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Sports integrities: A conceptual and methodological framework for analysis and policymaking

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Abstract

Since the manipulation of sport competitions became one of the main threats to sport integrity, both the academy and international organizations have sought to establish a coherent conceptual framework that defines what criteria determine a manipulation and what are the factors that might cause it. Although the literature has shown that the manipulation of sport competition is a multifaceted phenomenon that includes individual, relational, organizational and institutional variables, most of the authors have focused their explanations on individual factors, and institutional prevention campaigns continue to understand match-fixing as a problem of moral failure of on-field sports actors. This work proposes a novel dynamic framework for analysis based on the theoretical roots on Morin's paradigm of complexity and Archer's critical realism. In addition to articulating the micro, meso, and macro factors together, the paper defends the idea of three conceptions of integrity, personal, competition and institutional, often operating simultaneously in the same space. Each one of these integrities, operates across individual, organizational and structural levels, acting recursively on the others, generating the gears of the global sports integrity. We then discuss the reasons, structures, opportunities and incentives that each of these integrities creates and fuels. We argue that the errors and ineffectiveness of the fight against the manipulation of sport competitions are largely due to a lack of understanding of, and appreciation for, the different conceptions of integrity and their interactions that require different approaches and differentiated public policies. We conclude with innovative possibilities for more effective policy-making processes in this space.

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Keywords:

Sport integrity; manipulation of sport competitions; match-fixing; critical realism; complexity paradigm.

Existing theoretical approaches to “match fixing” and the manipulation of sport competitions and their disciplinary limitations

Since the phenomenon that was originally referred to as “match fixing”, and then following the Macolin Convention of the Council of Europe as the “manipulation of sport competition”, became the object of academic scrutiny, attempts to clarify the precise nature of the phenomenon and why actors engage in the range of deviant practices that fall within its borders have been proposed by researchers from different disciplinary backgrounds: investigative journalism (Hill 2010), economy (Forrest 2013), sociology (Tak 2018; Tak et. al. 2018; Moriconi and De Cima 2021; Numerato 2016; Hill 2013), law (Carpenter 2012; Holden & Rodenberg 2015, 2017; Spapens & Olfers 2015), social psychology (Barkoukis et. al. 2020; O’Shea et al. 2021; Robertson & Constandt 2021), political science (Cima & Moriconi 2022; Moriconi and Cima 2020), ethics and philosophy (Van der Hoeven et al. 2020; Harvey 2015; Lee 2017); criminology (Hill 2015; Moneva & Caneppele 2020); management (Manoli & Antonopoulos 2015, 2022).

For the purposes of this essay, we shall take the “Manipulation of sports competitions” (MSC) to be understood as in the definition of the Macolin Convention, a declaration brought about by intergovernmental cooperation across Europe, widely adopted by law enforcement agencies, national and international sport federations. The Macolin Convention incorporates the following definition of Sport Competition Manipulation (of which “match fixing” is the most discussed species) thus:

“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.” (Council of Europe, 2014: art 3.4).

We do not claim that this definition is beyond the criticism of scholars in the field, but rather that it is the dominant definitional of the sport integrity industry and political and law enforcement agencies.

Within the emerging literature, the range of theoretically informed perspectives have characterised explanations of the phenomenon as being driven by the rational choice of individual actors

(Constandt & Manoli 2022). The range of individuals concerned varies. Nevertheless, one could highlight mainly on field-sport actors, such as athletes, players (Forrest 2013; Hill 2009), but also to a lesser degree referees or adjudicating officials (Moriconi and Cima 2021). In the majority of cases, the research is framed around a decision to manipulate singular events, competitive results and/or matches, understood as a rational choice driven by an individual's evaluation of the ratio of profits obtained (financial or otherwise) by the action in relation to the risks (for example, the sanctions that the manipulator could suffer) associated with such a choice (Boeri & Severgnini, 2011, 2013; Forrest, 2018; Forrest & Simmons, 2003). Forrest and Simmons (2003) follow the economic model of crime (Ehrlich 1996) and consider that the individual's decision to engage in deviant behaviour is a rational process of weighing the expected benefits for breaking the norms and the cost and/or risks associated with the action. According to this economic model, on-field sport actors will fix "matches" (or manipulate actions within such events) if the expected benefit (e.g. amount of the bribe) exceeds the expected costs of fixing a game or part thereof (e.g., probability of detection, potential criminal and regulatory sanctions in case of detection, loss of game prizes, loss of status due to poor sports performance, or loss of association with sport colleagues). The authors also consider, though to a lesser extent, the non-economic influence of athletes' financial situation, such as the propensity for deviation, or feelings of guilt (Forrest and Simmons, 2003; Forrest et al. 2008).

In recent years, several authors (Kihl 2018; Constandt & Manoli 2022; Van der Hoeven 2023) have emphasized the need to go beyond reductionist micro level individualistic explanations that ignore the influence of supra-individual reasons such as social networks and norms (Kihl 2018); organizational conditions, relations, or culture (Tzeng & Lee 2021; Lee 2017); the causal power of structures operating on sports actors' behaviour (Moriconi and Cima 2021), while criticizing the exaggerated importance of individual agency (Constandt and Manoli 2022; Tak et. al. 2018). We will argue that adopting a more holistic approach should - among other things - draw attention to the institutional design of the current global online sport betting-market (Tak 2018), the design of competitions (Hill 2020; Kihl 2018), or the characteristics and ecosystem of some championships, such as collegiate sports (Tak et. al. 2018), which have created increased opportunities, structures and incentives for a range of deviant behaviours such as gambling fraud, money laundering, and activities of organized criminal groups that have been very much attracted to the means of sport competitions manipulation to further their ends.

Although the perspective of understanding the “manipulation of sport competition” (Council of Europe, 2020; McNamee and Rubiscek, 2022) as a multifaceted phenomenon is entirely appropriate, there are epistemological limitations for the understanding of human action that have not yet been addressed. In general, whatever the theoretical approach and the area of study in which the respective authors work, a more comprehensive explanation has not yet been developed. We see the possibilities of a more holistic approach in a dialectical synthesis, that can explain when and why manipulation of sport competitions happens and the reasons and causes that influence or give rise to it.

