

# The effectiveness of governmental financial support in extracurricular physical activity in the Republic of Korea

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## Abstract

The Ministry of Education, Science, and Technology of the Republic of Korea introduced the ‘School Sport Club’ scheme to reinforce the extracurricular physical activities (PA) in schools. The effectiveness of the intervention was examined, and the results indicated that the students in SSPG schools had higher satisfaction with the programme and higher future intention to participate in the programme. Also, students’ future intention was found to be influenced by the indirect effect of intrinsic motivation which was mediated by their perceived satisfaction with the programme. Thus, it is important to provide a quality programme for promoting students’ participation in extracurricular PA programme.

Key words: School sport club, financial support, extracurricular physical activity programme, satisfaction, future intention, intrinsic motivation

## Introduction

The sedentary lifestyle of Korean adolescents resulted in a significant increase in the obesity rate. According to PISA (i.e., the OECD Programme for International Student Assessment, 2003), the average study hours of Korean students were 8 hours and 55 minutes per day, which was higher than students in Finland (4 hours and 22 minutes), Japan (6 hours and 22 minutes), and United States of America (7 hours and 30 minutes). A recent governmental report regarding Korean students’ physical health indicated that 13.5% of elementary

school students and 12.7% of middle school students were obese (Ministry of Education, Science, and Technology, 2011). To improve adolescents’ physical health, the Ministry of Education, Science, and Technology (MEST) of the Republic of Korea introduced the ‘School Sport Club’ scheme to reinforce the extracurricular physical activities in schools in 2007.

The MEST sought to see if a certain type of financial support could improve the effectiveness of the extracurricular physical activity programmes (i.e., school sport club) as evidenced in past literature (e.g., Brownson et al., 2008; Hendee, 1969). For the investigations, a total of 10 elementary, 20 middle, and 20 high schools were selected and provided with \$40,000 a year for a three-year span so that the schools can provide various extracurricular activities at near

zero prices. The schools were labelled as 'School Sport Promotion Group (SSPG)'. The selected schools could use the budget to hire quality instructors to increase the number of programmes and to improve the quality of teaching. However, the MEST recommended the schools not to spend the budget for renovating or building new sport facilities. This is because the budget was not big enough to make a considerable change in their facilities. Another reason was that the MEST wanted to develop a model through which sport club programmes can be promoted without a huge investment in current school sport facilities.

Although the significant amount of financial support was given to the SSPG schools, the effectiveness of the support has yet been evaluated. Particularly, there has been no academic study that examined the effectiveness in regard to whether the SSPG schools provided better programmes than non-SSPG schools or whether the students in SSPG were more satisfied with school sport club programmes than those in non-SSPG schools. Thus, the main objective of the current study was to explore if the financial support for extracurricular physical activity effectively enhanced student satisfaction with sport club programmes and influenced their future intention to participate in the programmes.

The effectiveness of the intervention was examined in three ways in this study. First, the study attempted to see whether programme satisfaction determined students' future intention to participate in school sport clubs. On the basis of conceptual and empirical evidence (e.g., Deci & Ryan, 2002; Wigfield, 1994) the current study included two determinants of future intention, which were students' intrinsic motivation and satisfaction with school sport club programmes. More specifically, our first objective was to see if satisfaction with the programme played an important mediating role in the relationship between intrinsic motivation and future intention to participate. If programme satisfaction works as a mediator in the relationship between intrinsic motivation and future intention, programme satisfaction should contribute to students' intention to participate in

sport club apart from their intrinsic motivation. Second, the study aimed to see if students in SSPG schools were more satisfied with their school sport programme than those in non-SSPG schools. In addition to programme satisfaction, the group difference in future intention to participate in sport club programmes was also examined. Third, the study examined the effectiveness of the SSPG by looking at the causal path between intrinsic motivation and programme satisfaction. If SSPG schools were able to provide better sport club programmes and, thus, satisfied students' intrinsic motivation, the path coefficient between intrinsic motivation and programme satisfaction in SSPG schools should be stronger than the path in non-SSPG schools. The current study will be able to tell whether the financial input of the government actually accomplished its genuine objectives or not. The results of the study also can provide future directions for policymakers regarding how the Korean government can effectively and efficiently promote physical activities among students.

