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Too much at stake to uphold sport integrity? High-performance athletes' involvement in match-fixing

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Abstract

Non-betting-related match-fixing constitutes an important integrity issue in contemporary sports. With varied forms ranging from passive tanking to the purposeful, coercive, calculated bribing of others to gain advantages, non-betting-related match-fixing can be a form of corruption that deters sport development. This paper examines high-performance athletes' involvement in non-betting-related match-fixing in South Korea. Drawing from survey data ($n = 731$), this paper describes and analyses the prevalence of match-fixing, its locales (i.e., levels of competition) and origins (i.e., who made the offer/approach). Results show that: (1) 74 athletes (10.12%) were approached to take part in match-fixing, while 33 of those athletes (4.51%) actually participated; and (2) the match-fixing offers were usually made 'by coaches', 'at high school-level nationwide competitions', 'for the purpose of entering universities'. Finally, this paper concludes by suggesting that the excessive incentives (e.g., university admission) linked with elite sport development structures may account for the strong motive behind non-betting-related match-fixing, and its endangering of sport integrity.

Keywords Match-fixing · Sport integrity · Sport corruption · College admission · South Korea

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Introduction

Over the last decade, betting-related match-fixing has become one of the major agendas of sport governing bodies (e.g., the IOC, FIFA), international organisations (e.g., European Commission, Council of Europe, UNODC) and law enforcement agencies (e.g., Interpol, Europol) due mainly to criminal activities, such as illegal betting and money laundering [1–5]. However, match-fixing also takes place without regard to sports betting. Such *non-betting-related match-fixing* comes in varied forms, ranging arguably from *passive* tanking (underperforming) to *proactive* cases that include bribing other parties (opponents, referees or/and officials) to gain advantages. While betting-related match-fixing commands more attention, non-betting-related match-fixing also constitutes an important integrity issue in several respects.

First, even passive tanking can undermine the legitimacy of sporting competitions. Consider the badminton women's doubles scandal at the 2012 London Olympics. Four pairs were disqualified for "not using best efforts" [6], but the punishment seemed not only about underperforming per se; it was equally about offending the spectators who form the very basis of commercial sports today. Moreover, when a case includes bribery, it is a form of corruption or/and crime because the fixing awards one party money, reputation and opportunities which would otherwise have gone to the other party. Furthermore, such a practice can disturb sport development, as it compromises social trust in sport and decreases participation in and public spending on sport [7]. In addition, match-fixing can signal other integrity issues, such as doping, corruption and abusive practices [8]. Indeed, if a coach has the power to order athletes to throw a game, it follows that s/he could probably induce them into other breaches of integrity. For these reasons, it is important to understand the prevalence of non-betting-related match-fixing as located within its relevant context and antecedent conditions.

In this light, this paper investigates Korean high-performance athletes' involvement in non-betting-related match-fixing. More particularly, it seeks to describe and analyse the prevalence of match-fixing, its locales (i.e., levels of competition) and origins (i.e., who made the offer/approach to fix). South Korea serves as a key site for research due to its notorious integrity issues in general [9], and its exposure to match-fixing more particularly [10]. As it perhaps lies at the extreme where match-fixing is frequent, the South Korean case can elucidate the integrity-threatening conditions that may be lurking, yet inactivated in other sporting contexts. To connect prevalence and context, we used a mixed-methods approach: (1) we first process survey data of 731 Olympic sports athletes; and (2) contextualise the results within the bureaucratic sport development system in South Korea.

The rest of this paper is structured as follows. In the next section, we set the scene by introducing the categorisation of match-fixing and reviewing previous research on the prevalence of non-betting-related cases. We then offer a brief picture of the typical patterns of non-betting-related match-fixing in South Korea. After explaining our methodology, we present the survey results and discussion. Finally, we conclude by highlighting the importance in the institutional design of a sport development system.

Non-betting-related match-fixing and its worldwide prevalence

Although there is no unitary definition of match-fixing, some definitions, especially by governments and sport governing bodies, are widely subscribed and exercise executive power [2, 11, 12]. The most commonly used one is in the Council of Europe's Convention on the 'Manipulation of Sports Competitions' [13]. According to the document, manipulation of sports competitions[1] is:

> an intentional arrangement, act or omission aimed at an improper alteration of the result or the course of a sports competition in order to remove all or part of the unpredictable nature of the aforementioned sports competition with a view to obtaining an undue advantage for oneself or for others [14].