Approached through the theoretical framework of critical realism (Archer 2015; Archer et al. 2013) and drawing on Morin’s account of “complex thinking” (Morin 1990), we demonstrate some theoretical and methodological limitations in current approaches to understand the drivers of manipulation of sport competitions and present a dynamic multidimensional framework to analyze the phenomenon and improve the prevention and the policymaking process. Rather than merely discussing the multidimensional logic of the problem and defining factors at the individual (micro), organizational/relational (meso) and institutional (macro) levels, we argue that it is crucial to distinguish three different integrity conceptions that make up sport integrity: personal integrity, competition integrity and institutional integrity. Each one of these integrities is crossed by individual, organizational and structural factors, acting recursively on the others, generating the gears of the global sports integrity industry (Gardiner et al. 2017; Harvey, A., & McNamee, M. 2019, McNamee, 2015).

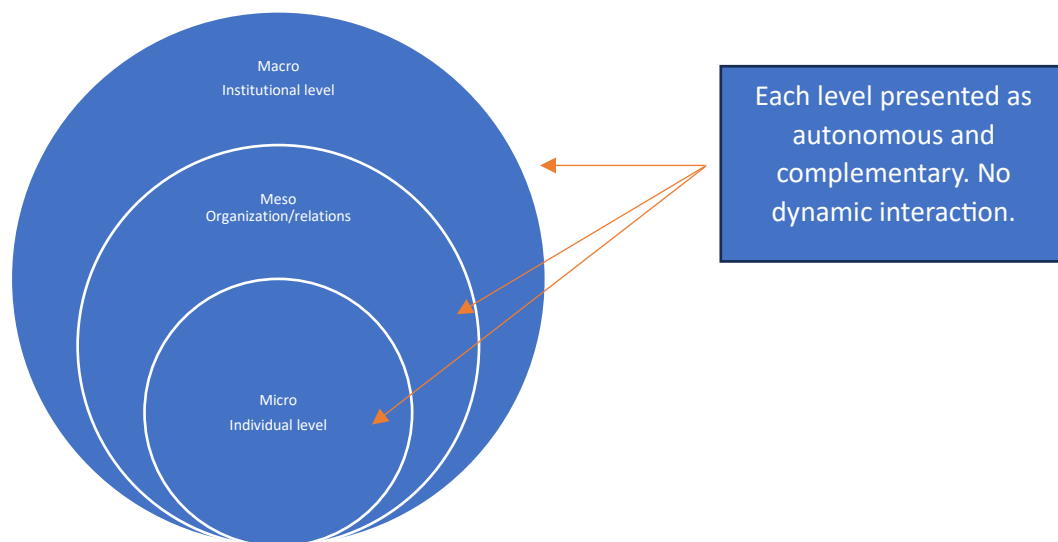
The paper is divided into four parts. The first discusses current approaches and their methodological and theoretical limitations, drawing on work from the philosophy of science. We take the putative Hill’s “index of match fixing” vulnerability as a case in point and present some conceptual and epistemological challenges to its methodology. The second part presents the ontological bases of our approach, rooted on Edgar Morin’s paradigm of complexity (Morin 1990, 1992) and Margaret Archer’s critical realism (Archer 1995) who adopted and adapted the early philosophical CR framework of Roy Bhaskar (1975, 1979; Bhaskar and Hartwig 2010). Both proposals share a premise concerning the impossibility of meaningfully separating social structures from the powers of individual agency. Based on these theoretical postulates, the article explains the need to speak of sports integrity in the plural, and to distinguish between personal integrity,

competition integrity and institutional integrity. In the third section, the three integrity conceptions are conceptualized and operationalized, and the recursive relation among them is explained. Each one of them requires autonomous, although complementary, intervention programs. These programs, as well as the advantages of the proposed dynamic and complex approach, are brought together in the conclusion.

Current approaches to match fixing research and some methodological and theoretical limitations

Although explanations of individual, relational, cultural and institutional factors that incentivise and/or promote participation in sport competition manipulation schemes can be found throughout the literature, these explanations are typically static. That is, the micro, meso and macro levels of explanation are presented as autonomous and complementary (Figure 1). There is at present a lack of studies that analyze all three levels together and through an interactive perspective.

Figure 1: Static multilevel approaches



This problem of the failure to acknowledge this interpretive depth and integration is compounded by the characteristics of empirical studies that are typically dominated by single-country analysis¹; research on specific sports², mainly football (Nowy & Breuer 2017; Hill 2010, 2009; Numerato 2016; Moriconi 2018); on specific actors or particular scandals³. We now consider one important example of this failure and its implications.

In order to avoid claims of attacking a “straw man” we critically evaluate an important article by the leading scholar Declan Hill and his colleagues (Hill et al. 2020). Hill has been a leading scholar in the development of the field of research into what is widely referred to as “match fixing:” as opposed to the broader framework of sport integrity or sport competition manipulation scholarship. Among his numerous publications is one that discusses the vulnerability of sport competitions to manipulation. In the abstract for the paper the authors write:

“Using a wide-range of interviews with gambling and match-fixing insiders, this paper proposes an indicator to predict the vulnerability of a sports league to match-fixing, along with seven specific factors that lead to corruption.” (2020, 1774)

They are clear about the focus of their target and utility of their research. They write:

The central question of this paper is which American sports leagues are most in danger of match-fixing in the years to come? Which leagues will have the most problems of guarding both the integrity of their sports events and their credibility for fans? It is our thesis that the league’s positions in embracing legalized sports gambling is reflective on how well protected they are to match-fixing and corruption linked to betting. (2020:1775)

And, important for our purposes, they summarise: “We will show ‘Hill’s Rule’ *to predict* the general levels of match-fixing in a sports league and then outline the general factors that lead to more corruption.” (2020: 1775, emphasis added). To be clear these are important claims, not

¹ See for instance Yilaz et. al (2019) for Turkey; Moriconi & Almeida (2019) for Portugal; Aquilina & Chetcuti (2014) for Malta; Manoli & Antonopoulos (2015) for Greece; Spapens & Olfers (2015) for Netherlands; Marchetti et al. (2021) for Brazil; Han (2020) for Korea.

² See for instance Zaksaitė, S., & Raduševičius (2017) for Formula 1; Rodenberg & Feustel (2014) for tennis; Van der Hoeven (2022) for road cycling; Lee (2017) for baseball; Kawai (2017) for baseball and sumo.

³ For instance, Greek Koriopolis (Manoli & Antonopoulos 2015); the Turkish match-fixing scandal (Yilmaz et al. 2019); or Italian *Calcioscommesse* (Costa, 2018)

merely in terms of potential explanatory value but also because they – if true – they would have immense practical utility across a range of domains: integrity education, policy development, and regulatory responses. This, self-evidently ambitious claim - that such events might somehow be predicted - invites methodological attention.