### Theoretical background & Research hypothesis development

Previous literature has emphasised the importance of intrinsic motivation among students when it pertains to their participation in physical education and other types of sport activities (Ryan & Deci, 2007). The roles of intrinsic motivation have been frequently documented in previous literature. The empirical findings indicated that intrinsically motivated behaviours among adolescents were related to positive outcomes such as psychological well-being, high-quality learning, persistence, effort, achievement, and future academic success (Burton, Lydon, D'Alessandro, & Koestner, 2006; Deci & Ryan, 1987; Gottfried, 1985; Lepper, Corpus, & Iyengar, 2005; Linnenbrink & Pintrich, 2002). Intrinsic motivation among students is also known to influence their physical activity level and their academic achievement as well (Vazou, Gavriliou, Mamalaki, Papanastasiou, & Sioumala, 2012). Further, children who were intrinsically motivated in PE tended

to be more physically active after their school years (Spitath & Spitath, 2005).

Motivation is defined as the process that influences the initiation, direction, strength, persistence, and quality of certain outcomes (Roberts & Treasure, 2012). Since students are considered active and controlling agents in the learning process of physical education, their initial motivation of participating in sport activities determines diverse outcomes of such activities (Bryan & Solmon, 2012). The theoretical basis of motivation in sport activities can be conceptualised using self-determination theory of Deci and Ryan (1985). Self-determination theory suggests that motivation can be conceptualised as a continuum in which diverse types of motivations are placed, from motivation to intrinsic motivation. Between motivation and intrinsic motivation, four different extrinsic motivations exist: external regulation, introjected regulation, identified regulation, and integrated regulation. Even though the four extrinsic motivations vary in terms of the level of external influence on participants, they were similar in that participation was motivated by external factors to a certain extent.

Different from extrinsic motivation, the concept of intrinsic motivation was developed based on cognitive evaluation theory (Deci & Ryan, 1980, 1985), which proposed that “experiences of competence and autonomy are necessary conditions for the maintenance and enhancement of intrinsic motivation” (Ryan & Deci, 2007, p. 3). Intrinsic motivation among students and their participation in school sport club are considered to be more relevant than other types of motivations in that the participation in school sport club is voluntary in nature. The participants choose their sport activity based on their preference, and they form their own teams. They also set up their own training schedule. Different from other theories such as self-efficacy theory (Bandura, 1989) or the concept of flow (Csikszentmihalyi, 1990), intrinsic motivation of self-determination theory emphasises the importance of autonomy. The nature of their participation is very

self-regulated, which indicates that their experience is sustained by the experience of enjoyment and self-interest (Deci & Ryan, 2002, p. 10) rather than any external factors (Deci & Ryan, 2002).

The satisfaction level is dependent on how much their expectation was met through a designated activity. The expectancy-value model of achievement choice (Eccles, Adler, Futterman, Golf, Kaczala, Meece, & Midgley, 1983) suggests that expectancies for success and the value they have for success are important determinants of their motivation to perform different achievement task. The value was defined as beliefs about desired end states (Rokeach, 1973). In the achievement motivation literature, a subjective task value is defined as how a task meets the different needs of individuals (Eccles et al., 1983). Thus, a value can be strongly connected with the achievement of the students, and it also can determine which act to perform in the future.

Wigfield (1994) noted the importance of four major components of subjective task value of Eccles et al. (1983): attainment value, intrinsic value, utility value, and cost. The attainment value is the importance of doing well on a given task. Intrinsic value is the enjoyment one gains from doing the task. Utility value is how a task fits into the individual’s future plans. Cost is what the individual has to give up doing a task. Among the four components of the subjective task value, the intrinsic value is conceptually connected with Deci and Ryan’s (1985) intrinsic motivation (Wigfield, 1994). Thus, as long as the subjective task value, which is defined as how a task meets the different needs of individuals, produces positive consequences, students are expected to choose the task. In this study, a satisfaction measure was used to represent the value construct in that it was defined as whether a task meets the different needs of individuals. Once the students are satisfied with the task of a school sport club, they are expected to participate in the activities in the future. This theorising hypothesises the mediating effect of satisfaction in the relationship between intrinsic motivation and future intention to participate in a school

sport club. No matter how much a student is intrinsically motivated, as long as their subjective task value is not achieved, they are not likely to participate in school sport club in the future. Thus, the first hypothesis is developed as below:

*Hypothesis 1:* The satisfaction level of students will fully mediate the relationship between intrinsic motivation and future intention to participate in a school sport club.

