

In Search of Convergence: A Co-citation Analysis of Three Sport Management Journals

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Abstract

Responding to a series of articles in sport management literature calling for more diversity in terms of areas of interest or methods, this study warns against the danger of excessively fragmenting this field of research. The works of Kuhn (1962) and Pfeffer (1993) are taken as the basis of an argument that connects convergence with scientific strength. However, being aware of the large number of counterarguments directed at this line of reasoning, a new model of convergence, which focuses on clusters of research contributions with similar areas of interest, methods, and concepts, is proposed. The existence of these clusters is determined with the help of a bibliometric analysis of publications in three sport management journals. This examination determines that there are justified reasons to be concerned about the level of convergence in the field, pointing out to a reduced ability to create large clusters of contributions in similar areas of interest.

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Chapter 1. Introduction and theoretical foundations

As it is to be expected in a new discipline that is growing at a high rate, many reflections on the nature of sport management research have concentrated on the need to expand the panoply of methods, concepts, or theoretical models available to the research field. For example, Olafson (1995) suggests abandoning linear relationships in favour of new ways of thinking, like chaos theory. Rinehart (2005) calls for the use of personal narrative as a novel approach to managerial phenomena in sport. Skinner and Edwards (2005) introduce ethnographic methods as a promising contribution to the field. Frisby (2005) and Inglis (2007) extol the virtues of methodological diversity, while Amis and Silk (2005) promote a rupture with past contributions to the sport management field and a "decentering" of the field into a multiplicity of metanarratives. Given this continuous push for diversity, it is no wonder that Costa (2005) finds that there is little or no consensus around some of the central issues regarding the foundations of the field. The main goal of this study is to show that convergence, (i.e., the coagulation of research contributions around the same methods, concepts, and topics of interest), is an essential part of solid science, and, therefore, that calls for diversity of methods or perspectives should be moderated by the need to ensure the development of areas of convergence, of groups of researchers working on similar topics, with similar methods. As a result, the research question guiding this project is "What is the level of convergence in the field of sport management?" It is important to note that this study escapes the duality pluralism-consensus, by allowing for diversity between areas of convergence, defending a balanced view that combines convergence and divergence.

Kuhn on convergence in science

Kuhn's (1962) research in the history of science has had a major impact on the continuous efforts of numerous scientific communities to gauge the solidity of their area of study. The most lasting aspect of Kuhn's line of argumentation is the focus on convergence in social sciences and on the relevance of this characteristic of disciplines to their standing as sciences. In other words, Kuhn makes the point that besides indicators like research productivity, methodological reliability, or social relevance, sciences should be evaluated from the point of view of their level of coagulation.¹

Kuhn's (1962) argument is deceptively simple. It begins with the assumption that "[i]n the absence of a paradigm or some candidate for paradigm, all the facts that could possibly pertain to the development of a given science are likely to seem equally relevant" (p. 15). Kuhn clarifies the use of paradigm in this context, pointing out that "no natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism" (pp. 16-17). Kuhn warns against the danger of opening the doors of science too wide, of failing to establish a clear and unique criterion of what qualifies as scientifically pertinent. In the absence of this kind of criterion, science would collapse into a form of sensory overload: if everything is equally relevant, then the limited resources of science would be overwhelmed by the demands placed by the task of covering a virtually infinite area. Furthermore, a single criterion of what counts as scientific is necessary to establish standards of quality, separating inferior and superior contributions to the field.

Kuhn clarifies the means through which a paradigm, as a sum of interconnected theoretical and methodological beliefs, can function as a criterion defining what is

¹ For the rest of the thesis, "convergence" and "coagulation" will be used interchangeably.

scientifically relevant by pointing out several possible directions. Thus, paradigms bind disciplines by creating avenues of inquiry, identifying areas of relevance, formulate questions, make methodological decisions, and establish meaning. For ease of use, these five means are collapsed into three main aspects: areas of interest, methods, and concepts. More precisely, paradigms create convergence in a discipline by identifying relevant areas of interest, setting up acceptable methods, and establishing a set of core concepts. This characterization is associated with the concept of convergence throughout this project.