Some approaches use this definition to put under the same category of match-fixing/manipulation quite different ethical problems in sport, such as doping and fraudulent betting (e.g., [11, 15]), all of which might be better categorised as 'corruption', 'corrupt practices' or 'integrity issues' in and around sports. To exclude such issues other than match-fixing, we confine the act of 'improper alteration' in the definition above to what is carried out *in* the game, for example, by athletes or/and referees – namely *on-field* corruption.

Once its referents have been confined to action *on* the field, it might be useful to categorise match-fixing according to where the motivation originates. The most common way at present is to differentiate betting-motivated match-fixing from non-betting-motivated one, mirroring the overriding impact of today's sports betting on sport integrity and the high-profile scandals on the rise. Some other mediating factors are often taken into consideration, such as: whether the participation is voluntary, coercive or driven by money [16].

Betting-motivated match-fixing is conspired to make profits in gambling markets [17]. Fixers usually bribe athletes to engineer certain results in or of the targeted game, while placing money on that particular result in betting markets [18, 19]. On the other hand, non-betting-motivated match-fixing refers to the cases where the motivation is anything but betting, although on most occasions it indicates sporting-motivated match-fixing, including, for example, bribing relevant parties "to achieve a better result, avoid relegation, or have a better rival in the following stages of a championship" ([2]: 80).

One important thing to note is that despite the exclusive spotlight on betting-motivated match-fixing, it is non-betting-motivated cases that are more prevalent. For example, Hoeven et al. (2019) show that out of 36 match-fixing approaches reported in their study in Dutch-speaking regions of Belgium, 33 cases (91.7%) were about non-betting-motivated fixing, while only three cases were related to betting [20]. Spapens and Olfers' (2015) survey in the Netherlands also reveals that athletes, coaches and referees who suspect match-fixing in their sports point to non-betting-related (44%), rather than betting-related match-fixing (20%) [16]. These figures imply that although

[1] Despite the term 'manipulation', instead of 'match-fixing', both are used interchangeably in match-fixing literature.

Table 1 List of previous match-fixing prevalence surveys

Countries (Sources)	Participants (Numbers, sports, levels, etc.)	Approached	Involved	Awareness of approach/ involvement	Instigator	Motivation
15 Eastern European countries (FIFPro, 2012) [21]	3357 Professional footballers	11.9%	–	23.6%	–	Financial difficulties
Belgium (Zamante, 2012) [22]	945 Amateur footballers	14.5%	4%	34.5%	–	–
The Netherlands (Spapens and Olfers, 2015) [16]	732 (former) athletes, coaches & referees from 5 sports	4%	–	8%	Opponents (35%) Home clubs (14%) Teammates (6%)	–
Greece/Cyprus/Austria (Theodorou, 2017) [23]	558 athletes from 12 sports	15%	–	34.7%	Club officials (38.1%) Teammates (16.2%) Referees (9.8%) Criminals/bookies (8.9%)	Financial difficulties (34.6%), pressure from others (27.5%), easy money (27.5%), external pressure (16.8%), threats (14.5%), general cultural acceptance (9.5%)
Germany (Frenger et al., 2019) [24]	425 (former) national squads from various sports	8.42%	7.47%	–	–	–
Belgium (Flanders) (Hoeven et al., 2019) [20]	567 athletes from 3 sports	6.3%	1.2%	17.8%	Opponents, trainers, sponsors, etc.	Clubs' sporting interests, money, preventing relegation of other athletes or clubs, etc.

Note that Spapens and Olfers (2015), Theodorou (2017) and Hoeven et al. (2019) did not exclude questions about betting-related match-fixing (although its rates are far lower than non-betting one) [16, 20, 23], while FIFPro's (2012) report does not specify the types of match-fixing it surveyed [21]

betting-related fixing may have broader social ramifications, non-betting-related fixing might be more deeply entrenched within sporting culture.

The pervasiveness of non-betting-related fixing is supported by recent empirical research conducted in several different countries (see Table 1). Although these surveys vary in their target groups, sample sizes, sporting disciplines, and types of questions asked, the results collectively offer a brief picture of how widespread the problem might be [16, 20–24]. According to these works, between 4% and 15% of the surveyed athletes reported that they had been approached, while from 1.2% to 7% of the participants had confessed their involvement in match-fixing. Those who were aware of the cases of match-fixing in their sporting environment ranged from 8% to 34.7%. Additionally, the motivations identified in these surveys are mostly sports-oriented, such as: "to prevent relegation of a known athlete or club, followed by determining the opponent in the next round of a tournament, and making the competition or tournament more exciting" ([20]: 12).