This section develops hypotheses of group differences between SSPG students and non-SSPG students. The conceptual basis of group difference comes from the different level of programme satisfaction in the two groups. The different satisfaction level among the two groups of schools was speculated based on the different financial support of the schools. Each SSPG school was provided with around \$40,000 a year from the MEST. The schools were instructed to spend the budget on instructors' salary and programme expansion. The SSPG schools included in the current study had received a total of \$80,000 for 2011 and 2012.

Intrinsically motivated students should expect that sport club programmes could satisfy their enjoyment and self-interest needs when they decided to participate in sport club activities. Once the sport club can provide what the individual student wanted to have, their satisfaction level should increase. And once their expectation was met, in turn, it should increase their future intention. Because the SSPG schools were provided with \$40,000 a year, they could provide better sport club programmes than non-SSPG schools. Thus, it can be hypothesised that the students in SSPGs have a higher level of programme satisfaction and future intention to participate. Thus, two hypotheses regarding group differences in programme satisfaction and future intention were developed as below:

*Hypothesis 2:* The students in SSPG schools have a higher level of programme satisfaction than the students in non-SSPG schools.

*Hypothesis 3:* The students in SSPG schools have a higher level of future intention than the students in non-SSPG schools.

The students are expected to have a similar level of intrinsic motivation regardless of school status (i.e., non-SSPG vs. SSPG). Students with a high level of intrinsic motivation would expect a higher level of programme quality in which they could satisfy their motivation for self-regulated behaviour (i.e., voluntarily participating in sport clubs). Once the schools can provide high-quality programmes, it is quite likely that the students' motivation for self-regulated behaviour was satisfied by the programme. This should increase the correlation between intrinsic motivation and programme satisfaction. However, if the schools were not able to provide such a quality programme, the correlation between their intrinsic motivation and programme satisfaction should decrease especially when students' intrinsic motivation was high in general. Thus, it can be hypothesised that the influence of intrinsic motivation on programme satisfaction should be different by school status (i.e., non-SSPGs and SSPGs). It was expected that the causal effect of intrinsic motivation on programme satisfaction was higher among SSPG students than among non-SSPG students in this study as follows:

*Hypothesis 4:* The path between intrinsic motivation and programme satisfaction should be statistically higher among SSPG students than among non-SSPG students.

## Material & methods

### Participants

The participants of the study were 563 students (men: 304; women: 259) from SSPG and 573 (men: 413; women: 160) from non-SSPG. The SSPG schools received financial support in 2011 and 2012. The MEST selected 29 middle and high schools for SSPG in 2011

and selected 21 more schools in the level of elementary, middle, and high schools in 2012. The current study did not include the 21 schools selected in 2012 because one year's time span was not long enough for the schools to establish quality programmes in their sport clubs.

The researchers listed all 29 SSPG schools and paired the schools with one non-SSPG school with a similar size and similar characteristics (i.e., co-ed, the status of schools, and geographic area, etc.). Thus, a total of 58 (29 SSPG schools and 29 non-SSPG schools) schools were selected as our population frame. The MEST sent out an official letter asking for full cooperation to data collection to each school. The questionnaires were mailed to each school in April 2012. Physical education teachers of the schools were personally contacted and were given with the detailed guidelines on the data collection. The PE teachers were instructed to distribute the questionnaires to the participants of their sport clubs. They were told to choose the participants from as many different sport clubs as possible. The PE teachers collected the completed questionnaires and mailed the questionnaire back to the researchers. Each school returned about 30 questionnaires to the researchers.

## Instruments

The data for the current study were collected using a questionnaire that contained the motivation scale, the satisfaction measures (i.e., satisfaction with the programme), and a single item for future intention to participate in school sport clubs. Demographic items were included at the end of the questionnaire.

The intrinsic motivation items were borrowed from Guay, Vallerand, and Blanchard (2000). The participants were asked to answer the four items of intrinsic motivation that described the reasons why they participate in a school sport club. A 7-point Likert scale was used for all items. Sample items were "I participate in sport club because I enjoy sport club" and "I participate in sport club because sport club is fun". The items were pilot studied with 33 middle school students

and produced an acceptable Cronbach's alpha of .76 (Nunnally & Bernstein, 1994).

The three items measuring programme satisfaction were adopted from the Ministry of Education and Human Resource (2007). The items were modified to improve the applicability to school sport club context. The sample items were "School provides enough number of school sport club programmes", "I am satisfied with the quality of school sport club programme", and "The school sport club programmes are good enough to satisfy the needs of students". A 7-point Likert scale was used for all items. The items were pilot studied with 33 middle school students and produced an acceptable Cronbach's alpha of .78 (Nunnally & Bernstein, 1994).