Once Kuhn (1962) identifies convergence as an evaluative framework, he is able to provide an account of the evolution of science in terms of this framework. According to this view, science begins with a set of mere facts that are interpreted and analyzed by various researchers, and a minimal theoretical apparatus behind it. Later, pre-paradigmatic schools develop, each with a basic set of theoretical and methodological assumptions, each often focusing on a specific set of data. These schools compete for dominance in the field, and when one of them acquires this status, the field reaches the paradigmatic stage. According to Kuhn, a paradigm can achieve dominance if it explains the phenomena better, but not too well to make any further research impossible. As the dominant paradigm solidifies, processes of replication ensure that the competing paradigms are marginalized, as new researchers increasingly embrace the dominant paradigm. Once the dominant paradigm attains supremacy, the group of researchers becomes a profession or a discipline, which involves the formation of specialized journals, foundation of professional associations, creation of departments in universities dedicated to this field of study, and so on. At this apex of scientific development, science

becomes "normal science", which Kuhn (1962) describes as "research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice" (p. 10). Once the field ceases to be divided among various schools espousing different paradigms, the resources of the field are no longer dedicated to defending a paradigm or to quarrelling over the basic concepts or methods, but rather solely to the goal of advancing the field on the basis of the progress already achieved. Once "normal science" is achieved, a field will evolve in a series of revolutionary changes, producing new dominant paradigms.

This argument is deceptively simple because it relies on a concept of paradigm that is vague enough to take several meanings (Kaghan, William, & Phillips, 1998; Koster, 2005). The most important source of vagueness is the level of generality inherent in the concept of paradigm. However, it is not always clear if Kuhn refers to basic conceptions about the world, which fall under the jurisdiction of metaphysics, or to more concrete theoretical and methodological commitments, which represent the everyday concerns of scientists in every field. Depending on the level of generality taken into account, a field of study can be considered pre-paradigmatic or paradigmatic. For this reason, it is important to always qualify any statement made about the convergence level in the field by referring to the level of generality considered in the analysis.

Pfeffer and coagulation in organizational science

It is imperative to understand that Kuhn (1962) builds this model of scientific evolution on the basis of examples taken from natural sciences, so it makes sense to ask to what extent this framework is applicable to social sciences. Kuhn himself expresses his

doubts about the existence of dominant paradigms in social sciences. It is not clear if Kuhn's doubts are justified or, in the case these doubts are indeed justified, if the lack of dominant paradigms in social sciences is caused by the very nature of the field or as a result of a historically contingent development of these sciences.

In a highly influential and controversial paper, Pfeffer (1993) continues Kuhn's line of argumentation in social sciences (more precisely, in organizational theory), making the point that the field of organizational theory is indeed very fragmented and that this is the result of a contingent state of affairs, which can and should be altered to turn organizational theory into "normal science".

Pfeffer's line of reasoning underlining the relevance of convergence in social sciences starts with a direct application of Kuhn's model to organizational theory. More precisely, Pfeffer argues that Kuhn's concerns about the existence of paradigms in social sciences are justified, because the level of consensus in these areas of study is limited. Drawing on a large body of literature, he points out a number of reasons for making this claim. Surveys of researchers show that, unlike in natural sciences, social scientists are less likely to agree over fundamental aspects of their fields, like course content, graduate degree requirements, or research fields borders. The same trend is suggested, according to Pfeffer, by more objective measurements, like the number of graduates from doctoral programs who go on to work outside of the academia and publication patterns. Pfeffer (1993) points out that in natural sciences the percentage of "references in published works that were themselves published in the preceding five years" (p. 601) is much higher, indicating a more effective level of communication, as well as the fact that in a more unified field, where conflicts are reduced, the common vocabulary, methods, and

assumptions will make communication more fluid. The same phenomenon is present in the size of dissertation and abstracts. Another indicator of the higher level of paradigm development in natural sciences, according to Pfeffer, is the length of the chains of courses, where a chain is composed of courses that are prerequisites for other courses in the chain. The higher the length of the chain, the better the level of communication between various courses, which indicates an established basis of knowledge, shared between courses in the same chain.

Organizational theory displays, in Pfeffer's (1993) view, trends toward fragmentation, as research shows low connection between material in various textbooks, disagreements within the organizational theory community over the major research needs, as well as a disconnect between usefulness, scientific validity and frequency of mention. Pfeffer even turns to Burrell and Morgan's (1979) framework of paradigm differentiation in social sciences to support his paradigm proliferation thesis in organizational theory, although this move comes in contrast with his other arguments, which are mostly empirical in nature, while Burrell and Morgan tend to make a rather conceptual point.