The authors promise to propose an “*indicator to predict the vulnerability*” (Hill et al. (2020, 1774, emphasis added) of a competition to betting-related match-fixing, “along with seven specific factors that *lead to corruption*” (ibid; emphasis added). In a departure from the received nomenclature of both the literature and the Macolin Convention they employ the term “match corruption”. Their logic for this is not evident. No analysis of the concept or its conceptual relations to the dominant terminology is offered. According to the authors, the index of match-fixing risk is determined by “the total money gambled on a game or league” divided by “the median salary of the players in the league”. On the other hand, the authors enumerate a set of factors that “*indicate match-corruption vulnerability*” (emphasis added): rate of addiction among athletes; existence of naturalized arrangement among officials and players or widespread tanking; number of dead rubber games; rate of corruption among league officials; chance of being caught, punished or sanctioned; relative exploitation; difficulty of fixing a sporting event. That these are indicators seems a reasonable claim, though that infers no qualitative and very limited quantitative warranty as to predictive value. All that may be concluded from it is an association, or a correlation if a statistical analogue is to be preferred. How the indicators should be treated, what strength the correlations have, is nowhere discussed. That they could “predict” manipulation or match fixing seems at best overstated or worse flawed.

Nevertheless, following the articulation of these “indicators” Hill and his coauthors go on to present an admirably pithy formula:

“The total money gambled on a game or league (X) dividend by the median salary of the players in the league (Y) = relative risk of match corruption” (Hill et al, 2020, 1780)

While Hill's useful practical proposal, a kind of manipulation ready-reckoner, utilizes the combined importance of individual, relational, organizational and institutional factors, its theoretical and practical underpinnings are problematic. There is a limited and reductionist

understanding of variegated phenomena that are called sport manipulations which, in this case, are always related to gambling and dominated by financial motivations.

If Hill's index were indeed valid and reliable, the risks of match-fixing would be minimal, if not zero, if no money were bet on the match and the players' median salaries were very high. Yet after their ambitious reductionism, they go on to write:

“The observations in this paper are in no way meant to say that American leagues will necessarily follow a preordained path into corruption. Nor does it mean that the league management or bookmakers in anyway condone match-fixing. *This is a discussion paper. Despite our experience and desires, the authors cannot foretell the future.* (2020:1776, emphasis added)”

So, in the abstract and in the introduction to the article readers are promised that match fixing can be predicted according to a “rule”, which as we shall see later is a decontextualised formula. Then we are told that the readers “cannot foretell the future” which is of course the major point and value of scientific prediction. Note also that the hope of prediction following careful and regular observation is a chief trait and value of positivistic natural science. First, phenomena are observed, then described, then manipulated to identify cause and effect and then to control the natural world.

But Hill et al's approach does not operate with a positivistic, hypothetico-deductive, model. Nor does it embody a more modest Popperian approach: there is no null hypothesis to be falsified to achieve disconfirmation or stronger theory. Rather, the authors draw together (in an underspecified method) direct communication with criminals (what they call after Maguire (2010) a “neglected art”, pp. 1776) and insiders in the professional subculture of gambling, deviant or otherwise. It appears that their methods are based on some kind of inductive approach. They mention in their methods remarks that they have “relied on both quantitative and qualitative interviews” though they do not state what quantitative data were gathered nor how. It follows then, that what sort of basis this for a predictive model impossible precisely to evaluate. Thus, the claim to prediction is flawed. Yet even the more limited idea of estimating match corruption is not unproblematic.

The authors acknowledge two assumptions: first “One of the assumptions of this paper is that the American sports gambling market will follow a similar path to the sports gambling market in the United Kingdom.” They do not say why, and they may well be right. Yet we have no basis for

knowing whether to have confidence in the prediction based on methods that are not clearly specified and an assumption that is unsupported. Rather they offer merely a belief: “We also believe that U.S. sports fans will experience what Alex Lowell of Pace University describes as ‘the gamblization of sport,’ so that the very way that many fans ‘consume’ sport will be fundamentally changed from simply being sport fans to gamblers who enjoy sports (Lowell 2017).” (2020: 1777). Their second assumption is that “the illegal gambling market will not die away, even while the legal market grows.” (1778). They do offer here a convincing argument as to why confidence in the power of regulatory framework is not well-founded. But how this assumption should embolden their thesis and their predictive index remains unclear.

Where did all this get us? It seems to us that all that Hill et al are entitled to is the lesser (though still valuable) claim that they have helpfully identified certain factors that may be used to “estimate the danger of match-fixing in a sport league”. While this is a more limited and defensible proposition, even here there are limitations since they nowhere specify the degree to which the concept of “estimation” should be understood, what confidence ought we to have in it, or more scientifically; what validity or reliability can they justify? Secondly, they are surely right to add elsewhere in the article the confession that their index “does not explain all the match-fixing that occurs” (Hill et al. 2020: 1782). This is in part because of their introduction of a novel concept, a reduction to betting related manipulation, and an index stripped of nuanced or thick descriptions of local practices and norms. A more complex and better grounded theoretical and methodological approach is required.

Morin’s paradigm of complexity and the promise of Critical Realism

We have highlighted above significant methodological and theoretical shortcomings of Hill’s index. What is more important, however, is that it stands for an important driver of manipulation studies in general: its alleged universalist impulse, the desire to capture everything in a single explanation. When Van der Hoeven (2023) calls for additional theorizing about why match-fixing occurs and how it is facilitated, he recalls what Cunningham (2013: 1) understands as a theory: “a statement of constructs and their relationships to one another that explain how, when, why, and under what conditions phenomena take place”. In short, the literature is characterized by a limited understanding of the phenomenon from a dynamic, multi-layered perspective. Consequently, much of the literature simultaneously seeks a unique *and* universal answer to a problem such as the

manipulation of sport competitions. This yearning for generalisability is understandable. Edgar Morin warned that "reason has an indisputably logical aspect", where the will to have a coherent vision of phenomena, of things, of the universe, subsists (Morin, 1990: 101). The integrity industry wants a concrete guide of final explanations for the problem and a roadmap to eradicate the apparent scourge. But their search is chimerical, because their desired solutions is predicated on a perceived or constructed phenomenon that does not exist in the singular.