The future intention was measured with a single item that asked, "Do you want to participate in a school sport club next year?" This item was also anchored with a 7-point Likert scale. Although there has been criticism on using single-item measure (see Marchevsky, 1999; Oshagbemi, 1999), the use of single item has increased in many disciplines such as business (Nagy, 2002), education (Wanous & Hudy, 2001), and psychology (Robins, Hendin, & Trzenniewski, 2001). In addition, Nunnally (1967) also noted that a single item will suffice especially when the domain of interest is simple. The future intention to participate in a school sport club is a simple question that can be measured with a single item.

## Data analyses

The data were examined for missing values and outliers. Missing values were imputed with the mean value of the rest items on the same scale. After the data were cleaned, descriptive statistics were calculated with SPSS. To test the first hypothesis, a fully mediated model and a partially mediated model were developed. In each model, two groups of non-SSPG and SSPG were included in the analyses. Because the fully mediated model was nested in the partially mediated model, a direct comparison using a chi-square statistic was used

to determine a better fitting model. In addition to chi-square statistic, TLI, CFI, an RMSEA were additionally used to determine the fit of the models.

To test hypothesis 2 and 3, a MANOVA was performed using school status (i.e., non-SSPG and SSPG) as an independent variable and intrinsic motivation, programme satisfaction, and future intention as dependent variables. Even though the intrinsic motivation was not the main concern in hypotheses testing, the mean scores of intrinsic motivation by school status were also examined for group difference.

Hypothesis 4 was tested using a group invariance test of structural equation modelling (SEM). In the analyses, the path between intrinsic motivation and programme satisfaction was constrained to be equal. This constrained model was compared with the baseline model to see if there was a significant change in chi-square statistics. Because the constrained model included one path which was set equal across groups, it had one more degree of freedom than the baseline model. If the chi-square changes more than 3.84, it can be concluded that the change is statistically significant at the .05 level. If the change is statistically significant, the path coefficients in the two groups are considered different.

## Results

### Mediating effect of programme satisfaction

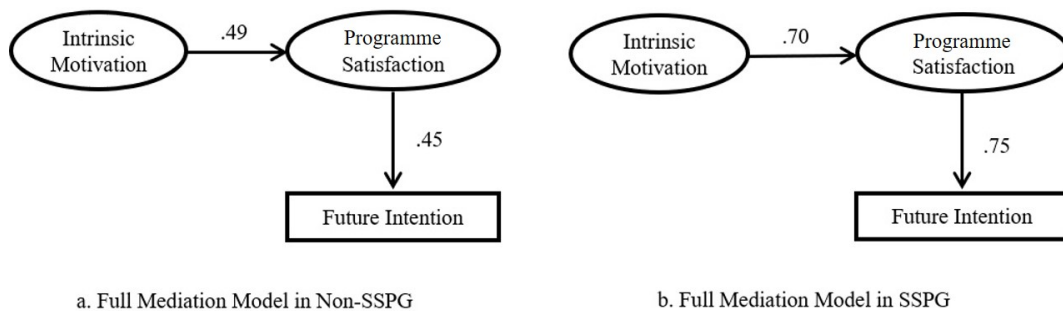
The descriptive statistics of relevant variables were presented in Table 1. After the descriptive statistics were

calculated, the internal reliability of the scales was examined using Cronbach’s alpha. The Cronbach’s alpha values were .80 for intrinsic motivation and .85 for programme satisfaction. Thus, the internal consistency of the scales was established based on the standard suggested by Nunnally and Bernstein (1994). The normality of the data was examined using skewness and kurtosis. The values ranged between -.62 and -.15 for skewness and -.91 and -.23 for kurtosis. This indicated that the data were univariate normal.

