

Analysis of Sports Participation and Crime in Hong Kong

探討參與運動與罪案的關係

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Abstract

The main objective of this study was to investigate the relationship of aggregate sports participation and the overall crime in Hong Kong. Data of sports participation and the number of crimes from the year 2001 to 2015 were used in this study. Poisson regression models in level and in one-lagged period by maximum likelihood were used to explore the relationship between sports participation and crime in Hong Kong. The findings proved that higher sports participation of citizens would lower the overall crime in the city. This linkage also existed for young persons. The results of this study brought practical implications on the future planning of sports policy. The Hong Kong government played an important role in providing sports and recreation opportunities for the citizens. Recently, there was rising discontent towards the political power in the city, especially from the younger generation. It was hopeful that sports activities could be a medium to relief the grievance of young people and build up a stronger social cohesion. School sports might be a ready-made panacea for the current situation. Therefore, it suggested that more school sports opportunities should be provided to the younger generation.

Keywords: sports participation, school sports, crime, youth crime

Introduction

There was no doubt that there were numerous positive physical and mental benefits of participation in sports and recreation activities, including positive health benefits, motivation, active citizenship, social inclusion and motivation (Caruso, 2011). Also, people who participated in sports activities were less likely to demonstrate truancy, vandalism and delinquency (Harrison & Narayan, 2003). Therefore, it was logical to induce that higher sports participation of citizens would lower the crime rate of the city. Recently, criminologists started to investigate the linkage between sports participation and crime and delinquency. However, there was no previous research to analyze the relationship between aggregate sports participation of citizens and the overall crime. In addition to the overall crime, this study attempted to investigate

the youth crime as well. Therefore, this study provided a time-series methodology basis to explore the relationship between aggregate sports participation and overall crime as well as youth crime by using macro-level data in Hong Kong.

Review of Literature

Sports participation was perceived as a positive leisure activity that was associated with positive physical and mental health outcomes (Spruit, Van Vugt, van der Put, van der Stouwe, & Stams, 2016). According to Caruso (2011), public health through physical activity, reinforcement of human capital thanks to development of knowledge, motivation, skills and readiness for personal effort, active citizenship, social inclusion and integration were some specific benefits commonly believed. Sports

programs were expected to encourage positive character traits, including “development of a competitive spirit, ability to cooperate, sportsmanship, good manners, courage, a greater capacity for delay of gratification, persistence, resistance to pain and fatigue, and a release from tension and aggressive impulses” (Caruso, 2011).

Previous researchers suggested that people participating in sports were less likely to involve in criminal activities. Hirschi’s (2002) social bonds theory claimed that individuals with stronger bonds to society were less likely to engage in delinquency, as delinquency might put these valuable bonds at risk. Attachment, commitment, belief, and involvement were four elements that central in Hirschi’s (2002) theory. Hirschi proposed that more time involved in conventional activities, such as sports, the less likely they were to engage in delinquent activities. Participation in sports should have a negative correlation with participation in delinquent acts. Besides, Pate, Strost, Levin, and Dowda (2000) found that delinquency was less common among sports participants than among non-participants. These findings were consistent with traditional wisdom in regard to the value of organized sports as a conduit for the development of persistence, discipline, and teamwork. Caruso (2011) concluded that there was a strong negative association between sports participation and crime, such as property crime.

Some theories supported the idea that sports participation was associated with less delinquency for young people. Studies showed that youth who participated in any type of organized activity generally demonstrated less risky behavior than youth who did not participate in organized activities (Feldman & Matjasko, 2005; Mahoney, Harris, & Eccles, 2006). Sports participation and delinquency were important developmental issues in adolescence. During adolescence, youth became more autonomous from their parents and the influence of the home environment shifted towards the afterschool, peer, and leisure setting (Fredricks & Eccles, 2008). At the same time, the development and incidence of delinquent behaviors peaked (Moffitt, 1993). Studying the relationship between sports participation and juvenile delinquency was therefore particularly relevant during adolescence. According to a study by Veliz and Shakib (2012), when high school students had strong sports participation rates, lower levels of major crime was reported.