Edgar Morin was a critic of scientific thought in the troubled years of the Cold War. For the French sociologist, the sciences promoted a “pasteurized” account of the nature of knowledge divided into disciplines that conversed little with each other. He therefore called for the need to promote a complex thinking that does not separate the object from its environment and that accounts for the different levels that make it up from a multidisciplinary perspective, integrating the biological, the psychological, the sociological, the ethical, the political, the economic, the historical (Morin 1990). Knowledge of an object requires knowledge of its interactions with its ecosystem. In consequence, he contrasts the paradigm of complexity in explanation to that of simplicity (Morin 1992). What Morin calls the “paradigm of simplicity” consists in reducing our understanding of reality to something that can be ordered and reduced to a law, or a principle (or “index”). In the case of manipulation of sport competition, this manifests itself as the search for a static-universal theory that defines why, how and when actors engage in match-fixing.

What is needed, by contrast, is a recognition - sometimes hinted at by integrity scholars, but nowhere explicitly articulated - based on the multidimensional character of sport competition manipulation and therefore the multi-causality thereof. The objects of study are marked by a set of factors that interact with each other and are combinable in multiple proportions and possibilities. There is usually no single cause to social phenomena because the phenomena are comprised, in varying degrees, of varying elements. While there may be one or more frequently occurring factor, but starting from the premise of single-cause determinism is not helpful for knowledge construction about social phenomena. Mono-causal theories are reductionist; they do not deepen knowledge of reality. Their frame and philosophy are excessively parsimonious for social explanation despite the allure of such; the reduction of complexity to simplicity – and where possible a singular cause. Yet in the phenomena of MSC, while one factor or level can predominate (whether it be micro, meso and macro), all the levels interact and give sense (meaning) to the

others in a recursive way. Yet even when all the explanatory indicators - all potential causes - such as Hill et al's indicators are present, that does not mean that a "fix" will happen. This is because precarity can influence deviant behaviour but can never determine it. It may be sufficient to motivate an individual but never wholly necessary. Other factors may have greater salience in the motivational set of the fixer. Think, for example, about how recent threats from organized crime gangs in Cyprus in 2023 have placed officials in an appalling dilemma: manipulate the match or we blow up your car ("... and then maybe you" seems to be the immediate threat). It is remarkable in these circumstances that individual actors can be brave enough to withstand such threats. In this case, the Cyprus Football Association suspended all top-flight games (MacInnes, 2023). The previous night a referee had officiated at a game between Salamina and Ethnikos, after which a vehicle belonging to his mother was blown up. The referees' association then wrote to the CFA and went on strike. Nor was the event unique. In 2015 (Smith, 2016) and 2020 a referee's car was blown up, and in the latter case this caused a week-long suspension of football. This was set against a backdrop where, in 2016, a study by the CFA reported that 67% of top flight players in Cyprus reported that "games had been rigged". Here then, even given all the contextual factors, the actions of the referee are not caused, or strongly determined, by the presence of powerful fraudulent activities of serious organized crime. Finally, with respect to the idea of prediction, it cannot be assumed that future events, even given all the same contextual facts and indicators, will proceed in the same way in all cases. Much, it seems, must be understood as a complex interaction between actors, institutions and organisations with competing interests.

Thus, a holistic framework is needed to understand the phenomena that enumerate potential necessary elements but that does not mean that any of them or even all of them confirm a "sufficient" cause, or offer sufficient context, for match-fixing to occur and be understood as such. On the other hand, there is no such thing as a perfect society that can be governed by simple policy or regulatory paradigms. There can be no authentic or successful programmes to simply "stop match-fixing" as some present institutional initiatives promote, unless as an ideal not a realistic programme. Fraud, like organized crime has always existed and will always continue to exist. And some societies are more vulnerable to it than others according to the Transparency International. What may be noteworthy, by way of example, is the consistently troubling issues in Cyprus football arise in a country that sits 51/180 (ie better than 129 others!) in Transparency International's

Corruption	Perceptions	Index
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(<https://www.transparency.org/en/cpi/2022/index/cyp>, accessed 16.10.23). This is true of the MSC. A reframing of the objective from an institutional point of view is thus needed. Part of this will be the better theorization that in turn may lead to the gathering of better data to understand and combat the phenomena. And part of it, one must acknowledge, lies well beyond the borders of sport organisations' regulatory jurisdiction.

The last major limitation of most of the studies we draw attention to, in order to better understand and explain the causes and motivations that lead field sports actors to engage in MSC, is the site of action. Notwithstanding the important criminological work of Hill and colleagues, most studies focus on the actors who perform the manipulation on the court, field or pitch. The same is true for prevention and awareness programmes, which have been deeply criticized for understanding manipulation as a mere moral failing of on-field sport actors (Numerato, 2016; Tak 2018; Van der Hoeven 2023), while the good intentions of the stakeholders that make up the sport integrity industry are taken for granted. For most sport federation policies, the ecosystem of the problem is confined to the playing arena. While Hill et al. (2020) laudably broaden the risk factors to include competition design and levels of institutional corruption, there are very few critical analyses of the institutional design of the betting market (cf. Tak 2018; Tak et al. 2022) nor the negative influence of certain types of betting.

Let us take a simple example as a test case of our position the imagined case of a two-horse race. The race is won by a “less fancied” (ie less well regarded and less bet upon) horse (A) over a “more fancied” horse (B). In search of a universal explanation to the question “what is the cause of this event?”, we see instead different kinds of physical causes, and reasons that appear to contribute to causal explanations. Thus:

1. A ran faster than B between the start and the finish; or
2. The ground was better suited to A and its running style than B; or
3. B fell ill immediately prior to the race; or
4. B was given a substance by the young under/unpaid female stable worker who hated the male rider's misogyny; or
5. The rider on B did not ride their horse to its optimum for reasons of incompetence; or
6. The preferred jockey on B was unable to ride (was on holiday, was injured, was bribed, got stuck in a traffic jam and didn't make it to the course on time, etc etc); or

7. The rider on B was told not to ride the horse as hard or fast as it could be ridden in order to be less fancied in an upcoming race and thus receive a more advantageous handicap or longer odds for said future event; or
8. The rider pulled the horse up (a case of contrived under performance) short of the finish on the basis of a feigned injury/deliberately engineered a “fall” at one of the fences (if you prefer jump rather than flat racing); or
9. The owner of the training yard of B was in financial difficulties and this was discovered by “fixers” who offered an illicit financial incentive by members of an organized crime organization or surrogate thereof; or
10. The rider of the favourite horse was in financial difficulties and was illicitly induced to ride the horse sub-optimally by members of an organized crime organization or surrogate thereof; or
11. Both 7 and 8; or
12. 6, 7 and 8 might apply jointly; or
13. many of the other possible combinations above.