The next step of the argument takes a more pragmatic turn. Once Pfeffer is able to show that fragmentation exists, he points out its negative impact on the solidity of the discipline in a way that resonates with Kuhn's sociological approach to knowledge. Thus, he makes the connection between the paradigmatic structure of social sciences and a series of social phenomena that could be best described in terms of power relationships. More specifically, Pfeffer makes the argument that the level of paradigm development within a discipline influences the power this discipline has, which can manifest itself in a

variety of ways. In addition, Pfeffer mentions the level of resources allocated to departments (including here financial and talent resources), wage dispersion, job satisfaction, the degree to which pay is connected to productivity, cross-citation among disciplines, level of collaboration, journal rejection rates, and time between submission for publication and publication. Thus, departments in fields with a more developed paradigm have more resources and those resources are distributed more broadly. In disciplines with lower paradigm development, differences in resource allocation between elite and mediocre departments are much lower than in fields with stronger paradigms, suggesting a higher level of dispersion in social sciences. A more unified paradigm reduces the rejection rates of publications, since the reviewers, editors, and authors are more likely to share a common vocabulary in natural sciences, limiting the reasons for rejection. Another interesting aspect links the strength of the paradigm to the importance of social ties in decisions made in the field. According to Pfeffer (1993), decisions regarding editorial boards or department heads tend to reflect in sciences with stronger paradigms productivity rather than social ties between researchers or professors, suggesting that in disciplines with weaker paradigms, in the absence of widely accepted standards of value, social factors dominate decisions.

Pfeffer (1993) ends his argument in a controversial move, providing a solution to the current state of affairs in organizational theory by turning to Cole's (1983) research on the role of gatekeepers in the structure of a field of study. His recommendation is to unify the field along paradigm(s) generally accepted by these elites, using the influence of these gatekeepers to limit the proliferation of new paradigms. By doing so, organizational

theory can achieve the status of "normal science", finally moving beyond the pre-paradigmatic stage.

Counterarguments presented

While the importance of convergence in the context of scientific progress has been stressed in various ways by Polanyi (1958), Lakatos (1970), and Ziman (1968), Kuhn's and Pfeffer's arguments are particularly significant because of the wide range of responses from research in organizational theory and not only these two positions have elicited since their publications. Next, the most important criticisms from the literature are reviewed.

These counterarguments target two central claims made by Kuhn and Pfeffer and, based on the part of these claims they are challenging, they can be divided into three categories.² The first claim made by Kuhn and Pfeffer that is rejected is that the field of organizational theory is fragmented to such an extent that conceptual convergence around central concepts, methods, or areas of interests is impossible. This claim is rebutted by a category of arguments that question the depth of the paradigm proliferation phenomenon Kuhn and Pfeffer envision. The second claim made by Kuhn and Pfeffer that is targeted by critics is that paradigm proliferation has a negative effect on the development of social sciences in general and of organizational theory in particular. The counterarguments rejecting this second claim can be divided into two categories: the first shows that fragmentation is essential for the growth of the discipline and the second points out that paradigm proliferation is an unavoidable part of organizational studies, embedded in its

² While this paragraph reviews counterarguments from the literature, I did not add references indicating these sources because these counterarguments will be connected to references in the rest of this section.

very core, and therefore cannot be altered as Pfeffer wants. For more clarity, the three types of counterarguments are presented in Table 1.

Table 1. Main types of counterarguments directed at Kuhn's and Pfeffer's arguments

Kuhn's and Pfeffer's thesis	Type of counterargument
The paradigm proliferation excludes any significant form of conceptual convergence.	A. The paradigm proliferation is not deep enough to exclude conceptual convergence.
The paradigm proliferation undermines the strength and development of the field.	B. While conceptual convergence within organizational theory is absent, the paradigm proliferation has a positive impact on the field. C. While conceptual convergence within organizational theory is absent, the paradigm proliferation is an inevitable part of the field.

The next step is to present the actual counterarguments that compose the three types listed above. Before proceeding with the discussion of each counterargument, it is important to offer a brief overview of the debate outlined here in the complex context of the paradigm wars. As it is set here, the debate pits Kuhn and Pfeffer, on one side, against a group of critics (which will be identified throughout this section). However, the critics' side is, itself, fragmented among positions that are sometimes incompatible. The main challenge is to map this debate in such a way as to identify a manageable number of positions, while at the same time accurately capturing the details of the conflicts and differences that fuel the paradigm wars. The simplest map of the field identifies two central positions, integrationism (which attempts to unify organizational theory studies under the banner of a single paradigm and it is represented by Kuhn (1962), Pfeffer (1993, 1995), and Donaldson (1995, 1998)) and the multiplicity-focused view (which fosters diversity within the field, and it counts Clegg (Clegg & Ross-Smith, 2003; Hardy

& Clegg, 1997; Westwood & Clegg, 2003), Hassard (1991; Hassard & Kellerman, 2002), Chia (1996), Smircich and Calás (1987) among its supporters) (McKelvey, 2003).

