How to ask questions)	Sep.	AED training/ Sports festival
	8	Breathing technique (Relaxation), What do you wanna do? (Self-determination) Listening V: Relief activities (Rescue & support)		
	9	Breathing (Relaxation) Personality assessment, Stress check (Self-understanding)	Oct.	Cultural festival
	10	Breathing (Relaxation) Stress coping & Resilience (Self-understanding, Psychological recovery)		
Applied course	11	Getting together (Non-verbal communication) Mysterious treasure island (communication competence, Cooperation)	Nov.	
	12	Falling backward (Feeling of reliability) Listening VI: Five steps for solving problems (Giving a helping hand to)	Dec.	
	13	My feeling (Self-disclosure) Listening VII: Conflict resolution, AL'S methods, Confidentiality	Jan.	

Also, the clean-up committee members were selected as a control group. In Japan, a new academic year traditionally starts in April, therefore the pupils of the intervention group started joining the peer support training and supporting activities from April. For the evaluation of the peer supporters (the intervention group) and the control group, assessments were conducted three times per year; before the peer support programme starts (April), after 7 months (November) and after 10 months (the end of January). The three scales, which were Interpersonal Relationship Scale (IRS), Rosenberg Self Esteem Scale (RSES10) and General Health Questionnaire (GHQ28), were applied for the evaluations in both the intervention group (peer supporters) and the control group. At the end of the final training session (at the end of January), the peer supporters were asked to complete a self-evaluation questionnaire, which provided some space for free descriptive answers about their experiences regarding the activities.

Framework of the Peer Support Activities

The structure of the peer support programme of Japan Peer Support Association is composed of a cycle of 4 phases, which are 1) Training, 2) Planning, 3) Support activities, and 4) Group supervision (Evaluation), and this is generally called the Peer Support Programme in Japan (Morikawa et al., 2002).

In this study, the peer support programme started annually from April, and its training, planning and support activities were carried out while considering the contents of the school events. Group supervision (Evaluation) was held in November, then, the training, planning and support activities were continued until the February.

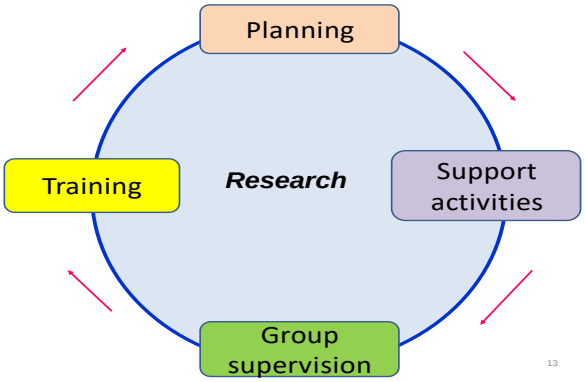

Figure. 1. The Cycle of Peer Support Programme of JPSA

Analyzing of Data

A series of analysis of variance was conducted with using IBM SPSS Statistics 25, to compare the values between the intervention group (peer supporters) and the control group. Also, in terms of the results of the first assessment, the participants (both the intervention group and the control group) were divided into two groups (low/high-scoring groups) for further evaluation. Since the participants were selected from young adolescents, this seemed to maximize individual differences in their scores. With careful consideration of their individual differences in social and emotional developments, the participants were divided into two groups (low/high-scoring groups) after the first assessment. If their scores were lower than the median in the first assessment, they were classified in the low-scoring group. Similarly, if their scores were the higher than median, they had been classified as high-scoring group. In GHQ28, the lower score means healthier in terms of mental states. Thus, participants who scored lower than median, had been classified as high-scoring groups, which means to be received positive influences. Eventually, each group was classified as follows: (IRS) low-scoring group $\leqq 20 <$ high-scoring group, (RSES10) low-scoring group $\leqq 30 <$ high-scoring group and (GHQ28) low-scoring group $\geqq 6 >$ high-scoring group. Also, this study applied three different scales for the assessment, which may involve common method bias. Thus, Harman's single factor test was used to check the common method bias, and the result (26.579) indicated that there were no significant common methods biases across the Interpersonal Relationship Scale (IRS), Rosenberg Self Esteem Scale (RSES10) and General Health Questionnaire (GHQ28).

Results

Overall

In terms of 6 years data, the results showed that there were significant main effects of time in IRS (p< .001) and RSES10 (p< .001). Also, there were main effects of time in GHQ28, but it was not significant (p < .1).