**Table 1.** Descriptive statistics of variables by school types

	Non-SSPG	SSPG	Total	$\alpha$
	M (SD)	M (SD)	M (SD)	
Intrinsic motivation	4.52(1.30)	4.66(1.31)	4.56(1.31)	.96
Programme satisfaction	3.77(1.03)	4.38(1.11)	4.07(1.12)	.84
Future intention	3.19(1.30)	4.62(1.29)	3.90(1.48)	-

After the normality was examined, the partial mediation and full mediation models were tested (see Figure 1). The results were presented in Table 2. For the test, maximum likelihood estimation was used. The model fit indices of the full mediation model ( $\chi^2/df=212.95/19$ , TLI = .955, CFI = .970, RMSEA = .095) were marginally better than the partial mediation model ( $\chi^2/df=212.71/18$ , TLI = .952, CFI = .969, RMSEA = .097). The increase in chi-square statistic was not statistically significant ( $p > .05$ ). However, the path between intrinsic motivation and future intention in the partial mediation model was statistically insignificant ( $\beta$



**Figure 1.** The full mediation models and path coefficients in non-SSPG schools and SSPG schools

= -.02,  $p = .62$ , see Table 2), which made the partial mediation model equivalent to full mediation model. Thus, it was concluded that, out of the two models, the full mediation model reflected the matrix of the data better than a partial mediation model. Thus, the first hypothesis was supported.

**Table 2.** The results of partial mediation model and full mediation model

	Motivation >>> Satisfaction	Satisfaction >>> Future intention	Motivation >>> Future intention
Partial mediation	.58*	.66*	-.02
Full mediation	.49*	.45*	

\*Significant at  $\alpha = .05$

### Group difference in programme satisfaction and future intention

To test hypotheses 2 and 3, a MANOVA was performed. The Box’s M test indicated that the covariance matrix in groups were statistically different (Box’s  $M = 84.46$ ,  $p < .001$ ). However, the difference in covariance matrix was ignored because the cell sizes in two groups were in the 1:1.5 ratio (Hair, Anderson, Tatham, & Black, 1998). The results indicated that there was significant group difference in multivariate level (Wilk’s  $\Lambda = .75$ ,  $F = 127.97$ ,  $p < .001$ ,  $\eta^2 = .25$ , Power = 1.00). Follow up univariate analyses indicated that the groups were different in programme satisfaction ( $F = 94.29$ ,  $p < .001$ ,  $\eta^2 = .08$ , Power = 1.00) and future intention ( $F = 343.89$ ,  $p < .001$ ,  $\eta^2 = .23$ , Power = 1.00). There was no group difference in intrinsic motivation ( $F = 2.84$ ,  $p = .09$ ). The results supported the hypotheses 2 and 3.

### Path invariance test

After the full mediation model was selected as the best fitting model, the model was tested for group invariance on the path between intrinsic motivation and programme satisfaction. First, the two models were

tested for configural invariance. The factor loadings of the measurement model and the structural model were presented in Table 3.

The fit indices of the configural invariance model were presented in Table 4. The results indicated that the two groups were invariant. Second, the two groups were tested in terms of measurement invariance. The fit indices were poorer than the fit indices of the configural invariance test. The increase in chi-square statistics was statistically significant ( $\Delta\chi^2 = 242.85$  with  $df = 5$ ,  $p < .05$ ). In addition, TLI, CFI, and RMSEA values were also poorer than the ones in the configural invariance test. However, because the fit indices of measurement invariance model indicated that the model fit the data fairly well, the next step was performed.

**Table 3.** Factor loadings of the configural invariance model by groups

	Non-SSPG		SSPG	
	$\beta$	SE	$\beta$	SE
Intrinsic motivation 1	.94	-	.95	-
Intrinsic motivation 2	.98	.02	.95	.02
Intrinsic motivation 3	.93	.02	.89	.03
Intrinsic motivation 4	.74	.04	.71	.05
Programme satisfaction 1	.71	-	.87	-
Programme satisfaction 2	.88	.07	.87	.04
Programme satisfaction 3	.72	.06	.72	.05
Motivation >>> Satisfaction	.49	.03	.70	.03
Satisfaction >>> Future intention	.45	.07	.75	.04

Note: All the factor loadings and path coefficients were significant at  $\alpha = .05$ .

**Table 4.** Model fit indices for configural and measurement invariance model

	$\chi^2$	df	TLI	CFI	RMSEA
Configural invariance	94.09	38	.988	.992	.036
Measurement invariance	336.94	43	.943	.956	.077

In the path invariance model, the path between intrinsic motivation and programme satisfaction was constrained and was denoted as P1 model. The results of the path invariance models were presented in Table 5. The models were tested using chi-square statistics, TLI, CFI, and RMSEA and were compared with the baseline model. In the comparison between the baseline model and P1 model, chi-square statistic increased significantly ( $\Delta\chi^2 = 13.71$  with  $df = 1$ ,  $p < .05$ ). The TLI and RMSEA remained the same in the two models. The CFI decreased minimally by .002. Thus, the direct comparison between the baseline model and P1 indicated that the path between intrinsic motivation and programme satisfaction differed in two groups. The path coefficient in the SSPG was statistically greater than that in non-SSPG.