However, non-betting motivations do not always mean sporting motivations. Indeed, some cases are driven neither by gambling, nor for sporting reasons, because there are certain rewards that are external to, but accompanied with the sports, such as university admission as an incentive for elite sport development. This paper aims to fill this gap between the sporting-motivated and betting-motivated match-fixing by exploring the non-betting-related causal source which instigates on-field corruption. The next section introduces several cases of this kind in South Korean media articles.

South Korean sports: A hotbed of match-fixing

South Korea is infamous for match-fixing [10, 19]. Even before the term 'match-fixing' was introduced, non-betting-related cases had always been widespread under the title of 'university admission scandal'. Our review of news articles suggests that non-betting-related fixing occurs in almost every sport that offers career prospects for athletes, such as: places at university and professional pathways into municipal or commercially sponsored teams. Amongst those sports, some appear particularly vulnerable to match-fixing for their competition formats, and often make the headlines for scandals.

Short-track speed skating often comes under media scrutiny. Its international success partly owes to a team-tactic, called '*jjamjjami*' where a head coach designates each skater's role in the same heat to secure a gold medal [25, 26]. In domestic competitions, such a practice is implemented more explicitly, even across different teams. One typical example is found in a case from 2010 where 14 coaches from different teams pre-arranged the outcomes of four final events at a national-level competition [27]. Surprisingly, they decided on their athletes' places by rock-paper-scissors [27]. This is because medals from national-level competitions are the key criterion for university entry. Therefore, at the end of the season when top-tier athletes have already secured admission from universities, coaches are tempted to collude to distribute the medals for their athletes who have not yet gained entry. In this particular case, a leading coach cajoled other reluctant coaches into the scheme by threatening to "plant a bomb in the race" – intentional collisions by his racers [27].

The most shocking case of match-fixing occurred at a Seoul Metropolitan City, high-school taekwondo competition in 2013. In one of the final events, one competitor lost

by 7 to 8 after receiving six consecutive penalties in the last 50 s (3 points minus) [28]. The footage of this match went viral since the competitor's father committed suicide two weeks after the match. In a suicide note, the father, who was running his own taekwondo gym and coaching his son, blamed himself for being powerless to help with his son's athletic career [29]. Police investigations later revealed that this fixing had begun from one academic staff at a university's taekwondo department who asked a middle-school taekwondo head coach to make a medal for his son so as to be admitted to university. In turn, this request was passed on to a general secretary of the Seoul Metropolitan City Taekwondo Federation who ordered the chair of the referees committee to make sure that the academic's son won the event [28]. According to a news article, this kind of match-fixing is so widespread that there is a slang term for it in the South Korea taekwondo community – '*odda'* which is a Korean way of pronouncing 'order' [28]. This news report highlights that "after the electronic scoring system was introduced, '*odda'* is mostly carried out in a way that referees award penalties which can deduct points" [28].

In high-school baseball, it was reported that a manager had ordered his players to "steal the base and get caught" to help the opposing team's pitcher increase his Earned Run Average [30]. Players in the team testified that they had once thrown a game at the behest of the manager. This seems to be a typical *modus operandi* of match-fixing for university entrance: what Andreff (2018) would call a kind of 'barter corruption' that while appearing as minor corruption can nevertheless undermine integrity [11]. In one news report, a former high-school baseball umpire suggests that this arrangement has an element of reciprocity; by helping a manager in getting their student university entrance, they can ask for help in the future [31]. As the umpire stresses, since "it is a manager's own ability that creates the connections", managers are hardly free from the shady deals, not only for their athletes, but also for the maintenance of their own squads [31]. The situation is not much different in other popular sports.

As evidenced in the above cases, one distinctive pattern in non-betting-related match-fixing is that officials and referees in sport governing bodies and/or coaches abuse their power and network for private interest – e.g., to ensure their (friends') athletes and children are admitted to university and survive (or thrive) as successful members of a sporting community. In the next section, we provide a description of our research design to obtain and process empirical data of this reality.

Methodology: Survey-based qualitative interpretation

This study draws from two separate data sets. One is the survey data on South Korean high-performance athletes' match-fixing experience. The other is a document set consisting of policies and reports from the elite sport development system, as well as media coverage on non-betting-related fixing in South Korea. Hence, we first capture the empirical reality of match-fixing via a survey. Afterwards, using the survey outcome as a clue, we then trace the institutional arrangements that are likely to have a fundamental causal power for match-fixing practices. In this section, we introduce the survey design and how its results were contextualised with qualitative data.