Table 3. The Results of ANOVA for 6 Years (2005, 2007, 2008, 2009, 2010, and 2011)

A: Group			B: Time						ANOVA		Bonferroni
			0 months		After 7 months		After 10 months				
Scales	Group	n	M	SD	M	SD	M	SD		F	
IRS	Intervention group	132	20.0	4.5	23.0	4.2	22.5	4.2	A B A×B	.01 30.95*** 7.55**	1<2*** 1<3***
	Control group	114	21.2	3.8	22.0	4.0	22.3	4.7			1<2† 1<3*
RSES 10	Intervention group	132	30.3	5.7	31.7	5.7	31.6	6.3	A B A×B	0.9 12.88*** 0.17	1<2** 1<3*
	Control group	114	30.9	4.6	32.1	5.7	32.3	5.8			1<2* 1<3*
GHQ 28	Intervention group	132	5.5	5.3	4.4	4.4	4.3	4.6	A B A×B	0.01 2.59† 2.34†	1>2* 1>3*
	Control group	114	4.7	4.5	4.6	4.6	4.8	5.4			

† p< .10; * p< .05; ** p< .01; ***p< .001

In the intervention group, there were significant improvements in IRS (after 7 months, p< .001; after 10 months, p< .001), RSES10 (after 7 months, p< .001; after 10 months, p< .01), and GHQ28 (after 7 months, p< .01; after 10 months, p< .01). In the control group, there were also significant improvements in IRS (after 10 months, p< . 05), and RSES10 (after 7 months, p< .01; after 10 months, p< .01).

Low-Scoring Group vs. High-Scoring Group

In IRS, there was an interaction ($p < .001$), a main effect of time ($p < .001$) and a main effect of group ($p < .001$) among the intervention group. Especially, there were significant increases in low-scoring group (after 7 months, $p < .001$; after 10 months, $p < .001$). In the control group, also there was an interaction ($p < .001$), a main effect of time ($p < .001$), and a main effect of group ($p < .001$). In low-scoring group of the control group, there were significant increases (after 7 months, $p < .001$; after10 months, $p < .001$). In RSES10, among the intervention group, there was a significant interaction ($p < .001$), a main effect of time ($p < .05$) and a main effect of group ($p < .001$). Also, in the low-scoring group, there were significant increases after 7 months ($p < .001$) and after 10 months ($p < .001$). In the control group, there was an interaction ($p < .01$), an effect of the time ($p < .01$) and an effect of group ($p < .001$). Also, among the low-scoring group, there were significant increases (after 7 months, $p < .001$; after 10 months $p < .001$). In GHQ28, among the intervention group, there were significant interactions ($p < .001$), a main effect of time ($p < .001$) and a main effect of group ($p < .001$).

Table 4. The Results of ANOVA in Both Low and High-Scoring Group (6 Years)

	A: Group			B: Time						ANOVA		Bonferroni
Scale	Group		n	0 months		after 7 months		after 10 months				
				M	SD	M	SD	M	SD		F	
IRS	Intervention group	L S.G	75	17	3.1	22	4.2	21	4.2	A	91.38***	1<2*** 1<3***
										B	32.53***	
		H S.G	57	24	2.5	25	3.5	24	3.6	A×B	17.33***	
	Control group	L S.G	54	18	2.1	20	3.5	21	3.7	A	72.72***	1<2*** 1<3***
										B	5.65***	
		H S.G	60	24	2.3	24	3.6	24	5.1	A×B	9.81***	
RSES 10	Intervention group	L S.G	80	27	4.1	30	5.3	30	5.7	A	59.7***	1<2*** 1<3***
										B	3.4*	
		H S.G	52	35	3.8	34	5.6	35	5.9	A×B	14.8***	
	Control group	L S.G	57	27	2.9	30	5.7	30	6.1	A	62.63***	1<2*** 1<3***
										B	6372**	
		H S.G	57	35	2.8	35	4.2	35	2.8	A×B	5502**	
GHQ 28	Intervention group	L S.G	54	11	4.7	6.5	4.9	7	5.5	A	105.65***	1>2*** 1>3***
										B	11.72***	
		H S.G	78	2	4.7	3	3.4	2.4	3.1	A×B	25.71***	
	Control group	L S.G	46	9.2	3.2	6.6	5.2	6.8	5.9	A	61.89***	1>2*** 1>3***
										B	0.78	
		H S.G	68	1.7	1.8	3.3	37	3.4	4.5	A×B	15.41***	1<2** 1<3*