This map of the debate is simple enough and it is used frequently by researchers who attempt to build bridges between integrationism and the multiplicity-based view (Albert & Anderson, 2010; Ashworth & Carley, 2007; Bouchikhi, 1998; Davis & Marquis, 2005; Kilduff, Tsai, & Hanke, 2006; McKelvey, 1997, 2003; Mingers, 2004; Schultz & Hatch, 1996; Zald, 1996). However, the high number of publications dedicated to finding a compromise between the integrationist and the multiplicity-based camps casts doubts over the effectiveness of the two-position description of the field. As a result, a three-position map of the paradigm war was introduced by Fabian (2000), as well as by Romani, Primecz, and Topcu (2011), containing besides the two positions described above (solidarity, i.e., emphasis on establishing a single paradigm, and segregation, i.e., no dominant paradigms), a mediating position, integration, which claims the existence of a limited number of dominant paradigms. While this third position captures the spirit of various positions that are dissatisfied with both the dominance of the single paradigm or the relativism inherent in the call for the elimination of paradigms (Knudsen, 2003; Lapid, 1989; March, 2005; McKelvey, 2002), it fails to accurately reflect the complexity of the numerous studies gravitating between the two main positions. Neither Scherer's (1998) introduction of a fourth position, isolationism, which claims that no communication is possible among paradigms (Burrell & Morgan, 1979), manages to do better in this regard. Consequently, the best approach to the paradigm wars is to simply outline the two central positions and to point out that between them there exists a broad range of positions, in constant flux, therefore better left unmapped.

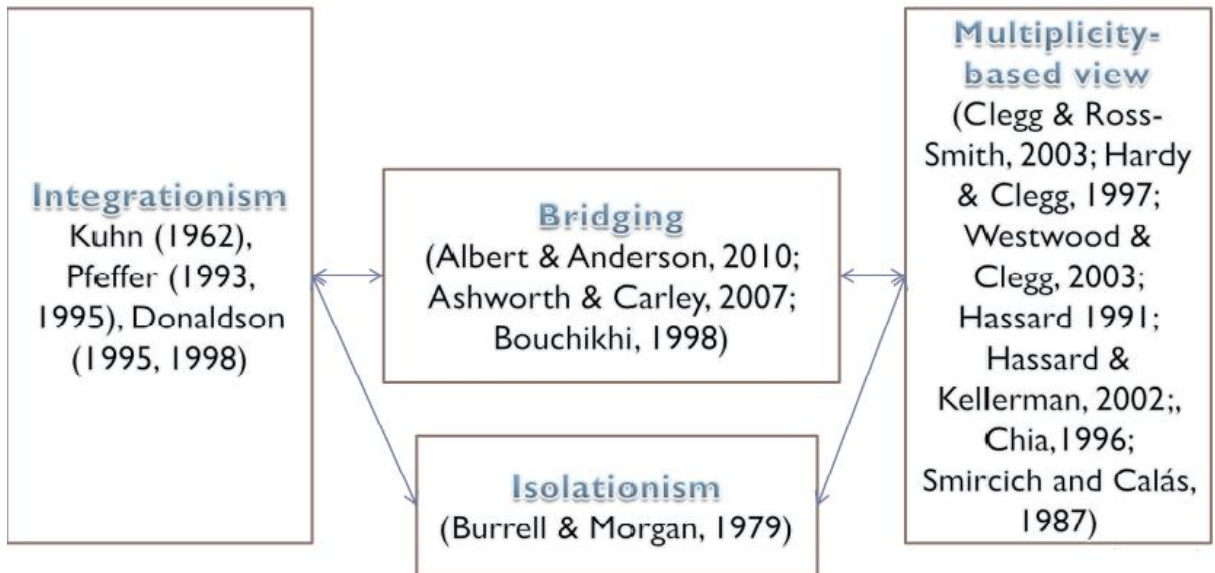


Figure 1. Mapping the paradigm wars

With this overview in mind, it is now time to present the arguments that challenge the impact of convergence on the solidity of science. As mentioned, it is organized according to four main types of arguments.

A. The paradigm proliferation is not deep enough to exclude conceptual convergence.

A1. Convergence is not relevant in the context of the discussion on progress in social sciences because it is possible to establish some sort of communicative framework that reduces the fragmentation in the field.

The essence of this argument is that while the field of organizational theory appears to be fragmented in multiple groups, the kind of communication within the field that Pfeffer (1993) linked to scientific growth is still perfectly possible, because the lack of dialogue is not caused by some conceptual incompatibility.