**Table 5.** Model fit indices for path invariance

	$\chi^2$	$df$	TLI	RMSEA	CFI
Baseline model	555.98	45	.905	.100	.924
Constrained model	569.69	46	.905	.100	.922

To support the group difference in the path between intrinsic motivation and programme satisfaction, further correlation analyses were performed. The rationale behind the hypothesis 4 was that the ones with high intrinsic motivation in non-SSPG should have low programme satisfaction, which consequently would lead to the low correlation between intrinsic motivation and programme satisfaction. In the analyses, it was attempted to see if the students with high intrinsic motivation in non-SSPG showed low correlation coefficient with programme satisfaction, which should be different from the ones with low intrinsic motivation who were expected to have a significant correlation with programme satisfaction. The results indicated that the ones with high intrinsic motivation (i.e., intrinsic motivation > 4) in non-SSPG had a correlation coefficient of .05 ( $p = .40$ ) with programme satisfaction whereas the ones with low intrinsic motivation had statistically significant correlation coefficient of .29 ( $p$

< .001) with programme satisfaction. This result indicated that the group difference in the path coefficient majorly came from the incongruence between students' high intrinsic motivation and low programme satisfaction in non-SSPG schools.

The standardised direct and indirect effects were presented in Table 6. The indirect effect between intrinsic motivation and the future intention was .22 and .52 respectively for non-SSPG and SSPG. Based on the results of path invariance model test, it can be concluded that the indirect effect of intrinsic motivation among SSPG was statistically much bigger than that of non-SSPG.

**Table 6.** Standardised direct effect and indirect effect between variables

	Direct Effect		Indirect Effect
	Motivation >>> Satisfaction	Satisfaction >>> Future intention	Motivation >>> Future Intention
Non-SSPG	.49	.45	.22
SSPG	.70	.75	.52

## Discussion

The current study examined four hypotheses. The first hypothesis was developed based on self-determination theory (Deci & Ryan, 1985) and the expectancy-value model of achievement choice (Eccles et al., 1983). The current study hypothesised that the relationship between students' intrinsic motivation and future intention to participate in a school sport club should be mediated by their satisfaction with sport club programme. This hypothesis was supported by the data collected from 563 students from SSPG schools and 573 students from non-SSPG schools. The path between intrinsic motivation and programme satisfaction was significant and so was the path between programme satisfaction and future intention. However, while these two paths were statistically significant, the direct path between intrinsic motivation and future intention was insignificant. This indicates that students' intrinsic



motivation alone does not make them participate in a school sport club. Their future intention to participate in the school sport club was found to be influenced by the indirect effect of intrinsic motivation which was mediated by their perceived satisfaction with sport club programme. This result reflects the notions of the expectancy-value model of achievement choice of Eccles et al. (1983). Eccles et al. (1983) indicated that the subjective task value, which was defined as how a task met different needs of individuals, determined which act to perform in the future. The participants who were able to satisfy their individual needs through school sport club participation showed stronger intentions to participate in sport club in the future.

This noted the importance of providing a quality programme in school sport club activities. Although the two groups were invariant in terms of the level of intrinsic motivation, they differed in programme satisfaction and future intention to participate in sport club. Based on the significant path between programme satisfaction and future intention ( $\beta = .45$ , see Table 2), it can be conjectured that the mean difference in future intention was stemmed from the different level in programme satisfaction. Based on the results, it can be concluded that the SSPG programme of MEST was quite effective. The programme made differences in terms of programme satisfaction and future intention to participate in a school sport club. The SSPGs were able to use the budget from MEST to provide quality programmes and this, in turn, improved the perceived satisfaction level among the students.

The path between intrinsic motivation and programme satisfaction differed by school status. The standardised beta coefficient of the path was .43 and .70 respectively for non-SSPG and SSPG. The path coefficients were statistically different as examined in the path invariance test. As noted in the hypothesis development part of the study, the difference was expected to come from the ones with high intrinsic motivation in non-SSPG. This was further examined through the correlation analyses which found that the

correlation between intrinsic motivation and programme satisfaction was insignificant among the students with high intrinsic motivation in non-SSPG. This result again noted the importance of providing quality programmes in a school sport club. Even when the students have high intrinsic motivation, their self-regulated behaviour of participating in school sport club was not properly rewarded by non-SSPG schools. They were not able to find enjoyment and their self-interests were not satisfied, which deteriorated their future intention to participate in a school sport club.