First, these possible interpretations must be seen against the background of how (inter) national sport federations have attempted to develop standards of expectation of the professionalism of athletes, officials, coaches and managers in line with their interests. Sometimes this is related to the protection of those involved (eg. safe sport initiatives), sometimes to preserve fair equality of opportunity in the context (as in numerous anti-doping investigations), but in others it arises directly in connection with the ubiquitous sport betting industry under the heading of “competition integrity”⁴. Moreover, and more specifically, two further important points arise in considerations of these (partial) explanations. First, drawing from the philosophy of science we should observe that there are multiple simultaneously realizable conditions above. Or to put it more precisely, these potential causes may be seen as “insufficient, but necessary part of an unnecessary but sufficient” (INUS) conditions of causality. (Mackie, 1964). These various possibilities show the paucity of the question: what is *the* cause of the event? The diagnosis of this problem is philosophical. Part of this is because social scientific researchers do not always appreciate that the notion of cause is not a singular concept, and partly also because in critical realism reasons can be

⁴ We are grateful to one of the anonymous reviewers for this important point.

seen to function as a *kind* of cause. We comment further on this in the following section. There is a second philosophical problem for our understanding: if Horse A's win is a problem for integrity experts, what kind of problem is it? For the moment let us note that we cannot answer this question without a better conceptual and epistemological framework. At what level ought our explanations aim? We can see how in many cases sport integrity investigations of sport federations have focused on explanations at the micro level (eg. Causes 3, 4, 6-9). Investigations by law enforcement agencies (and/or criminologists) may well consider causes 6 and 7 to be primary for the purposes of their investigation. Their focus is partly on the micro level but at least equally on the meso level. But it is also true, at least true of British Horseracing that there have been recent legal cases against both employers and jockeys themselves concerning their derogation of welfare rights of other stable workers and other jockeys (notably with respect to safeguarding and gender inequalities) (BHA 2023). Finally, where international illegal betting networks are concerned it would be unthinkable not to focus on the macro level. Here, then we see how integrity breaches operate on multiples levels where we cannot simply seek an identification of the cause – effect relations but rather an ordering of reasons and causes according to the purposes of the institution at hand. We turn to what a recognition of that complexity might mean in terms of the development of a theoretical framework.

Searching for a dynamic complex theoretical framework

Morin (1990) proposes three principles for thinking about complexity, which may add depth to our explanations of why and not merely how MSC occurs. In the first place, he refers to the dialogical principle (Morin 1990: 105-106) that allows us to maintain duality within unity, so that, at the same time, two complementary and antagonistic terms are associated. The union of opposites does not necessarily imply a contradiction. It supposes the acceptance of the ambivalences of reality, some of which are insurmountable. That means that the ethical space is contested: how ethical concepts are interpreted and instantiated in global space – and therefore in global sport – is not straightforward nor amenable to reductionist indexes. In relation to sport ethics, the same principle may be useful at some levels and not at others. Practices such as “point-shaving” (deliberate underperformance to alter margin of difference between competitors) or “tanking” (deliberate underperformance to lose a competition), are considered as manipulation for the Group of

Copenhagen⁵ (2020), yet they may be in tension with actual professional sport norms, particularly if the practice is related to betting fraud or gaining future structural competitive advantages such as better draft picks (e.g. picking weak line-ups in the US collegiate-pro league nexus) or underperformance to meet opponents perceived as easier in a round-robin format. By contrast, in grassroots sports, the two issues, which refer to the “artificial” control of results and failure to perform at the highest possible level, might be significant ethical requirements when two teams with very different norms or interests are pitted against each other. Equally, demanding, and even allowing, that an under 10-year-old football team plays to its absolute best in order to beat another team by absurdly high scores can be detrimental to the educational logic of grassroots sports. In short, within the same ethical system, such as ethics in sport, the principles are not unthinkingly to be taken at face value as supporting the integrity of sport.

Furthermore, Morin locates what he calls “organizational recursion” (Morin 1990: 106), which it is crucial to distinguish from linear cause and effect in the realm of human (inter)action. He summarizes that a recursive process is one in which the products and the effects are, at the same time, causes and producers of what produces them (Morin 1990: 106). A similar point has been made by the philosopher Charles Taylor (1994) in his account of moral action: while the courageous person is conditioned in an active way to weigh up the dangers of a certain situation and its remedy, their previous history of courageous action “causes” (in the sense of strongly disposes and actually conditions) them to act in a certain courageous way. This in turn reinforces the predisposition for the next occasions of its display. Courage is thus the cause of their action but partly also its consequence. Equally, the sociologist Anthony Giddens employs a similar heuristic in his account of the complementarity of structure and action (Giddens 1984; Alexander 1988). Agents are always to a given degree both “products and producers”: society creates individuals that create society that creates individuals (Morin 1990).

Morin’s propositions are in line with Margaret Archer’s critical realistic approach to explanation of social reality. Her morphogenetic theory (Archer 1995) is based in the idea that the social and the individual cannot be separated. According to the author, the structure pre-exists individuals and it is through structural emergent properties (which result from past social interactions) that present social interactions are constrained or enabled. The social structure creates orientation processes

⁵ An inter-governmental group that emanated from the Macolin convention to combat the MSC.

that determine that some actions are more possible than others. Structural constraints are strategic orientation processes that demarcate agents' choices, making some actions more probable than others. Structural conditions are inherited and independent of the choices of individuals. In social interactions, agents make decisions and choices based on what they understand and what they reflect on their structural conditions. Structural conditions can be faced or avoided, based on degrees of interpretive freedom, in which possible costs or benefits are estimated (Archer 1995). In short, micro, meso and macro factors interact recursively and work as cogs in a gear assembly (see Graphic 1; but see also Brock, 2023).

This leads to Morin's third principle: the hologrammatic vision. According to this premise, it is impossible to study the whole without conceiving its parts, and impossible to understand the parts without conceiving the whole. A dynamic and holistic approach, rather than differentiating between individual, relational, and structure factors, must analyze them jointly through the lens of the opportunity structures and incentives they jointly create. There are no context-free factors operating to strongly determine that an actor decides to manipulate. And even then, awareness of the contextual features will be necessary to understand the allocation of responsibilities of different actors in the story of possible causal explanations. In the following section we illustrate these items in an interdisciplinary way along similar lines to Brock's (2023) model of e-sporting action.