The types of solutions offered are numerous and diverse, but they can be organized in five central trends. The first trend introduces technical approaches (usually borrowed from computer sciences) that are used for their ability to combine an obvious positivist nature (deriving from their mathematical roots) with more openness toward the kind of complexity inherent in social sciences. The range of proposed solutions is wide, comprising computational modeling (Ashworth & Carley, 2007), complexity science (McKelvey, 2002), Soft System Methodology (Mingers, 2004), and design science research (van Aken & Romme, 2009). While this type of approach has potential, it is hard to imagine the pluralist side of organizational science, which draws its inspiration from postmodernism and poststructuralism (McKelvey, 2003), being able to translate in a meaningful way mathematical modelling, regardless of the degree of compatibility between science and postmodernism (Kilduff & Kelemen, 2003).

The second trend in the effort to transcend paradigm plurality is to reconfigure the field methodologically. Thus, Bouchiki (1998) uses a constructivist perspective to stimulate communication within the field by postulating the complexity of human behaviour as a unifying methodological axiom. Kilduff, Tsai, and Hanke (2006) suggest abandoning Kuhn for Lakatos (1970), constructing theory progressively from a set of fundamental concepts (including social utility). Finally, Schultz and Hatch (1996) develop a methodological approach called paradigm crossing, which involves paradigm interplay, i.e., moving back and forth between different paradigms.

Third, the movement to bridge the gap between integrationism and plurality-based approaches turns into an effort to translate one theory into another. Albert and Anderson (2010) use the idea of a conceptual translation to describe an approach that creates a set

of equivalences among concepts from different paradigms, removing a source of difference. Similarly, McKinley and Mone (1998) recommend the creation of a dictionary of key conceptual constructs democratically selected by the members of the scientific community.

Fourth, there is an important trend in organizational studies that reflects a degree of fatigue with the paradigm war, pushing for a move away from the tendency in social science to create high-generality theories and for embracing mid-range theories and grounded research (Daft & Lewin, 1993), in a move away from Popper's (1996) flashlight model of science, which considers that science develops by first proposing theories and then testing them empirically. Similarly, Davis and Marquis (2005) recommend that organizational science move from a theory-based structure to a problem-based approach. The main argument seems to be that if organizational studies would concentrate more on the object than on theories meant to explain this object, organizational studies would make greater strides.

Finally, an interesting trend, similar in tone to the call to de-prioritize theory, is to give the field a more pragmatic orientation, reflecting the main goals of organizational theory in society, focusing especially on its ethical responsibilities (Wicks & Freeman, 1998), reflecting at the same time Kilduff, Tsai, and Hanke's (2006) recommendation that one of the central concepts of the field be social utility.

While some of these approaches resemble more a manifesto rather than a reflection of the state of the discipline, they still make sense only under the basic assumption that some level of integration is possible. Some solutions build on the status quo, trying to find in the current structure of organizational theory materials for their

proposed bridges linking paradigm, while others propose a radical change in the way organizations are studied. Regardless of their nature, these proposals, have in common the rejection of Burrell and Morgan's (1979) claim that paradigms are absolutely incompatible.

A2. The very concept of paradigm analysis is a flawed metaphysical premise, which ignores the empirical nature of the field.

Donaldson's position in the paradigm wars is unique. Self-declared integrationist (Donaldson, 1998) and associated at times with the integrationist camp (McKelvey, 2003), Donaldson (1995, 1998) argues that the very concept of paradigm has been used in organizational theory to promote a critical theory agenda by bypassing empirical verification (Bouchikhi, 1998; Burrell & Morgan, 1979). An analysis of Burrell and Morgan's (1979) groundbreaking book gives credence to Donaldson's position, since it starts with the introduction of a theoretical framework based on which various positions are characterized, underlining the metaphysical nature of the debate, which at times loses sight of the actual status of the field. For Donaldson, it seems, simply moving away from the idea of paradigm toward data-based methods would unify the field and put the debate to rest.

Before continuing with the other types of arguments, it would be useful to reflect on the difficulties faced by arguments claiming that paradigm differences can be bridged. It might be the case that communication between paradigms is possible and that certain avenues of dialogue can be established, but whether this result is relevant or not depends on the level of generality at which the analysis takes place. When Donaldson (1998) refutes the claim that Kuhnian paradigms are perfectly incompatible by providing

examples of scientists from one paradigm being able to comprehend other paradigms, one could certainly be justified in doubting, as Tadjewski (2009) does, that this kind of inter-paradigm communication is enough to pacify the field of organizational studies. As Koster (2005) points out, even Kuhn maintains a certain degree of vagueness with regard to the meaning of paradigms, which means that inter-paradigm communication can vary, at times involving a change in the fundamental assumptions on which the two theories rely, while in other cases referring to claims that can be rebutted without altering the core claims of these theories.³ The success of the previous counterarguments is difficult to gauge without clarifying the meaning of incommensurability.

B. While conceptual convergence within organizational theory is absent, the paradigm proliferation has a positive impact on the field.