## Conclusions

### Policy related ramifications

The effectiveness of SSPG programme was turned out to be positive. The students in SSPG schools indicated that their satisfaction with the programme and future intention to participate were higher than those of non-SSPG schools. The SSPG schools spent \$40,000 per year on school sport club programmes for two years. As the results, the students were able to enjoy quality sport club programmes, and this consequently formed a higher intention to participate in a school sport club. However, the creative management school programme of MEST will not last forever. It is quite possible that the SSPG schools' sport club quality will be lowered to the level of non-SSPG school as soon as MEST stops its financial support. As noted in the introduction of the study, the main objective of the SSPG was to develop a model through which all schools in the Republic of Korea can promote school sport club. Although the modelling work can be initiated after the three-year programme of SSPG programme, the policymakers need to consider how they can maintain or advance the programmes of school sport club even without extra financial support.

The current study recommends two strategies based on the results. First, schools need to transform their school sport club from free-of-charge service to fee-based service. The process of change needs to be

very gradual. In the beginning, a minimal level of the fee can be charged to student participants. This probably can deteriorate the participation rate. However, as noted in the results that a large part of the future intention was predicted by the satisfaction with programme ( $\beta = .45$  and  $.75$  respectively for non-SSPG and SSPG), students' future intention of participation can be maintained as long as the sport club can provide quality programmes using the fee from student participants.

The second recommendation is to fully utilise the human resource of sport club instructors. MEST hired a total of 4,427 instructors and assigned the instructors to 3,163 middle schools to support physical education teachers in 2012. The instructors were hired based on the policy change on physical education hours. Middle schools accommodated 2-3 hours of physical education classes a week until 2011. However, the policy change in 2012 increased the PE classes to four hours a week. To cover the increased PE classes, the instructors were hired based on a 10-months contract. When school management hires sport club instructors, it needs to understand what kind of needs are there among students. If students want to have badminton sport club, the school can hire the one with such qualification. This strategy can improve the quality of the sport club programme without extra payment.

#### Limitation of the study and recommendations for future research

Although the study provided valuable information regarding school sport club using the data from non-SSPG and SSPG schools, the results of the study should be interpreted with caution due to its limitations. First, although the study hypothesised the full mediation model using intrinsic motivation, programme satisfaction, and future intention of participation, the causal inference cannot be supported by the cross-sectional nature of the study. Students' intrinsic motivation and their satisfaction level were measured at the same time using a survey. Because the data were collected in the middle of a semester, the student

participants might not have recalled their true intrinsic motivation formed right before they started participating in sport clubs at the beginning. Second, the study measured the future intention of participation instead of their true participation in the future. This shortcoming was also stemmed from the cross-sectional nature of a survey study. Future research needs to incorporate a longitudinal design to track the students' real participation. This will be able to examine the precise influence of programme satisfaction on students' participation in a school sport club.

In addition, the study has another weakness that came from the locus of the study. Although this study explored participants' intrinsic motivation as an antecedent of programme satisfaction and future intention of participation, other situational factors such as influence from peers, teachers, and parents need to be included as antecedents of participation in a school sport club. Other external factors such as intangible rewards also need to be considered as extrinsic factors. For example, students' participation in school sport club is recorded as an extra-curricular activity in their annual performance evaluation. Thus, some students might have participated in sport clubs just because they wanted to have positive statements from their teachers. These factors can be conceptualised as an extrinsic motivation of Deci and Ryan (1985). Future research can include external regulation, introjected regulation, identified regulation, and integrated regulation to identify students' true motivation of participating in school sport clubs.

Lastly, a future study needs to incorporate current changes in school sport club. This study used the data collected in 2012. Some significant changes happened in schools after the data collection for the study. For example, the size of the annual national school sport club league increased. In 2012, 1,025 teams participated in 31 sports whereas 1,494 teams in 23 different sports participated in 2018. Accordingly, more students are participating in school sport clubs and club leagues than before. Thus, this kind of changes needs to be reflected in studies that deal with students' participation in school

sport clubs in future.

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