Survey design

The survey was carried out from October 2017 to April 2018 by the research team visiting high-performance squads at universities and municipal (professional) clubs. An ethical approval was obtained in advance from the Review Board of the corresponding author's institute. According to the approved guidance, survey respondents were informed about the purpose of the study before consenting to participate. For data collection, the convenience sampling method of non-probability design was applied. Eventually, we recruited 731 South Korean high-performance athletes (18 years or older). The age of participants ranged from 19 to 39 years (M = 22.71, SD = 2.92) with their athletic career spanning between four and 22 years (M = 10.11, SD = 3.31). We

Table 2 Demographic characteristics of the survey participants

		n	%
Gender	Male	433	59.2
	Female	298	40.8
Career span	5 years or less	35	4.8
	6–10 years	434	59.4
	11–15 years	214	29.3
	More than 16 years	48	6.6
National squad experience	Yes	318	43.5
	No	413	56.5
Highest competition class	City or state competition level	17	2.3
	National competition level	510	69.8
	Asia competition level	132	18.1
	World competition level	72	9.8
Sports event type	Ball-based sport		
	Soccer	24	3.3
	Volleyball	11	1.5
	Field hockey	66	9.0
	Handball	122	16.7
	Baseball	40	5.5
	Combat sport		
	Wrestling	37	5.1
	Boxing	32	4.4
	Judo	102	14.0
	Taekwondo	172	23.5
	Record-based sport		
	Athletics (track and field)	52	7.1
	Skating	14	1.9
	Swimming	16	2.2
	Weightlifting	12	1.6
	Rowing and canoe	31	4.2

also took into consideration gender (male, female), sports event types (ball-based sports, combat sports, and record-based sports), and national squad experience. The demographic characteristics of the participants are shown in Table 2.

The survey instrument was developed in three stages. First, we prepared an initial draft of the questionnaire based on Patton's (1990) 5W1H (who, what, where, when, why, how) [32]. Second, we revised and updated the draft by consulting a group of experts, consisting of: athletes ($n = 3$), coaches ($n = 2$), sport administrators on integrity-related committees (n = 2) and questionnaire item development experts (n = 3). Finally, we performed a preliminary evaluation of the devised items with 10 athletes. After receiving their feedback and opinions about the questions' clarity and potential issues in answering the question, we finalised a questionnaire with 20 items.

As seen in Table 3, the survey instrument is comprised of three major parts: (a) demographic information (7 items); (b) direct experience of match-fixing (8 items); and (c) indirect experience of match-fixing (5 items). 'Direct experience' refers to respondents' experience of either 'receiving an offer to participate in match-fixing' or 'actual involvement in match-fixing'. Specifically, the respondents were asked to provide information on 'the number of approaches', 'the level of competition (for which the approach was made)' and 'who approached'. On the other hand, 'indirect experience' indicates respondents' experience of witnessing/knowing either 'any approach to other athletes' or 'other athletes' actual involvement in match-fixing'. We asked about 'indirect experience' to catch more diverse cases and compare the indirectly experienced match-fixing with those of direct experience. Descriptive statistics analysis (frequency, percentage, mean, standard deviation) was conducted using SPSS version 21.0.

Table 3 Contents of questionnaire

Variables	Number of items
Demographic information	7
Gender, age, career span, sports event type, national squad experience, highest competing class	
Direct experience of match-fixing	8
Experience of receiving match-fixing offers The number of experiences of receiving match-fixing offers Involvement in match-fixing when offered The number of times involved in match-fixing when offered Who offered match-fixing The number of times receiving match-fixing offers The level of competition for which match-fixing was offered The purpose of match-fixing when offered	
Indirect experience of match-fixing	5
Experience of witnessing/knowing of others' match-fixing approach The number of times of learning about others' match-fixing approach Who approached in these incidents The level of competition for which the approach was made The purpose of match-fixing approach	
Total	20

Document analysis

The survey was designed to provide a picture of non-betting-related match-fixing in South Korea. As it is primarily descriptive, the survey cannot yield explanations around the generative mechanisms of fundamental institutional arrangements that underpin its results, such as the rules and regulations of the sport development systems [33]. Thus, based on the main motives revealed in the survey results (who offers match-fixing, when, for which level of competitions and why), we attributed such motives to some direct incentives that were given to individuals involved in the South Korean elite sport development system.