Sports were supposed to enhance the attachment to significant others when youth became members of a team and supervised by a coach who was closely related to all members (Hirschi, 2002). When youth were committed to sports, they might refrain from deviant acts as this might decrease their opportunity to participate in sports. Beliefs in society’s values may be reinforced by sports participation, as similar rules, norms, and values are being practiced in the sports context. Finally, involvement in sports was thought to prevent from juvenile delinquency because athletes were simply too occupied to engage in delinquency (Hirschi, 2002).

Organized sports were being used throughout the world to control political extremism and to facilitate peace (Carmichael, 2008). In 2007, for example, the United Nations established a “Global Sport Fund” with a \$10 million donation from the Qatar to involve youth from different parts of the world in sports, particularly those in conflict regions. Sheikh Saud bin Abdulrahman al-Thani, Secretary-General of the Qatar Olympic Committee, stated that “the Sport Fund targets young people at the age when the temptation to experiment with illegal drugs is high. The main purpose is to promote sports activity among young people and to prevent drug use and crime worldwide”. With more than 1.2 billion 15 to 24 years old in the world, the United Nations realized that youth sports were one of the most dynamic mechanisms in society for transforming dangerous and violent conflict situations because organized sports could engage youth of all races, genders and classes (Carmichael, 2008). Jamieson and Ross (2007) pointed out that organized sports programs could contribute to reducing youth crime by giving young people a positive identity, feelings of empowerment and by helping youth acquire leadership, teamwork and self-governance skills under adult supervision.

According to the Hong Kong Yearbook 2015, the Leisure and Cultural Services Department (LCSD) spent a total cost of \$153 million on organizing some 38,000 recreation and sports programmes for about 2.54 million participants of all ages and abilities. The department also organized 8,138 programmes for students. In 2015, there were 66,439 crimes reported in Hong Kong. Among the reported crimes, 1309 were juveniles aged between 10 and 15 while 2826 were young persons aged between 16 and 20. Arrests of youths were mostly for wounding and serious assault, shop theft, miscellaneous thefts and serious drug offences.

Methods

Data Source and Study Design

Annual data from the Year 2001 to 2015 were used in this study. The data of sports participation and the number of crimes were collected from the Hong Kong Yearbook. Variables included participation in public sports and recreation (PSR), participation in school sports (PSS), number of overall crimes (OCrime), and number of youth crimes (aged 10-20) (YCrime) were used in this study. The variable OCrime, was the total number of crimes reported in a year, whereas the YCrime was the total number of youth crimes in a year. Descriptive statistics were used to highlight the features of variables. Poisson regression model was used to analyze the relationship between participation in sports and recreation and crime.

Time-series Regression Analysis

In order to analyze the relationship of sports participation on crime, poisson regression model in level and in one-lagged period by maximum likelihood were used. In the time-series analysis, the two crime variables (OCrime, YCrime) would be the dependent variable, as public sports participation (PSR) and participation in school sports (PSS) would be the independent variable respectively.

In equation 1 and 2, poisson regression models investigated the relationship between crime and sports participation in one-lagged period:

$$OCrime_t = \alpha_1 + \beta_1 PSR_{t-1} + \epsilon_{1t} \quad (1)$$

$$YCrime_t = \alpha_2 + \beta_2 PSS_{t-1} + \epsilon_{2t} \quad (2)$$

where, denoted the number of overall crimes, and the number of youth crimes, and denoted the public sports participation and participation in school sports in one-lagged period, α was the intercept and was the residual.

In equation 1a and 2a, poisson regression models investigated the relationship between crime and sports participation in level:

$$OCrime_t = \alpha_3 + \beta_3 PSR_t + \epsilon_{3t} \quad (1a)$$

$$YCrime_t = \alpha_4 + \beta_4 PSS_t + \epsilon_{4t} \quad (2a)$$

where , and denoted the number of overall crimes, and number of youth crimes, and denoted the public sports participation and school sports participation in level, α was the intercept and was the residual.