The ecosystem of Sport Integrity: personal, competition, and institutional integrity

As explained above, most prevention and awareness programmes of sports governance and integrity bodies, tend to cast a critical, reductionist, and often accusatory eye on athletes and players and, to a lesser extent, on coaches and officials. As long as the problem of match-fixing is understood as moral failures (at the micro level) of the sport on- field actors, the personal (micro) and institutional (macro) integrity of the promoters of sports integrity (integrity officers, consultants and outsiders' stakeholders) or the design of the competitions (meso) and the characteristic of the betting market (macro), a holistic solution to these problems is unlikely to emerge in practice.

It is impossible to structure effective (political) interventions in MSC as an isolated manner. Hill (et al. 2020) correctly identify potential drivers of vulnerability: some refer to personal issues (rate of addiction among athletes; existence of naturalized arrangement among officials and players);

some refer to structures like the design of competitions (number of dead rubber games; widespread tanking; difficulty of fixing a sporting event); some to institutional features (rate of corruption among league officials; chance of being caught, punished or sanctioned). It is necessary to scan across the multiple levels of the sport integrity ecosystem. This requires a framework that takes account of the different analytical conceptions of sport integrity. To promote effective interventions, however, it is necessary to understand interdependent sport integrities in plural and distinguish among personal integrity, competition integrity and institutional integrity (Archer, 2016; Cleret et al, 2015; Gardiner et al, 2017; McNamee et al. 2021). Each one of these conceptions of integrity, or integrities if one prefers the plural, is the site of interwoven individual, organizational and structural factors, acting recursively on the others, generating the gears of the global sports integrity (see Table 1). Nevertheless, analytically distinguishing each integrity conception, allows policy makers, researchers, and other relevant athletic actors to structure a much broader and holistic analysis framework that allows differentiated and complementary political interventions.

1) Personal integrity: biography, causes, reasons

The final decision to engage in or promote a scheme of manipulation is ultimately an (ir)rational individual choice, hence it results from the application of individual-level attitudes, values, belief, information, and knowledge. In Archer's terms, this is a process of "reflexivity" and discernment affected by biographical circumstances, conjuncture, and structures (Archer 2010, Brock et. al. 2016). These processes of reflexivity facilitate the distinction between fair and unfair behaviours, good and bad practices inside and outside the law courts, to assess *inter alia* cost and benefits to a particular course of action, and hence help them to (re)solve ethical dilemmas.

In the context of personal integrity, biographical variables play an important role in decisions. They are features of the individual that shape human personality and understanding of the world and can condition to a lesser or greater degree their willingness to engage in what are characterized by regulatory policies and practices as deviant behaviors.

According to previous research, the age and the career stage can radically alter the cost and benefits of engage in match-fixing (Van Der Hoeven, 2023; de Cima, 2023). Those athletes who are closer to the end of their careers might have less concerns about regulatory sanctions (for instance, being

banned from sport) (Forrest, 2013; Hill, 2015). Such insights are also found in the anti-doping domain. In the case of tennis, due to the costs required to enter the professional circuit (Lewis et al. 2018), a young player who does not have the necessary budget may be able to raise the necessary funds by manipulating events in the contest or even intentionally losing matches at the behest of professional gamblers (with or without third parties as facilitators). In fact, according to the literature, vulnerability or precariousness is the main driver to engage in manipulation (Interpol 2013; De Cima 2023; Harvey and Levi 2014; Hill 2010, 2015; Manoli and Antonopoulos 2015; Yilmaz et al. 2019; Van der Hoeven 2023). Among the factors that might generate it and would motivate an on-field sport actor to engage in manipulations are the low salaries of some sports targeted for betting (see Cashmore & Cleland, 2014; Hill, 2009b), non-payment or delay in payment (Boniface et al. 2012; Harvey and Levi 2014; Hill, 2015; Spapens and Olfers, 2015), the need for large budgets to support the career (Lewis et al. 2018); or resentment towards the club (Forrest, 2018; Moriconi and Cima 2020b).

To what extent ought we to envision the cognitive processes, such as motivating reasons, as a necessary element in judgment and rational decision making? While each individual has a particular set of biographical variables, two or more individuals can have the same or different reasons or preferences for behaving in a particular way. Such judgements drive actors' intentions and facilitate the subjective interpretation of events according to certain value predispositions and organize opinions into interrelated structures or mind frames. Most reasons are the result of direct experience, observation, and social learning. Being part of the micro level, reasons are directly affected by meso and macro factors, that is for the cultural environment, relationships, and structural and institutional factors.

Using the *theory of planned behaviour* to understand psychological factors that might drive the intentions to engage in match-fixing, Barkoukis et al. (2020) shows that intentions to engage in manipulations are significantly associated with perceived social approval of match fixing among referent others. Social norms play an important role in individual decision-making processes. The belief that match-fixing exists and is socially tolerated can affect actors' sense of fairness.

On the other hand, Moriconi (2023) showed that some athletes considered that it was very difficult for sport competition manipulation ever to be discovered. Other authors have also confirmed low punishment rates in, for example, Poland (Lash 2018) or China (Liu et al. 2019).

Lee (2017), Tzeng and Lee (2021), Tzeng et al. (2020) and Tak et al (2023) shows the importance of cultural values for understanding the ecosystem in which a match-fixing scheme occurs at least in certain Asian countries. Lee for example analyzes how the ethos of Confucian culture influences Taiwanese baseball players' decision to be involved in match-fixing. Elements such as obedience, collective harmony, and loyalty play a crucial role in the materialization and tolerance of deviant behaviour. In the same line, Tzeng et al. describe how the powers of a Chinese cultural code of brotherhood helps to explain "why match-fixing is conceived and realized, not just for money, but rather in the name of righteousness and loyalty" (Tzeng et al. 2020). In short, relational constraints and incentives affect individual judgment and reasons. Micro level factors never act in isolation.

At least in the context of Asian MSC, some of the most prominent reasons for engaging in the various manipulative activities are: a) it is a normalised practice; b) it is difficult to discover or prove; c) it is not manipulation *per se*; d) it is a matter of collective identity or brotherhood; e) imposed precariousness; and/or f) powers of coercion.

Notwithstanding these factors, most of which flow against the dominant narrative of the federation and the Macolin Convention, each of these studies still refer to the integrity of the athletes or referees as if that labelling were unproblematic.