† p< .10; * p< .05; ** p< .01; ***p< .001
IRS; Low-scoring group ≦ 20 < High-scoring group
RSES10; Low-scoring group ≦ 30 < High-scoring group
GHQ28; Low-scoring group ≧ 6 > High-scoring group

In the low-scoring group, there were significant improvements after 7 months ($p < .001$) and after 10 months ($p < .001$). Among the control group, there was an interaction ($p < .001$) and a main effect of group ($p < .001$). There were significant improvements in the low-scoring group (after 7 months, $p < .001$; after 10 months, $p < .001$). However, in the high-scoring group, its scores were significantly increased (after 7 months, $p < .01$; after 10 months, $p < .05$), which indicated health conditions were worsened.

Low-Scoring Group by Year

In IRS, there was an interaction in year 2005 ($p< .01$) and there were significant main effects of time in every year. In RSES10, there was a significant interaction in 2005 and significant main effects of time in all year except 2008. Also, among the intervention group, there were significant increases in all years except 2008 and 2011. On the contrary, in the control group, there were significant increases in 2011 (after 7 months, $p< .05$; after 10 months, $p< .01$).

Table 5. The Results of ANOVA in Low-Scoring Group for 6 Years

										Parametric test
A: Group			**B: Time**					**ANOVA**		**Bonferroni**
Scale	**Group**	**n**	**0 month**		**7 months**		**10 months**			
			M	**SD**	**M**	**SD**	**M**	**SD**	**F**	
IRS	Intervention group	75	17	3.1	21.5	4.2	21	4.2	A 0.29	1<2*** 1<3***
									B 57.65***	
	Control group	54	17.9	2.1	20	3.5	20.8	3.7	A×B 5.89**	1<2*** 1<3***
RSES10	Intervention group	75	29.5	4.8	31.2	5	30.4	5.3	A 0.15	1<2*
									B 7.95**	
	Control group	54	29.4	4.4	30.9	5.7	31.6	5	A×B 1.55	1<3*
GHQ28	Intervention group	75	6.5	5.9	4.5	4.4	4.9	5.3	A 0.78	1>2** 1>3*
									B 4.88*	
	Control group	54	5	4.8	4.4	4.8	4.5	5.2	A×B 1.31*	

†p< .10; *p< .05; **p< .01; ***p< .001

In GHQ28, there were no interactions in all years, but there were significant main effects of time in all years except 2009. Among the intervention group, there were significant improvements in 2005 (after 7 months, p< .05), 2007 (after 7 months, p< .001), 2008 (after 7 months, p< .01; after 10 months, p< .05), 2010 (after 10 months, p < .05), and 2011 (after 10 months, p < .05). On the contrary, among the control group, there were significant increases in 2005 (after 10 months, p < .05), and 2007 (after 7 months, p < .01; after 10 months).

Table 6. Correlations among Three Scales

		IRS	**RSES10**	**GHQ28**
IRS	**r**	1	. 237**	-. 142*
	p		. 000	.025
	n	246	246	246
RSES10	**r**	. 237**	1	-. 165**
	p	. 000		.009
	n	246	246	246
GHQ28	**r**	-. 142*	-. 165**	1
	p	.025	.009	
	n	246	246	246