Results

Table 1 showed the data of variables from the year 2001 to the year 2015. From the year 2001 to the year 2015, the number of participations in public sports and recreation increased steadily from 1.36 million to 2.53 million. On average, the participation in public sports and recreation were about 1.97 million per year. For the participation in school sports, the total number increased from 135,025 in the year 2001 to 611,500 in 2015. Besides, in the year 2001, there were 73,008 overall crimes were reported in Hong Kong. This number slightly dropped to 66,439 crimes in 2015. In the case of young persons, the number of crimes of youth aged 10 to 20 were averaged 8,490 in the last fifteen years. Table 2 showed that descriptive statistics of variables.

Table 1. Data of variables (Year 2001 to Year 2015).

Year	Participation in Public Sports and Recreation	Participation in School Sports (in 1,000)	Number of Overall Crimes	Number of Youth Crime
2001	1361712	135025	73008	12054
2002	1450837	320000	75877	11362
2003	1622356	418800	88377	11174
2004	1656458	400000	81315	10709
2005	1678923	500000	77437	9311
2006	1783810	500000	81125	9484
2007	1815058	540000	80796	9667
2008	2289626	598000	78469	9008
2009	2167026	600600	77630	8690
2010	2007177	601000	75965	7831
2011	2400386	607000	75936	7693
2012	2140254	607000	75930	6522
2013	2534645	610000	72911	5397
2014	2149716	611000	67740	4324
2015	2495037	611500	66439	4135

Notes. YCrime represented number of crimes of youth aged 7-20 in year 2001 to 2003 and aged 10-12 in year 2004 to 2015.

Table 2. Descriptive Statistics of Variables (Year 2001 to Year 2015).

Variables	M	SD	Max.	Min.
Participation in sports and recreation (PSR) (in 1000')	1973.02	380.93	2537.3	1361.71
Participation in school sports (PSS) (in 1000')	510.66	139.33	611.5	135.03
Number of overall crimes (OCrime)	76597	5440.18	88377	66439
Number of crimes of youth aged 10-20 (YCrime)	8490.73	2496.64	12054	4135

To analyze the relationship between crime and participation in sports and recreation, crime was treated as dependent variables and the participation in public sports and recreation was treated as independent variables.

In model 1 and 1a, was the dependent variable, and were the independent variables respectively. In model 2 and 2a, was the dependent variable, and were the independent variables respectively.

Table 3. Poisson Regression Analysis Results of Participation in Sports on Crime.

	Model 1	Model 1a	Model 2	Model 2a
Constant	11.5078** (2125.92) -1.34E-07** (48.2591)	11.4191** (2235.67) -8.80E-08** (34.3108)	9.6904** (1019.84) -1.38E-06** (72.2987)	9.7544** (1062.3) -1.43E-06** (78.3951)
Observation	15	15	15	15
R-squared	0.4447	0.2124	0.5259	0.5411

Note. ** indicates coefficients were statistically significant at 0.01 level.

In model 1, results showed that was significantly correlated with. The coefficients of was -1.34E-07, which indicated a significant negative ($p < .05$) relationship between participation in sports and recreation in one-lagged period and the number of overall crimes. In model 1a, was significantly correlated with. The coefficients of was -8.80E-08, which indicated a significant negative ($p < .05$) relationship between participation in sports and recreation and number of overall crimes. The of model 1 and 1a were 0.4447 and 0.2124, which indicated that 44.47% and 21.24% of the change in and were explained by the model.

In model 2, results showed that was significantly correlated with. The coefficients of was -1.38E-06, which indicated a significant negative ($p < .05$) relationship between participation in school sports in one-lagged period and the number of youth crimes. In model 2a, was significantly correlated with. The coefficients of was -0.5259, which indicated a significant negative ($p < .05$) relationship between participation in school sports and number of crimes of young persons. The of model 2 and 2a were 0.5259 and 0.5411, which indicated that 52.59% and 54.11% of the change in and were explained by the model.