Specifically, we first identified important actors who were involved in elite athletes' career pathway and where they were specifically located in the system. Secondly, by consulting policy documentation on elite sport development and media coverage reporting match-fixing cases in South Korea, we tried to understand the individual actors' roles, interests, and ideas which might have been assigned and inculcated within the institutional contexts. The next two sections respectively show: (1) the pattern of non-betting-related match-fixing in South Korea, and (2) how certain institutional arrangements might precondition the phenomenon at a more fundamental level.

Results: Athletes' experience of match-fixing in South Korea

As presented in Table 4, our survey results of 731 high-performance athletes show that 74 (10.12%) respondents have been approached for match-fixing. The average frequency of approach was 2.86 times (SD = 1.86) with a minimum number of one to a maximum 10 times. Out of the 74 respondents, 33 athletes (4.51%) have actually participated in match-fixing. The number of times ranged from 1 to 8 with an average of 2.90 times (SD = 2.32). The involvement rate when approached was about 45%. The number of athletes who have witnessed or learned about others' match-fixing approach or involvement was 142 (19.43%).

A detailed analysis of the demographic characteristics reveals that female athletes have been approached more than males (females = 10.74%, males = 9.70%). Females' actual involvement rate was also slightly higher than that of males (5.03% vs. 4.16%). Similarly, female athletes reported a higher rate of indirect experience of match-fixing (females = 22.48%, males = 17.32%). Unfortunately, it is difficult to explain the differences only with the data gathered for this research. Follow-up interviews are required to learn why women reported more approaches and involvement in match-fixing (e.g., whether it is because of a more competitive career pathway – i.e., fewer places at university and in professional squads).

With respect to athletes' career span, longer career athletes have experienced more cases of match-fixing and approaches, which likely reflects the amount of time they have been exposed to the environment. In terms of athletic excellence, those who have made national squads (compared to those with no experience in national squads) and those who have competed at higher competition levels (world-class, continental, national levels) reported higher rates of match-fixing approach and actual involvement. This may be related to the basic requirement for match-fixing: it is higher-class athletes that are offered to underperform, not the

Table 4 Direct and indirect experience of sport match-fixing

	Direct experience				Indirect experience	
	I have received match-fixing offers		I have actually participated in match-fixing		I have seen or heard about others' match-fixing	
	freq	%	freq	%	freq	%
Total (n = 731)	74	10.12	33	4.51	142	19.43
Gender						
Male ($n = 433$)	42	9.70	18	4.16	75	17.32
Female ($n = 298$)	32	10.74	15	5.03	67	22.48
Athletic career span						
5 years or less ($n = 35$)	3	8.57	1	2.86	4	11.43
6–10 years ($n = 434$)	40	9.22	18	4.15	82	18.89
11–15 years ($n = 214$)	23	10.75	9	4.21	45	21.03
More than 16 years ($n = 48$)	8	16.67	5	10.42	11	22.92
National squad experience						
Yes ($n = 318$)	43	13.52	18	5.66	75	23.58
No ($n = 413$)	31	7.51	15	3.63	67	16.22
Highest competing class						
City or State level ($n = 17$)	0	0.00	0	0.00	3	17.65
National level ($n = 510$)	48	9.41	21	4.12	97	19.02
Continental level ($n = 132$)	16	12.12	7	5.30	27	20.45
World-class level ($n = 72$)	10	13.89	5	6.94	15	20.83
Sports event type						
Ball-based sport ($n = 234$)	24	10.26	11	4.70	42	17.95
Combat sport ($n = 309$)	32	10.36	16	5.18	67	21.68
Record-based sport ($n = 188$)	18	9.57	6	3.19	33	17.55

other way round. 'The better, the more involved' could also explain why longer career athletes are approached and involved more often. In terms of different event types, it is combat sports that show slightly higher number (and rate) of athletes having experience in match-fixing, though the differences are too narrow to find any particular reasons.