Table 7. The Results of ANOVA in Low-Scoring Group by Year

		A: Group		B: Time						ANOVA		Bonferroni
Year	Scale	Group	n	0 month		7 months		10 months				
				M	SD	M	SD	M	SD		F	
2005	IRS	Intervention group	10	17.6	2.4	23.5	4.5	22.3	3.9	A	4.11 †	1<2** 1<3***
										B	11562***	
		Control group	11	17.7	2.2	19.2	3.3	19.1	4.3	A×B	4.01**	
	RSES10	Intervention group	14	27.8	5.3	29.9	6.7	31.9	5.4	A	2.12	1<2*** 1<3***
										B	9.75***	
		Control group	11	25.1	3.5	26.9	5.1	26.1	6.7	A×B	4.71*	
	GHQ28	Intervention group	13	10.9	6.1	7.2	5.7	7	7	A	.01*	1>2* 1>3†
										B	6.49**	
		Control group	12	10.5	4.5	6.5	6.5	8.8	6.5	A×B	0.76	1>2*
2007	IRS	Intervention group	14	16.4	3.1	20	3.6	19.8	3.4	A	0.09	1<2** 1<3*
										B	4.53*	
		Control group	8	17.8	2.4	18.8	2.1	18.9	3.1	A×B	1.3	
	RSES10	Intervention group	13	26	3.5	30.1	5.4	27.6	6.3	A	0.3	1<2* 2>3**
										B	3.43*	
		Control group	9	26.3	3.7	27.2	6	26.9	5.8	A×B	1.46	
	GHQ28	Intervention group	14	9	2.7	3.9	3.8	7.7	4.2	A	1.715	1>2*** 2<3*
										B	18.11***	
		Control group	10	8.7	1.8	3.8	3.2	4.2	3.6	A×B	2.63†	1>2** 1>3**
2008	IRS	Intervention group	5	18.6	0.9	22.8	4.6	19.6	4.6	A	0.62	1<2†
										B	5.9**	
		Control group	9	17.9	1.6	20.7	3.2	21.3	4.2	A×B	1.81	1<3†
	RSES10	Intervention group	10	26.5	5.7	28.1	7	27.3	9.5	A	0.2	
										B	0.75	
		Control group	6	27.5	2.8	28	6.9	30.5	5.5	A×B	0.58	
	GHQ28	Intervention group	6	13.8	6	3.8	2.6	5.2	3.4	A	2.376	1>2** 1>3*
										B	11.60***	
		Control group	6	8	1.7	5.7	3.3	3	4.8	A×B	3.00†	
2009	IRS	Intervention group	11	16	4.2	21.4	4.7	21	4.4	A	0.26	1<2** 1<3**
										B	11.46***	
		Control group	7	18.6	1.6	19.4	3.4	22.6	1.7	A×B	3.02 †	1<3*
	RSES10	Intervention group	13	28.3	2.1	32	3.6	31.6	5.1	A	0.003	1<2* 1<3†
										B	8.63**	
		Control group	10	28.7	1.9	31.2	6.7	32.3	6.1	A×B	0.37	1<3†
	GHQ28	Intervention group	7	10.3	3.5	7.3	5.6	8.6	6.8	A	1.59	
										B	0.17	
		Control group	5	9.4	4.9	12	5.8	13	6.4	A×B	1.3	

Table 7. Continued

		A: Group		B: Time						ANOVA		Bonferroni
Year	Scale	Group	n	0 month		7 months		10 months				
				M	SD	M	SD	M	SD		F	
2010	IRS	Intervention group	15	16	4.3	20.8	4.9	21.3	6.1	A	0.27	1<2*** 1<3*
										B	6.99**	
		Control group	7	18.6	1.5	21.1	4.9	21	3.5	A×B	0.82	
	RSES10	Intervention group	12	26.6	4.4	31	5.2	29.8	4.7	A	1.06	1<2*
										B	5.68*	
		Control group	6	28.7	1.2	31.7	5.9	32.7	5	A×B	0.2	
	GHQ28	Intervention group	11	10.8	4.9	8.4	5	7.2	5	A	0.05	1>3*
										B	3.63*	
		Control group	4	10.8	3.4	7.5	5.8	5	7.2	A×B	0.04	
2011	IRS	Intervention group	14	18.3	0.6	21.9	3	21.1	3.6	A	0	1<2*** 1<3†
										B	13.67***	
		Control group	14	18	2.2	20.8	2.9	22.4	3.5	A×B	1.35	1<2** 1<3**
	RSES10	Intervention group	18	28.6	2.2	29.6	3.8	29.1	3	A	2.51	
										B	7.00**	
		Control group	15	28.1	2.3	31.4	4.2	32.1	4.8	A×B	3.27	1<2* 1<3**
	GHQ28	Intervention group	4	8.3	2.6	8.8	5	4.5	6.4	A	0	2>3*
										B	4.13*	
		Control group	9	8.2	1.6	6.9	4.3	6.3	4.7	A×B	1.52	

†p< .10; *p< .05; **p< .01; ***p< .001
1 : 0 month 2 : After 7months 3 : After 10 months
IRS; Low-scoring group ≦ 20 < High-scoring group
RSES10; Low-scoring group ≦ 30 < High-scoring group
GHQ28; Low-scoring group ≧ 6 > High-scoring group

Table 8. Supporting Activities from a Questionnaire

Type of Supporting Activity	n	%
Presentation at Cultural festival	106	95.5
Greeting	91	82
Care for classmates	54	48.6
Lend an ear to others	38	34.2
Duty of school health committee	34	30.6
Cleaning activities	28	25.2
Volunteer work	27	24.3
Public relation activities	20	18
Trying to make friends	18	16.2
Applying at lesson	14	12.6
Mediating quarrel	8	7.2
		n = 111