Discussion

Individuals participated in sports tended to have a stronger bond to society and were less likely to engage in delinquency, as delinquency might put these valuable bonds at risk (Hirschi, 2002). It was expected that a higher sports participation in the community would

provide a more safe and peaceful environment in the city, and therefore, the overall crime rate would be lowered. Previous researches were mainly focused on the effect of sports participation on individuals but not on the whole city. This study, however, examined the linkage between the aggregate sports participation of citizens and the overall crime in the city. The present study analyzed the relationship in a macro-level point of view. Results indicated that a higher level of participation in sports and recreation activities was associated with lower overall crime in the city. Also, this linkage existed for crimes of young persons. The result of regression analysis in level and in one-lagged period suggested that participation in sports and recreation had a significant impact on lowering the crime in a city.

In Hong Kong, government played an important role in providing sports and recreation opportunities for citizens. According to the Hong Kong Yearbook (2001-2015), fiscal expenditure on organizing sports and recreation programmes was directly related to the participation in public sports and recreation. The higher fiscal expenditure on sports and recreation, the higher participation in public sports and recreation of citizens. Therefore, increasing fiscal expenditure on public sports and recreation might be a feasible way to construct a healthy, safe and peaceful environment of the city.

Present study showed that higher level of participation in school sports and recreation activities was associated with lower crimes of young persons. Encouraging the youths to participate in sports and recreation activities might prevent them from committing

crime in the future. Once juveniles involved in deviant behaviors, they might have a negative label imposed by the society (Wong, 2007). Take “Umbrella Movement” in 2014 as an example, the protestors consisted of a large number of youth and some of them committed criminal activities during the movement. The youth were easily affected by their peers. It was believed that the youths would be contaminated by attaching to negative peers who have more delinquent behaviors (Wong, 2007). Eventually they might fall into the deviant cycle and become further attached to the delinquent peers and detached from the family and school which led to the continuation of their misbehavior and can even get into more serious offences. Therefore, fostering their interest in sports would be a good way to keep them away from delinquency problems, as Ng and Wong (2012) stated that sports could be used as a medium to promote positive youth development, hence building resilience in youths. As young people spent most of the time at school, sports in school could be a channel to develop positive behavior of the youngsters. Through sports the youths could have positive effects in four aspects, including personality development, enrichment of social bonding, youth engagement, and elevation of the importance of sports in education field (Ng & Wong, 2012).

Present study used participation in school sports as the independent variable for examining the relationship between participation in school sports and number of youth crimes. The government did make efforts in promoting a sporting culture for young persons. LCSD organized “The School Sports Programme”, in which the activities were organized in line with daily schedules of the schools to enable primary, secondary and special school students to participate in the sports activities during their leisure time in school. Through this programme, the government aimed for encouraging students to participate in sports on a regular basis and develop a healthy and active lifestyle. Fredricks and Eccles (2008) indicated several reasons why participation in organized activities after school was important for the students. Starting from secondary school, students began to individuate from parents, they sought emotional support from caring adults other than parents. Participating in high quality organized activities gave the students opportunity to form supportive and caring relationships with adults in the wider community. Besides, a unique context for developing relationships with diverse peers and belonging to a group could be provided by those

activities. Moreover, youth were at the time that they began to engage in identity exploration and organized activities had the potential benefits to facilitate identity development and personal exploration. Therefore, participating in school sports would be a great way for youth to develop positive character and behavior. It was suggested that more school sports opportunities could be provided for the young people, as the promotion of sports could benefit the whole society.

Conclusion

The present study examined the relationship between aggregate sports participation of citizens and overall crime as well as youth crime in Hong Kong. This study provided a macro-level analysis of the relation between sports and delinquency from the year 2001 to 2015. The findings proved that higher sports participation of citizens was associated with lower overall crime in the city. This linkage also existed between the participation in school sports and number of youth crimes. The Hong Kong government played an important role in providing sports and recreation opportunities for citizens. Recently, there was rising dissatisfaction towards the political power in the city, especially the young people. It was hopeful that sports activities could be a medium to relief the grievance of young people and build up a stronger social cohesion. School sports might be a ready-made panacea for the current situation. Therefore, it was suggested that more school sports opportunities should be provided to the younger generation.

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