Another set of responses tells us how and why match-fixing is arranged. Table 5 particularly shows who organises match-fixing: 365 (48.7%) out of 731 respondents, mentioned coaches, followed by peer athletes (168) and some intermediaries (92), which reflect their general understanding of the issue. Similarly, when asked who actually had offered them to get involved in match-fixing, 74 athletes with direct experience also indicated coaches (63), fellow athletes (26) and intermediaries (15) (duplicate responses). Those with indirect experience also named the three groups in the same order (duplicate responses). The fact that close insiders in daily contact are the main accused actors in match-fixing seems to demonstrate that the issue is deep-seated

Table 5 Results of who organise match-fixing

	All participants (a)		Participants with direct experience (b)		Participants with indirect experience (c)	
	freq	%	freq	%	freq	%
Fellow athletes	168	22.98	26	35.13	54	38.02
Coaches	356	48.70	63	85.13	88	61.97
Referees	67	9.17	5	6.75	13	9.15
Team staff and association executives	48	6.57	4	5.40	32	22.53
Intermediaries	92	12.59	15	20.27	37	26.05
Total	731	100.00	74	–	142	–

(a) Who is considered to be highly involved in match-fixing?

(b) If you have been approached, who offered to match-fix? (duplicate responses)

(c) If you have heard about or seen others' match-fixing involvement/approach, who was the person that offered match-fixing? (duplicate responses)

in the South Korean elite sporting culture as featured in the match-fixing cases in "South Korean sports: A hotbed of match-fixing" section.

Table 6 shows when match-fixing is experienced along the athletic career path. Being asked about their awareness, approximately 53% of the entire pool of respondents pointed to high-school years, which is followed by professional (30.92%) and university years (13.41%). Those with direct match-fixing experience (74) reported similar patterns: most approaches were made in high-school years (49), while professional (21), middle-school (19) and university years (18) were also periods of match-fixing for some athletes (duplicate responses). High-school was also named most frequently by 95 athletes having indirect experience of match-

Table 6 Results of when match-fixing occurs

	All participants (a)		Participants with direct experience (b)		Participants with indirect experience (c)	
	freq	%	freq	%	freq	%
Elementary school	8	1.09	2	2.70	2	1.40
Middle school	12	1.64	19	25.67	30	21.12
High school	387	52.94	49	66.21	95	66.90
University	98	13.41	18	24.32	69	48.59
Professional years	226	30.92	21	28.37	56	39.43
Total	731	100.00	74	–	142	–

(a) When do you think match-fixing mostly occurs?

(b) If you have received a match-fixing approach, when was it? (duplicate responses)

(c) If you have heard about or seen others' match-fixing approach/involvement, when was it? (duplicate responses)

Table 7 Results of the level of competition for which match-fixing occurs

	All participants (a)		Participants with direct experience (b)		Participants with indirect experience (c)	
	freq	%	freq	%	freq	%
City or provincial-level competition	93	12.72	24	32.43	40	28.16
National-level competition	361	49.38	56	75.67	103	72.53
Selection competition for national squads	239	32.69	18	24.32	72	50.70
International-level competition	38	5.20	0	0	1	0.70
Total	731	100.00	74	–	142	–

(a) At which level of competition do you think match-fixing mostly occurs?

(b) If you have received match-fixing offers, which level of competition was that? (duplicate responses)

(c) If you have heard about or seen other's match-fixing involvement/approach, which level of competition was that? (duplicate responses)

fixing. These results signify that high-school competitions may have certain conditions that are favourable to match-fixing.

We also sought information about the level of competitions at which match-fixing is attempted. As seen in Table 7, about 50% and 30% of the survey participants respectively suggest that match-fixing occurs at the national-level competitions and national squad selection events. Those who have actually been offered to take part in match-fixing reported national-level competitions as the place where they have been approached the most times, while the second most offers were made for regional competitions, not national squad selection events (duplicate responses). Every group suggests that match-fixing is mostly arranged for national-level competitions, while direct experience indicates that regional competitions are also subject to fixing attempts.

Survey participants' answers to the direct question about 'the purpose of the match-fixing' explain why it is at high-school, national-level competitions that most people

Table 8 Results of the purpose of match-fixing

	Participants with direct experience		Participants with indirect experience	
	freq	%	freq	%
To enter university or a professional team	47	63.51	86	60.56
For monetary gains	29	39.18	61	42.95
To match up with an easier opponent in the next round	14	18.91	21	14.78
For the benefits of acquaintances	35	47.29	49	34.50
Others	5	6.75	6	4.22
Total	74	–	142	–

Duplicate responses were allowed only for athletes who have experienced match-fixing

experience match-fixing approach. Table 8 shows that 47 out of 74 athletes with direct experience of match-fixing chose: 'for entering upper level school (university) or professional squad'. This answer also denotes that the match-fixing cases for university entrance in media coverage in "South Korean sports: A hotbed of match-fixing" section actually exist at a certain rate within the sampled group.