Discussion

The primary focus of the study was to examine how the peer support programme give the impact on the male-dominated school in terms of a long-term practice. As a whole, the results of 6 years data showed that there were significant main effects of time in IRS (after 7 months, p< .001; after 10 months, p< .001), RSES10 (after 7 months, p< .001; after 10 months, p< . 001) and GHQ10 (after 7months, p< .001; after 10 months, p< .001). This seemed to indicate that there were significant positive effects in all the scales among the intervention group (peer supporters), and this implied that the peer support programme effectively worked and gave positive influences on the male-dominated high school pupils. However, among the control group, there were also some significant effects in IRS (after 10 months p< .001) and in RSES10 (after 7 months

p< .05; after 10 months p< .05). In order to clarify the reason for this, it is necessary to investigate more details by considering some factors. For instance, the experiences of the peer support training and activities may alter the influence of the peer supporters depending on their personal development rate. As mentioned earlier, since the participants were the young adolescents, this seemed to maximize individual differences in their scores. Thus, before the peer support programme started, all the participants were assessed with three scales, and they were classified into two groups (the low-scoring group and the high-scoring group). On comparison between low and high-scoring groups, the low-scoring groups in both the intervention and the control groups had significant increases surprisingly in all the scales (IRS, RSES10 and GHQ10). On the contrary, the high-scoring groups in both the intervention and the control groups did not show any significant increases. But, only in IRS, there was an increasing tendency among the intervention group. These results implied that the participants in the low-scoring group were easily influenced by the peer support programme and positive climates of the school. All in all, the intervention group slightly showed better improvement against the control group in all the scales.

As shown in Table 6, unexpectedly each scale had very weak positive correlations with other scales. Generally, children who often mis-behaved, tended to have lower scores in interpersonal relationship, individual self-esteem and mental health conditions (Aoki, 2007; Makino & Tagami, 1998; Matsuura et al., 2020; Miyauchi, 2013; Okada et al., 2010; Olweus & Endresen, 1998; Oshio, 2001). Therefore, it was expected that each scale would show relatively positive relationships with other scales, but it did not. Since the intervention group (of low-scoring group) in all the scales, showed significant improvements, further investigation is required to fully understand the results of the correlations.

Also, from the results of the table 7 (low-scoring data by year), in IRS, there were significant improvements at the early stage (after 7 month) among the intervention group in most years. This implied that the peer support programme gave positive influences on the participants in terms of interpersonal relationships. Likewise, among the control group, there were significant improvements in 2009 and 2011 in IRS. This implied that not the peer support programme, but some other factors may give positive influences on the members of the control group. Some educational activities in school, generally feature the school's educational functions to enhance children's interpersonal relationships, self-esteem and prosocial behaviours (Taruki & Ishikuma, 2006). In this sense, the peer support programme seemed to play a role in reinforcing the school's educational functions. Also, the programme completed its first cycle in July (Training – Planning – Supporting activities – Group supervision) and continued to run another cycle of programme. Therefore, one of the possible reasons was that meaningful synergies between educational activities in the school and the peer support programme seemed to help both the intervention and the control group to improve their personal abilities and skills.

In RSES10, there were significant increases among the intervention group in year 2005, 2007, 2009 and 2010. In 2008, there was no significant increase, but this does not mean that the peer support programme did not work well. In fact, in 2008, the participants of the intervention group solidified their foundation of the group, and their peer support activities were dramatically developed. Nevertheless, the results showed there were no significant improvements in all the scales. When assessing children's improvement in self-esteem, it seems necessary to consider not only their raising scores but also other issues. As Cowie and Wallace (2000) mentioned, when peer supporters start deepening their understanding of themselves and others, peer supporters temporarily tend to decrease their self-esteem. This is because their self-concepts seem to be agitated in the process of deepening their understanding (Kato et al., 2018; Nakagaki, 2011). Then, after a while, generally their self-esteem increases again. In this vein, their temporary decrease in their self-esteem seems to be part of the process of their emotional development, thus, this seemed to happen when the assessments were conducted. From the above, the peer support programme seemed to give positive influences to their self-esteem. Interestingly, however, in the year 2011, there was a significant improvement not in the intervention group, but in the control group. Several pupils who belonged to the mechanical department, applied for the national high school design idea competition, and won a grand prize, which gave them an opportunity to commercialise their ideas (works). Eventually, this was a big news to the whole school and this seemed to give a positive influence to many other pupils as well. This may be one of the reasons for a significant increase in their self-esteem in 2011.