B1. Adopting a unique paradigm stifles the development of the field.

On the organizational studies map presented here, this argument falls squarely in the multiplicity-focused camp, and comes as a reaction to Pfeffer's call for unified science around a paradigm dictated by the elite researchers in the field. The high-profile debate between Pfeffer (1993, 1995) and Van Maanen (1995a, 1995b) offers a glimpse into the interplay between positivism and postmodernism in organizational science, outlining the way diversity becomes a contested terrain. One way Van Maanen (1995b) counters Pfeffer's focus on integration is to point out what organizational science would have to lose by focusing exclusively on the traditional positivist approach, giving Karl Weick's research as an example. The fact that Weick's work focuses on textuality, as well as on complexity and ambiguity, coupled with an unorthodox method of delivery, make this

³ For a more detailed difference between core and peripheral claims, see the Quine-Duhem model (Duhem, 1954; Quine, 1960).

contribution the perfect example of the way positivism limits the development of the field, as Weick's research would be likely rejected by a potential dominant paradigm.

A second danger inherent in the imposition of a single paradigm is the spectre of "myopic incrementalism" (Anderson, 1998, p. 324), as in a dominant paradigm field the rewards to conform are so great and the penalties for disagreeing so important that researchers will tend to be interested in making only minor contributions within the paradigm, not challenge it. The problem with this line of reasoning is that it would apply equally to natural sciences that, according to integrationists and even many critics of integrationism, are characterized by paradigm dominance. Faced with this criticism, integrationists can argue that natural sciences are dynamic and that this dynamic nature is given not by the theoretical creativity of the researchers, but rather by the empirical data available.

DeCock and Jeannes (2006) offer an evolutionary version of this argument, pointing out the usefulness of experimentation, which can provide a variety of theoretical alternatives of which the strongest flourish. However, it is not altogether clear how this line of reasoning would fare against Pfeffer's focus on the scarcity of resources in the field. In contexts of resource scarcity, it is possible that the evolutionary model would become unsustainable, because it seems that since each theory proposed requires effort to evaluate, this model cannot be sustainable without a significant loss in scientific quality.

B2. Dominant paradigms represent attempts by groups of elites to control research fields.

This argument reflects a change in the way knowledge is perceived, from the positivist argument that it is a reflection of reality to the idea that knowledge is a social

phenomenon (Bourdieu, 1976; Daston, 2000; Foucault, 1972; Kuhn, 1962; Lyotard, 1979; Pickering, 1984). As social domains, research fields are loci of power struggles, a claim with which Pfeffer (1993) agrees. However, while being interested in analyzing the power relationships among various fields, he neglects the struggles within organizational studies.

The best example of how paradigm unification translates into a push for domination comes from the field of education, in which the efforts to establish a dominant positivist paradigm coincide with the political dominance of an educational policy centred on standardized testing, merit pay, and profit production (Lather, 2006; Nespore, 2006). There are good reasons to believe that the effort to promote positivist paradigms as the dominant view hides a political agenda manifest itself in the field of organizational sciences. First, as the organizational culture literature shows, positivism is associated with the strong culture model, which was meant as a way to enhance the level of control of employees by managers (Alvesson, 1993; Martin, 1992; Westwood & Clegg, 2003; Willmott, 1993). Second, in a similar vein, Learmonth (2008) analyzes the discourse of the Evidence-Based Management theory, a proposal championed by Pfeffer (2007) as the basis of a possible dominant paradigm, pointing out its goal of legitimizing the managerial discourse as a "scientific" discourse, to the detriment of competing narratives within the organization. In conclusion, a dominant paradigm tends to promote the political goals of managers, suggesting the existence of political goals behind integrationism.

C. While conceptual convergence within organizational theory is absent, paradigm proliferation is an inevitable part of the field.

C1. Since the idea of objective knowledge is an illusion, a multitude of paradigms is unavoidable.

This line of argumentation is inspired by postmodernism and poststructuralism, The central point is that if knowledge is socially constructed (Cannella Jr. & Paetzold, 1994; Van Maanen, 1995b), no external standard exists which would make it possible to compare paradigms and justify assigning to one of them a dominant status. Clegg and Ross-Smith (2003), for example, argue that all knowledge is contextually situated and influenced by power relationships, questioning the dominance of the US-imported MBA model in other parts of the world, interpreting as a way to control different cultural context under a dominant paradigm. Hassard and Kellerman (2002) make a similar point from a different perspective, contending that even if a unique paradigm is established, the consumers of knowledge will interpret this paradigm in various ways, making the integration process superfluous. As a result, Lowe, Moore, and Carr (2007) suggest, the best option available would be to exercise what they call "epistemic consciousness," a realization that bias is inevitable and a commitment to some sort of bricolage of paradigms and perspectives.