In addition, 33 athletes chose 'for the benefit of an acquaintance' and 26 'for monetary gains', while the number of athletes who had been asked to fix 'to match up with easier opponents in the next round' was 14 out of 74 athletes (duplicate responses). Given that the question allowed duplicate responses, the purpose of 'entering university or professional squads' and other reasons ('for the benefit of acquaintance' and 'for monetary gains') are not mutually exclusive. For example, an athlete may be approached by another team's coach who is in regular contact (i.e., an acquaintance), who gives money (monetary profits) and offers match-fixing for his athletes to enter university (entering university).

The facts that 44.59% of the athletes who have actually been approached cited 'for the benefit of an acquaintance' as one of the reasons for match-fixing and, that half of those approached actually got involved, imply that non-betting-related match-fixing is not always committed under duress or for monetary reasons. Rather, it may also be part of the customary relationship through which various resources are reciprocally exchanged all along the athletic career pathway in the system. On the other hand, the monetary reason, mentioned by 26 out of 74 athletes having been approached (and 61 out of 142 athletes having indirect experience of match-fixing), shows that an agreement to fix is hardly explained by reciprocity alone. Money may not be a key to the deal, but it may serve as a lubricant to alleviate hesitation and seal the deal by making both parties locked in the collusion.

Overall, the results of our survey on high-performance athletes' match-fixing experience in South Korea reveal a range of individual and environmental conditions under which match-fixing is more often organised: a longer athletic career span (over 6 years), a higher performance level (national squad class), and national-level competitions. More importantly, non-betting-related match-fixing is most frequently organised at national-level, high-school competitions, by coaches, and for the purpose of university entrance.

Discussion: Incentives weighed against sport integrity

Our discussion in this section is built around a question from one major pattern of non-betting-related match-fixing in South Korea: what makes (1) some coaches arrange fixing (2) at national-level, (3) high-school competitions (4) for the purpose of getting their athletes into university. It is notable that these four components mirror the backbone of South Korea's elite sport development (i.e., a coach-led, national feeder system encompassing high schools and universities). To put it another way, these factors work together to extract young athletes' full commitment to sports. In this section, we first compare the prevalence of match-fixing and its unique motive with the results of previous surveys in other nations. Afterwards, we contextualise the key patterns of match-fixing within the sport development system to identify possible causal sources behind these figures.

Owing to the differences in survey design (see Table 1), the prevalence of non-betting-related match-fixing in South Korean sport is not easily compared internationally. Despite the limitation, however, some parts of the results can provide several points of discussion given the common questions asked – such as the rates of approach for, involvement in, and awareness of match-fixing, as well as key instigators and motivations for involvement, etc. For instance, compared to the average rate of experienced approach from the six surveys (10.02%), our results show more or less the same rate of approach (10.12%), which may intimate that South Korean high-performance athletes are not particularly more vulnerable to the temptation of match-fixing [16, 20–24]. However, actual involvement amongst those approached varies from 1.2% to 7.47% (average 4.2%), while in our result, 4.5% ($n = 33$) of respondents were involved in match-fixing [16, 20–24]. Perhaps the information about the awareness of others' match-fixing approach or involvement is the most unreliable given that it is about perception that can be based on rumours. Our result reports that only 19.43% of respondents were aware of someone else's approach or involvement, which is slightly lower than the average of 23.72% [16, 20–24].

Whereas the general figures about athletes' exposure to non-betting-related match-fixing seem to have some common ranges, the sources of match-fixing offers and athletes' motivation to take part, show significant differences. Three surveys conducted in various countries provide specific information. Theodorou's (2017) survey in the three European countries (Greece, Cyprus and Austria) indicates that club officials are the most frequent instigator (38.1%), followed by other athletes (16.2%) and referees (8.9%) [23], while Spapens and Olfers (2015) and Hoeven et al. (2019) both report sporting opponents as key instigators in the Netherlands and Belgium [16, 20]. Notably, athletes' own coaches are not mentioned in any of the European surveys, while coaches are the highest reported source on the list in the South Korean athletes' response in this study.

Another peculiarity found in the present survey relates to the motives for fixing. Like the above European cases suggesting financial difficulties (34.6%), pressure from other athletes (27.5%) [23] and pure sporting reasons (sporting interests of clubs, making the tournament more easily, etc.) [20], our results present similar motives such as: for monetary gains; to match up with an easier opponent in the next round; for the benefits of acquaintances, etc. However, the strongest source of motivation is reported to be 'university entry', which also explains why high-school sports games at national levels appear most vulnerable.