There were many studies, which explored the impact of peer support programmes on children's self-esteem. Some studies did not show significant positive effects (Badura et al., 2000; Sanada, 2020; Sasaki, 2005; Sato, 2018; Takahashi & Kurihara, 2006), but the others did show significant effects (Ellis et al., 2005; Houlston & Smith, 2009; Ikegaya & Kasai, 2003; Kondo & Sakai, 2007; María Soledad, 2007). One of the possible reasons why several studies did not show an increase in positive effects, maybe that the peer support programmes focused heavily on the training aspect, and peer supporters did not have much opportunities involved in supporting activities, which gave them opportunities to do actual practices in daily life. Also, another possible reason seemed that there were several cases which provided the peer support trainings with more than 300 pupils and its trainings might be inferior in quality (Takahashi & Kurihara, 2006). While, in the studies showing positive effects, most these studies provided training with a relatively small group (from 14 to 38 peer supporters). Also, in some cases, the selection of peer supporters was conducted in a democratic manner, such as voting by pupils (María Soledad, 2007), and peer support programmes were supported by the whole school policies and systems, which helped peer supporters to be actively involved into their supporting activities (Ellis et al., 2005; Houlston & Smith, 2009; María Soledad, 2007). In this vein, it is presumed that when peer supporters were not involved in the whole process of peer

support programmes (cycle of the peer support activities) in an appropriate manner, the studies less likely showed positive results of peer support programmes.

In this study, the results of the year 2005 (the first year of 6 years practice) showed an increasing tendency in self-esteem scores, which had a similar increase rate with Houlston and Smith's study (2009). Since the first year (2005), this study annually kept showing significant improvements on peer supporters' self-esteem scores, and this is assumed that the cycle of the peer support activity worked well to give positive influence on peer supporter's self-esteem. Self-esteem appears to be enhanced when they received positive feedbacks and/or evaluations by others (Endo et al., 1992). Therefore, teachers who took the lead in the peer support programmes, needed to take enough time for evaluation (Group supervision) of peer supporters to receive positive feedback and to go through the cycle of peer support activities multiple times.

From the table 7, in GHQ28, there were significant main effects of both the intervention and the control groups and time in 2005. Also, there were significant improvements among the intervention group every year except 2009. This result means that the peer support programme gave positive influence on pupil's mental sanity in terms of GHQ28. In regards to the 2009 results, the influenzas epidemic in Japan had significant impact on the school from November to February. For this reason, there was a possibility for pupils to be also affected by this issue.

In this study, various supporting activities, such as volunteer work, visiting nursing homes to conduct special classes, and school cultural festivals, were conducted after the training sessions. These supporting activities were designed to mainly support the elderly and young children, and the participants were actively involved before July. Basically, the participants were able to actively utilize their skills which were gained from the training sessions, and their sense of accomplishment and satisfaction seemed to contribute to their improvements of their scores in the scales. After the end of all the training sessions and supporting activities, the participants answered a questionnaire about their personal supporting experiences. From the table 8, there were only 8 cases which the participant worked for mediating quarrels, and there were no supporting activities which were related to "Study support (learning support)". The majority of the participants answered, "Presentation at cultural festival", "Greeting", "Care for classmates", "Lend an ear to others", "Activities of school health committee", "Cleaning activities", "Volunteer work", etc, and these supporting activities were comparatively simple and easily embedded in daily school life. In a sense, supporting activities, which were related to "Mediating quarrel" and "Study support (learning support)", seemed to be considered as difficult supporting activities.

Also, in order to run the peer support programme in an effective manner, each training session was arranged and scheduled in accordance with the school events. For instance, in the session 3 "Trust walk & Assertion" (see the table 2), the participants learned and gained the skills such as "guidance method" and "escorting", then they joined a local volunteer support activity to care for younger children. In the session 7 & 8, the participants learned about "questioning which suits the situation", and "the difference between resecure and support". After they gained appropriate skills and knowledge, which helped them to care for others, then, they joined AED course and sports festivals. In the session 9, through the personally assessments, the participants deepened their self-understanding, and in session 10, participants learned about the importance of coping with stress by themselves. Then, they joined the health campaign at the school cultural festivals, which enlightened knowledge of health issues as a peer educator. On the health campaign, there were some opportunities for general participants to join their own stress check and/or personality assessments. Before the health campaign started, the peer supporters were already able to gain relative skills and knowledge through the training and its simulations, thus they were able to provide quality supports with others in an effective manner. By arranging the training sessions in this way, the activities of the school events were able to be used as the supporting activities of the peer support programme. This idea tended to make it easy for peer supporters to plan the supporting activities, and also enhanced the quality of the school events.