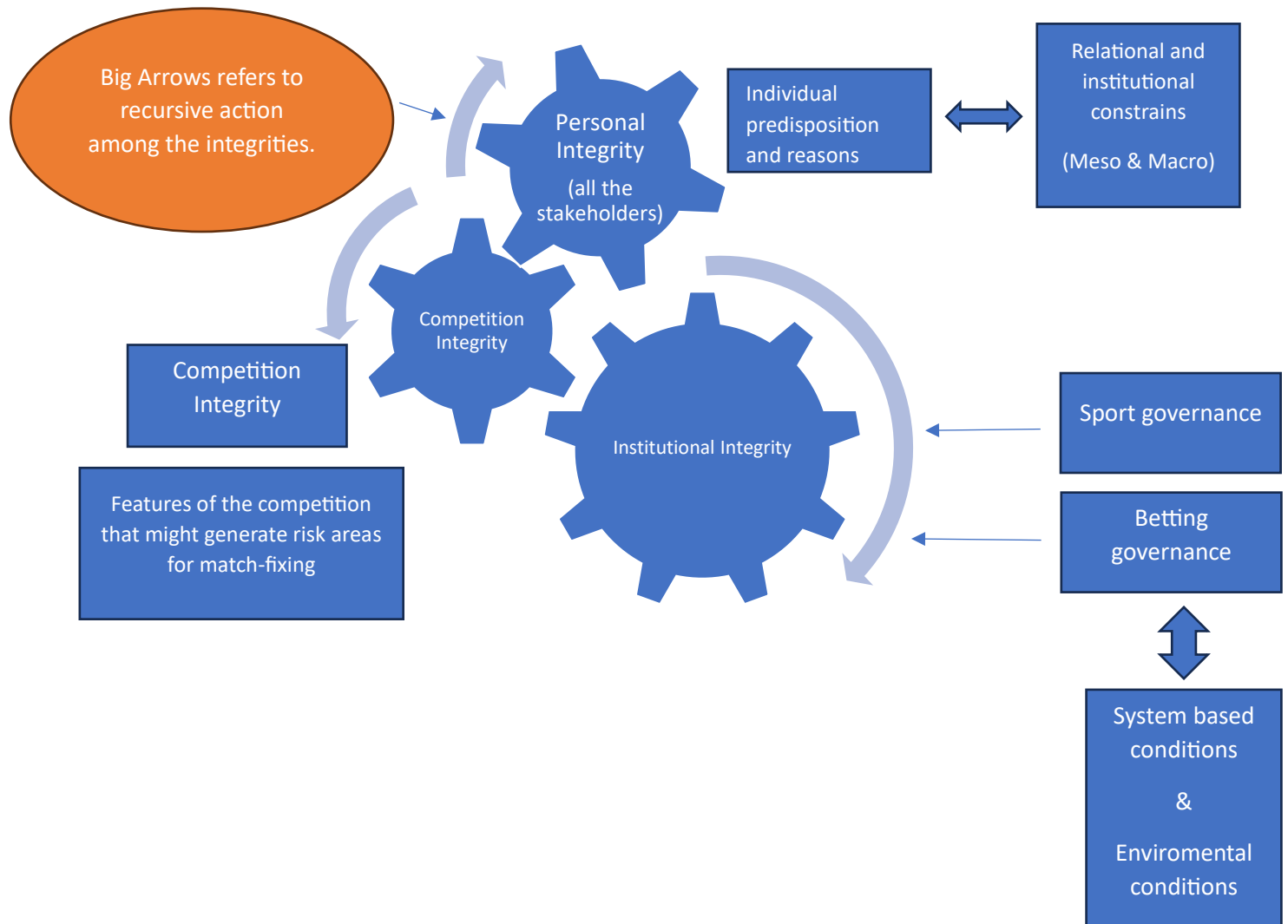
Personal integrity, however, is important in all stakeholders. Indeed, from the above assumptions, some risks can be inferred. For example, the difficulties in uncovering a case of manipulation might not be related to technical issues of investigation but to a lack of political will to do so (either on the part of the federations or the security forces). The pressures and coercion that appear in the literature are often rooted in the lack of integrity of club officials. Several studies have shown the pressures and incentives that football referees face to progress in their careers by manipulating games (Moriconi and Cima 2021; Boeri and Severgnini 2011).

In short, the final decision to manipulate is given on the basis of a process of individual reflexivity that is affected and fed back by the meso and macro. And the meso and the macro are in turn

affected by the individual integrities of all the stakeholders that materialize the ecosystem in which the process takes place.

Far from being autonomous but complementary levels (as the current literature presents in most cases), there is a recursive process in which the 3 levels interact dynamically.

Figure 1: The ecosystem of sport integrity



2) Competition Integrity: system and environmental conditions beyond betting

The way in which a sporting competition is organized and structured can create opportunities and incentive that lead participants not to perform in the best possible way and might jeopardize the integrity of the tournament. The integrity of the tournament is concerned with system-based and environmental-based conditions.

System-based conditions are features of the competition that might generate incentive for not performing the best possible. As Hill et al. (2022) rightly observe, the number of dead rubber or meaningless games during a tournament is a factor of integrity vulnerability. Equally the US Collegiate draft system might inadvertently promote “tanking” (deliberate under performance) at the end of the season with the objective of getting a better pick in the next draft.

The badminton scandal in the London 2012 Summer Olympics was fuel for the competition schedule: with the qualification for the next round guaranteed, neither of the eight involved players wanted to win to choose who to face in the next match. This example serves to show the interconnections between the different perceptions of competition integrity and its interaction with the other conceptions. While the same competition system is used in many competitions, not all athletes abuse it or manipulate their performances. On the other hand, although similar situations occur in many sports, they are not always punished similarly and, in many cases, athletes are allowed to continue competing in the next rounds. This kind of inconsistency creates serious integrity policy problems. While in other integrity threats such as anti-doping the processes that gave rise to a global code of prohibited substances and methods are relatively ossified. In other integrity threats such as MSC, however, the cultural and sport-specific differences generate significant challenges for harmonized policies; these clearly have not been the object of 20 years of policy development and critique such as is the case in anti-doping.

In the World Rugby Sevens in 2022, a situation similar to that of the badminton in London occurred: an English player stood for two minutes in the in goal before supporting the try in order to waste time and, in this way, ensure that both teams (England and Argentina) qualified for the next round (<https://www.bbc.com/sport/rugby-union/61540417>). Despite protests from the crowd and the ridiculousness of the situation from an individual competitive event sport-logic, the two teams were allowed to continue in the competition.

In short, the integrity of competition, the personal integrity of all actors, and the institutional integrity to punish or not such actions play their role at the same time and in a recursive manner, generating incentives, reasons and causes for a manipulation to make or not to make sense.