C2. Paradigm proliferation is inevitable because it reflects a fragmented and fluid organizational reality.

This argument comes as a response to calls for an object-focused research (as opposed to a theory-based approach, blamed for the paradigm war (Van De Ven, 1999)), claiming that the best way to study a complex, fluid, and ambiguous organization world is to use a multi-paradigmatic approach. Bowring (2000), for example, highlights two tendencies in organizational dynamics that render positivism obsolete: first, organizations

no longer *react* to their environment, but rather *interact* with it, and, second, restructuration in Western industries has drastically reduced the number of managers, allowing employees to supervise themselves, in a multi-centric structure cannot be well represented by the top-down nature of positivist paradigms. Fineman and Gabriel (1994) militate for a shift in the way textbooks reflect organizations, toward postmodernism-inspired approaches, which sees knowledge as part of the organization, often temporary, incomplete, and confused. In an even more explicit push for multiplicity in organizational research, Spender (1998) shows how a pluralist approach would be better suited to the multiple kinds of knowledge that appear in the organization. Perrow (1994) makes a general point against the idea of paradigmatic convergence: "There can be no paradigm for all organizations or all times because organizations are ever-evolving responses to social change, and thus the context of organizational behavior is a major variable" (p. 192). A deeper awareness of the fluidity of organizations seems to be the fuel pushing organizational studies beyond their current focus on fundamental theory, therefore beyond paradigm integration (Daft & Lewin, 1993; Davis & Marquis, 2005).

C3. Social sciences, due to the complexity of their object, are less likely than natural sciences to develop dominant paradigms.

The main thrust of this argument is that different disciplines have different structures, depending on their object. As the previous argument points out, the object of organizational sciences is dynamic, complex, and ambiguous, influencing the discipline as a whole, which means that "normal science" might be germane only to natural sciences (Astley, 1984, 1985; Becher, 1989, 1994; Whitley, 1984a, 1984b, 1984c, 2000). Whitley (1984a, 1984b, 1984c, 2000) points out that social sciences appear to function more like

fragmented adhocracies, (i.e., disciplines with low degree of dependence among researchers coupled with high degree of technical and strategic uncertainty about research). This image of organizational studies might be fragmented and disorganized, but this is the nature of the object and, consequently, of the field.

To this kind of argument Pfeffer (1993) replies by offering the example of economics, whom he considers a case of a more unified social science, which, due to its unified paradigm, is able to exert influence over other social sciences that are more fragmented, thus contradicting the claim that social sciences need to be fragmented. While other replies to this point have emphasized the youth of the discipline as a reason for this difference (Bell DeTienne, 1994; Cannella Jr. & Paetzold, 1994), the most influential response has come from those who question the monolithic nature of economics or even of natural sciences, which is the next argument discussed here.

C4. Fragmentation is an inevitable part of all disciplines, not just organizational sciences.

Van Maanen (1995a) questions Pfeffer's deference toward economics, arguing that even economics is fragmented among perspectives that are incompatible, from Austrian liberalism to Marxism and insitutionalism. This argument is not limited to economics or social sciences in general. Scientific pluralism is a new approach to science, claiming that "plurality in science possibly represents an ineliminable character of scientific inquiry and knowledge (about at least some phenomena)" (Kellert, Longino, & Waters, 2006, p. ix). Arguments about the validity of this scientific perspective have been made in quantum dynamics (Dickson, 2006), mathematics (Hellman & Bell, 2006), behaviour science (Longino, 2006), and gene biology (Waters, 2006). As a result, there

seems to be no reason to take the drastic measures advocated by Pfeffer (1993), if natural sciences are also fragmented.

What these arguments indicate is that there are good reasons to doubt the validity of Kuhn's and Pfeffer's views on the impact of incommensurability on the solidity of social sciences or organizational theory, either by arguing that the kind of paradigm proliferation manifested in organizational sciences is more superficial than integrationists make it to be and that even if fragmentation exists, it is either a positive force in the development of the field or it is an inevitable dimension of social sciences. If that is the case, then convergence is not necessarily an indicator of the strength of a field of research, which questions the usefulness of analyzing it.

A new, more modest, account of convergence

Given the number and variety of arguments challenging the points made by Kuhn and Pfeffer, it makes sense to wonder if the very idea of convergence in social sciences has any future and if it would not be better to abandon it altogether. As it will be argued here, giving up on convergence as a characteristic of strong science is a premature decision, because, while some of Kuhn's and Pfeffer's claims are too radical to be fully upheld, a more modest approach to convergence can avoid the counterarguments presented above, while, at the same time, reaffirming the role convergence plays in fostering strong science.