Such differences may come from the distinctive elite sport development system of South Korea that uses university admission as an incentive for elite sport development. Within the sporting environment where university entry is at stake, coaches are not only in charge of supporting sporting skills and success; they are also supposed to act as competent *brokers* who can put the athletes into university. Indeed, sandwiched between student-athletes (and their parents) who are desperate for university entrance and the education bureaus' pressure for medals, South Korean elite sport coaches are likely placed in a vulnerable position.

First, *at the forefront* of elite sport development, coaches are the ones who are supposed to attend to student-athletes' career in the development pathway. In South Korea, student-athletes with a certain level of performance are entitled to get into university regardless of their academic ability [34]. Qualifying conditions are not easy;

most university squads require medals from national-level competitions for applications [35]. Moreover, because the places at university and professional teams are limited, national-level competitions in high-school years have become highly contested. Even for those athletes who do not want to continue to compete in their sports, a university degree is critical as cultural capital and a stepping-stone for the next stage of their lives [9]. While such a cutthroat competition is intended to induce high-level performance [36], the fact that students may have nothing to fall back on after failing to reach the top of the pyramid, can make the competition susceptible to manipulation.

Second, *at the bottom* of the hierarchical structure of educational bureaucracy (schools and regional Offices of Education), coaches have no choice but to prioritise medal performance not only for their athletes' career prospects, but for their own livelihood. An Olympic-style, all-encompassing annual national sporting event plays a key part. Due to its inter-regional competition format, 17 metropolitan and provincial governments (and education offices) spend public money on school elite sports teams and compete for standings on medal tables. As a result, school inspectors in charge of elite sport development supervise and audit medal performance at the annual event. Consequently, coaches who are usually on annual employment contracts experience significant pressure and are often driven to act as match-fixing negotiators [37].

Nevertheless, it is impossible to confirm that high-school match-fixing for university admission is only unique to South Korean match-fixing cases because the other European surveys did not cover the participants' school-year experience of match-fixing. However, high-school match-fixing in South Korea could at least warn that other countries utilising similar policy incentives pay attention to their competitions at that level. In other words, the South Korean case is novel, not because it is unique, but because it is indicative of other potential sources of match-fixing that are perhaps ongoing or lurking in many other sporting contexts in the world.

In addition, we acknowledge that this systemic basis for fixing (including the nature of incentives and the coaches' brokering role) may not entirely explain the cause of 10.12% of athletes approached for match-fixing and their 4.51% involvement. Some of this reported experience might equally be driven by a sheer corrupt mind for completely private gains. But other results on why/where match-fixing occurs and by whom seem to corroborate the depiction of our scenario and environment within which athletes are currently exposed. Therefore, we can say that the figure of 10.12% not only reflects how serious the problem is, but more importantly, it represents the institutionally imposed pressure that the majority of frontline coaches and athletes are muddling through, weighing up integrity against other commitments or considerations [36].

Conclusion

This paper has provided an empirical analysis of how and why high-performance athletes get involved in non-betting-related match-fixing in South Korea. Specifically, our survey results have shown that of 731 survey respondents, 74 athletes (10.12%) had experience of being approached, out of which 33 athletes (44.59% of those approached, 4.51% of all respondents) had actually participated in match-fixing. The results have also revealed that most approaches originated from coaches in order to fix national-level, high-school competitions for their athletes' university entrance. By

contextualising this main pattern of match-fixing within the elite sport development contexts, we have argued that those figures about match-fixing (10.12% approach, 4.51% involvement) are not just an aggregate of individual experience, but also a credible indication of more fundamental causal sources inherent in the very foundation of Korea's sport development system. As one of the causal sources, we have identified the 'excessive incentives' built within the bureaucratic sport development system.

The fact that risks can be inherent within the sport development system itself further stresses the significance of non-betting-related match-fixing as a policy issue. Unlike betting-related match-fixing that is likened to 'cancer' or 'evil' thanks to its criminal/illegal elements [19], non-betting-related match-fixing is perhaps embedded in a sporting culture in which members of the community can take such practices for granted and even become part of them [38 – 40]. Additionally, by providing an account for how match-fixing is normalised in a sport development context, we have discovered another type of non-betting-related match-fixing, one that is underpinned mainly by university entry, and increasingly justified by the incentive structures along the hierarchical line of sport development bureaucracy. The findings of this paper, therefore, could contribute to illuminating the multi-faceted nature of match-fixing, and enriching the discussion of match-fixing literature especially on its various motivations outside the remit of sport governance.

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