While system-based conditions have been discussed by some authors, there is still a lack of studies focused in environmental-based conditions. Environmental conditions are contextual and relational features that jeopardize essential values of sport competitions and, in consequence, might facilitate or constrain the capacity and desire to engage in match-fixing. For example, consider the drastic differences in the chances of competitors whether in terms of budget size in football tournaments, or different technologies among Formula 1 teams or wheelchair disability athletes. Such environmental factors have a tendency to dominate one of the core values of sport, fair equality of opportunity (Loland, 2007), often considered as a matter of background justice (McNamee et al 2021).

3) Institutional Integrity: sport and betting governance

Institutional integrity in sport is essentially operationalized under the term “good governance” (McLeod, et al, 2023; McNamee, et al 2020, Shilbury, et al 2023). Here it is important to distinguish two elements of good governance without suggesting that they are exclusively representative of the total field of institutional integrity in sport. They relate first to how sport organizations manage their regulatory affairs within competitions, for example by focusing on how sport competition manipulation actions are managed.

The cited example of the rugby 7's game shows that players choose not to compete and yet received no penalty. Previous literature, as was said, described the institutional pressures and coercion that referees might face to not perform in a fairly way (Moriconi and Cima 2021; Boeri and Severgnini 2011). Manoli et al. (2021) analyses the inconsistencies and disproportionality that may exist when sanctioning similar cases of manipulation of competitions.

In short, the existence of integrity departments, regulations and laws to combat manipulation of results does not mean that there is the political will to actually combat all kinds of manipulations and impose a sport integrity framework. Several authors have warned about the ineffectiveness of various policies to combat the manipulation of competitions: they consider that some initiatives are window-dressing strategies (Verschuuren 2023), aiming to convey symbolic anti-match-fixing

discourses, decrease pressure from external stakeholders due to the escalation of sport corruption scandals (Cima and Moriconi 2022), unaccountability of sport organisations, and transferring the onus of the problem to individual actors (Tak, 2018; Tak, Sam and Jackson, 2018a).

Secondly, their integrity-related work relates very often to the phenomena of sport betting (sport betting integrity), which is widely regarded as a major, for some *the* major, cause of sport competition integrity breaches.

The characteristics of current betting related sport competition manipulation are all but impossible to understand without taking into account the incentives and opportunity structures created by the institutional design of the betting market and its new products (Tak 2018; Tak et. al. 2022; Moriconi and Almeida 2021; Harvey 2015). It is crucial here to consider the integrity of betting governance (structural factors) in the overall understanding of sport integrity.

Put simply, it can be said that betting-related match-fixing is only possible if a sport competition is a target of betting. Without betting, there is no betting-related sport competition manipulation. The new betting markets have radically altered the logic of such manipulations. If in the past, manipulation was mostly about cheating to lose, nowadays a betting-related manipulation is more heterogeneous. It can simply be the procuring of a yellow card in football by an unnecessary foul, or a deliberate double fault within a particular tennis service game. This heterogeneity has created significant competition integrity challenges for leagues and sports that are not financially strong and have weak governance and compliance measures.

On the other hand, there is no comprehensive control and conflict of interest analysis of the players in the betting market. Several journalistic investigations (see, for instance awarded, journalistic works of Andy Brown, Philippe Auclair, Steve Menary and Jack Kerr⁶) have demonstrated the areas of risk that are generated because some data selling companies are the same ones that then monitor the betting market, determine statistical levels of risk, and provide integrity services to sports institutions. Integrity controls must reach across all sectors of the sports betting ecosystem and, as such, the establishment of an independent body should be considered.

⁶ The Devil is in the Data, won the 2023 IJ4EU Impact Award <https://www.ecpmf.eu/2023-ij4eu-impact-award-winner-the-devils-is-in-the-data/>. See also The Sport Integrity Initiative: <https://www.sportsintegrityinitiative.com/while-the-bombs-fall-so-do-table-tennis-balls/>

A holistic framework for promoting integrity in sport must pay attention to the institutional integrity of all actors and openly discuss the areas of risk that different institutional designs create. In the case of the betting market, the discussion of the types of betting that threaten sport integrity or generate further addictions, the competitions that have the capacity to safeguard their integrity and thus can be targeted for betting, and the ethical limits on the sale of data and promotion of products should be permanent issues on the agenda.

Final Thoughts

In this article we have argued for a more complex approach to understanding, explaining, and managing sport integrity. We have debunked the idea of finding predictive causes in a universal and decontextualized manner. We have rehearsed the developed the tripartite understanding of sport integrity from the philosophical literature and revealed both the distinctiveness of the three forms of sport integrity – personal; competition and institutional – and shown how that tripartite systems must be understood and used. Secondly, we have highlighted their interdependencies among those integrities which has methodological implications. We have shown the lack of theoretical and methodological sophistication that has typically driven organizational responses to sport integrity breaches or failures, but also the reductive individualism that has often attended integrity scholarship.

In making this call we attempt to deliver on Morin's clarion call for both the acknowledgement of interdisciplinarity and its intrinsically interdependent and interconnected whole-part complex:

We need a kind of thinking that relinks that which is disjointed and compartmentalized, that respects diversity as it recognizes unity, and that tries to discern interdependencies. We need a radical thinking (which gets to the root of problems), a multidimensional thinking, and an organizational or systemic thinking (Morin & Kern, 1999: 130).

It is clear that there is a need to establish broader recognition of culpabilities and drivers that cause integrity breaches, and in part that is driven by a need better to understand, after Archer (1995), the nature of the heterogeneous causes *and* reasons of integrity breaches and failures. Accepting these conceptual and epistemic revisions allows us to see sport integrity as an ecosystem of interconnected recursive-interdependencies at the micro, meso and macro levels. An often-neglected element of that ecosystem are the integrity bodies themselves but also the betting

industry and data service providers themselves who all must fit into a similar governance framework. What is needed is an integrated interdisciplinary approach to integrity that spans the humanistic and social scientific disciplines.

Finding sufficient common ground between criminologists, economists, legal scholars, philosophers, sociologists and political scientists is a challenging but necessary next step to better explain structures and agency in the sport integrity field, but also in the struggle to achieve and maintain sport integrity therein. A second, more practical challenge will be to politically determine what form of organization can mobilize such interdisciplinary processes and products into policy development and implementation. It is our view that the combination of these two outcomes will inevitably lead to some kind of formation of a World Agency for Sport Integrity.

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