In addition, a school nurse in charge of the school health committee, successfully managed to run the peer support programme, and this made it easy for the peer supporters (participants) to build a good relationship of trust with a school nurse. The school nurse endeavoured to effectively run the cycle of the peer support programmes, and this seemed to contribute to high participation rate in training sessions and less dropout. This eventually seemed to encourage the peer supporters to be involved in a wide range of activities and to gain skills effectively. As shown, existing school events and activities were utilized as opportunities for the peer supporters to apply their gained skills. This unique methodology smoothly embedded the spirit of the peer support programme within the whole school system. This implied a possible beneficial effect of the peer support programme to deal with various issues in school, such as school absenteeism, bullying and suicide.

Conclusion

Even in a male-dominated high school, which are generally considered to be difficult to run peer support activities, the peer support programme was effective in providing a positive influence on the peer supporters. Also, in terms of interpersonal relationships (IRS), both low and high-scoring groups showed their positive improvements. In terms of both self-esteem (RSES10) and mental health (GHQ28), the participants who had low scores, improved their scores, however, the participant who had high scores, did not show their improvements much. This study also demonstrated that even male pupils who tend to feel uncomfortable being involved into peer support, could be actively engaged in the peer support activities, with careful considerations.

Recommendations

One of the main contributions of this study is demonstrating the outline of practical examples in its training and support activities. In terms of organizing the peer support programme, several practical keys are suggested as below.

Combining Peer Support Activities and the Existing School Activities

One of the recommendations is to combine peer support activities and the existing school activities as a part of the peer support programme. As mentioned, the student's health care committee members were guided to work as the peer supporter and they successfully played their role. Likewise, it might be highly possible that other school activities, such as club activities, are used as the peer support programme, depending on school conditions. This easily encourages male pupils, who do not want to be labeled as a teacher's pet from other pupils, to join the programme, and also seems to play a role in enhancing the school's educational functions and the quality of the school events.

Well-Organised Planning

Another recommendation is to focus on well-organised planning for productive activities. In planning meetings, peer supporters need to plan their own supporting activities. This seems to make them feel less pressure and they may smoothly join and/or be involved into activities. Peer supporters are also advised to contact the teachers when they encounter with the serious cases. Then, by depending on the teacher's decision, appropriate peer supporters need to be allocated to tackle the serious issues. Having effective plannings helps to make sure that the peer supporters will experience their own productive activities.

Limitations

There are several limitations of this study. One of the primary limitations of the study was that some parts of the result showed positive impacts among the control group too. The second limitation was the validity of material selection for the study. The third limitation was that the author struggled to stabilize the frequency and timing of the training and support.

Authorship Contribution Statement

Kondo: Conceptualization, data acquisition, design, material support, statistical analysis, supervision, writing. Kato: Design, editing, interpretation, revision of manuscript, writing, final approval.

References

Aoki, K. (2007). Relationships between aggressiveness, self-efficacy, social skill and mental health in high school student. *Japanese Journal of School Health, 49*, 38-46. [In Japanese]

Badura, A. S., Millard, M., Peluso, E. A., & Ortman, N. (2000). Effects of peer education training on peer educators: Leadership, self-esteem, health knowledge, and health behaviors. *Journal of College Student Development, 41*(5), 471-478.

Baginsky, M. (2004). Peer support: Expectations and realities. *Pastoral Care in Education, 22*(1), 3–9. https://doi.org/10.1111/j.0264-3944.2004.00280.x

Cowie, H., & Wallace, P. (2000). *Peer support in action*. SAGE.

Ellis, L. A., Marsh, H. W., & Craven, R. G. (2005). Navigating the transition to adolescence and secondary school: A critical evaluation of the impact of peer support. In H. W. Marsh, R. G. Craven, & D. M. McInerney (Eds.), *New frontiers for self research* (Vol. 2, pp. 329–356). Information Age Publishing.

Endo, T., Inoue, S., & Araragi, C. (1992). *Psychology of self-esteem*. Nakanishiya Shuppan. [In Japanese]

Houlston, C., & Smith, P. K. (2009). The impact of a peer counseling scheme to address bullying in an all-girl London secondary school: A short-term longitudinal study. *British Journal of Educational Psychology, 79*(1), 69-86. https://doi.org/10.1348/000709908X293878

Ikegaya, T., & Kasai, M. (2003). The improvement of social skill and self-esteem of primary school children; through the practice of the peer support programme. *The Japanese Journal of Counselling Science, 36*(3), 206-220. [In Japanese]

Kato, H., Ota, M., Matsushita, M., & Mitsui, Y. (2018). Why does self-esteeem decline in puberty? *Japanese Journal of Adolescent, 30*(1), 25-40. https://doi.org/10.20688/jsyap.30.1_25 [In Japanese]

Kondo, M., & Sakai, M. (2007). The study of peer support at a Japanese high school. *Japanese Annals of Peer Support, 3,* 39-48. [In Japanese]

Makino, T., & Tagami, F. (1998). Relations of social interactions to subjective well-being. *The Japanese Journal of Educational Psychology, 46*(1), 52-57. https://doi.org/10.5926/jjep1953.46.1_52 [In Japanese]

María Soledad, A. G. (2007). *Los sistemas de ayuda entre iguales como instrumentos de mejora de la convivencia en la escuela: Evaluacion de una intervencion* [Peer support systems asinstruments for increasing convivencia in schools: An evaluation] [Doctoral dissertation, Universidad Autonoma]. Redined. http://hdl.handle.net/11162/83871

Matsuura, H., Iwasaka, H., Nezu, S., Ota, T., Okazaki, K., Yamamuro, K., Nakanishi, Y., Kishimoto, N., Iida, J., & Kishimoto, T. (2020). Influence of self-esteem and psychiatric diagnosis on health-related quality of life in children and adolescents with school refusal behavior. *Neuropsychiatric Disease and Treatment, 16,* 847-858. https://doi.org/10.2147/NDT.S246651

Ministry of Education, Culture, Sports, Science and Technology. (2001). *Notice from the Ministry of Education, Culture, Sports, Science and Technology.* http://www.mext.go.jp [In Japanese]

Miyauchi, S. (2013). Problematic behaviors and communication: Practice and outcome of skills training in foster homes. *Bulletin of Nayoro City University, 7*, 37-44. http://id.nii.ac.jp/1088/00000190/ [In Japanese]

Morikawa, S., Nakano, T., & Hino, N. (2002). *Total guide of peer support at schools, theory, practice, management, training*. Hon No Mori Publication. [In Japanese]

Nakagaki, K. (2011). The significance and potential of Piaget's developmental stage theory. *The Japanese Journal of Developmental Psychology, 22*(4), 369-380. https://doi.org/10.11201/jjdp.22.369 [In Japanese]

Okada, M., Suzue, T., & Jitsunari, F. (2010). Association between interpersonal relationship among high-school students and mental health. *Environmental Health Preventive Medicine, 15*, 57-62. https://doi.org/10.1007/s12199-009-0108-7

Olweus, D., & Endresen, I. M. (1998). The importance of sex-of-stimulus object: Age trends and sex differences in empathic responsiveness. *Social Development, 7*(3), 370–388. https://doi.org/10.1111/1467-9507.00073

Oshio, A. (2001). Narcissistic personality, instability of self-image, and level of self-esteem and its stability. *The Japanese Journal of Personality, 10*(1), 35-44. https://doi.org/10.2132/jjpjspp.10.1_35 [In Japanese]

Sanada, S. (2020). Effects and problems of introducing peer counseling activities in elementary schools. *Japanese Annals of Peer Support, 17*, 43-57. [In Japanese]

Sasaki, S. (2005). The study of evaluation of peer support training on high school pupils]. *Japanese Annals of Peer Support, 2*, 15-24. [In Japanese]

Sato, T. (2018). Literature review on the effects of psycho-education for enhancing junior high school students' self-esteem -Focusing on the literatures retrieved in CiNii. *The Bulletin of Hachinohe Institute of Technology, 37*, 71-79. [In Japanese]

Takahashi, T., & Kurihara, S. (2006). Peer support practice as whole school model: Activities based on whole school. *Japanese Annals of Peer Support, 3,* 49-56. [In Japanese]

Taruki, Y., & Ishikuma, T. (2006). Junior high school students' group experiences in classroom preparation of dramas for school festivals: Group development, divisional cooperation, and teachers' helpful intervention. *Japanese Journal of Educational Psychology, 54*(1), 101-111. https://doi.org/10.5926/jjep1953.54.1_101 [In Japanese]