The more modest account of convergence that I am proposing here abandons the claim that science needs to strive for a single unifying paradigm and for consensus. The previous section points out that the idea of a monolithic image of science is vulnerable to a series of compelling criticisms, which question the assumptions that natural sciences or

economics are as unified as Kuhn and Pfeffer seem to believe, that fragmentation is necessarily problematic, and that social sciences can be reconstructed according to this ideal. These arguments suggest that plurality is here to stay and that any account of convergence in social sciences needs to account for it.

Consequently, the new, more modest, account of convergence I am proposing here no longer makes the connection between a strong science and paradigmatic unity, but rather allows for multiple areas of convergence (defined, following Kuhn, as areas of contributions similar in concepts, methods, and area of interest), which can be very different in terms of fundamental theoretical and methodological commitments. In this new image of science, convergence exists within clusters of similar works, although not necessarily between them. Still, this is not the same as accepting a fragmented field of research, because the model proposal developed here requires that the areas of convergence be sufficiently large in size, positing that large areas of contributions focused on solving the same problem are more likely than small areas of concentration to display two characteristics that play an important role in scientific progress: new contributions building on old contributions and new contributions testing old contributions, which will be referred to as markers of convergence.

In order to understand the first marker, it is important to go back to Kuhn's (1962) concept of "normal science," in which refers to the kind of science in which previous contributions are used as a basis on which new contributions are made, as opposed to cases of science in which previous contributions do not lead to any new contributions. The second marker is only briefly discussed by Pfeffer (1993), so it deserves more elaboration. Pfeffer points out that organizational science tends to encourage the

introduction of new concepts or ideas, but it does not reward verifying old ones, hinting at the importance of testing in scientific communities. Testing previous contributions is closely connected to "normal science", since in many cases, new contributions build on previous contributions by either confirming them or by rejecting them through a test. Karl Popper's (1959) falsificationist theory of science draws attention to the importance of testing old theories, imagining science as a cyclical process of proposing new theories and testing them, which constitutes for Popper the essence of scientific progress. Testing is difficult to clearly conceptualize because it can take multiple forms. Thus, testing can be conceptual, as it happens when a new contribution challenges the use of a certain concept, putting the old contribution to a test of logical consistency or clarity. Also, testing can be methodological, involving a modification of the method used in the old contribution. Finally, testing can be performed by using the same conceptual and methodological apparatus as the old contribution, but altering the sample selected. It follows that testing in this study does not refer just to empirical testing, but to any evaluation of old contributions by new ones, which involves either the new contributions confirming or offering support to previous contributions, or the new contributions criticizing or questioning from a logical or methodological point previous contributions.

At the core of the modest model of convergence I am introducing here is the following deductive chain: large areas of convergence tend to foster the two markers of convergence, which in turn accelerates scientific progress. The last link of the chain is the easiest to explain, since contributions that undergo extensive testing are more trustworthy than those that have never been tested and contributions that build on others are most likely to represent a step forward, a case of scientific advancement. The first link of the

chain is based on the assumption that if a large number of contributions are made on the same area of interest, it is more likely that new contributions will find others with which they agree or disagree, on which they can build or which they can test. In small areas of convergence, in which the existing contributions have covered only a few facets of the problem, it is likely that new contributions will cover facets not yet covered, which might mean that the new contribution will have no previous contributions to which it can relate, so they will be less likely to build on or test previous contributions.

In the end, the connection between convergence and the two markers of convergence sketched above can be described as follows: imagine a case in which four contributions A, B, C, and D are divided into two areas of convergence, one including A and B, the other including C and D, and a second case, in which all four contributions are part of the same area of convergence. In the first case, the case of maximum convergence from the point of view of the two markers described above is when A builds on/tests B and C builds on/tests D, while in the second, which allows for the same couple of relationships to occur, also allows for a case in which A builds on/tests B, which builds on/tests C, which builds on/tests D. This type of scenario is the most desirable from a scientific point of view, as A in the second case is likely a more solid contribution than A or C in the first case. It follows that greater areas of convergence have the potential for the highest level of scientific progress.

It is important to note that this new model comes with a clear advantage, as it abandons the use of paradigms, deemed too vague (Kaghan, William, & Phillips, 1998; Koster, 2005) and, therefore, difficult to measure. Instead, the more concrete concept of

similarity in terms of methods, concepts, and area of interest is used which, as it will be shown later, can be measured and analyzed.

Relevance to sport management

This discussion on convergence is particularly relevant in the context of sport management, because, as it will be argued next, there are certain inherent characteristics of this field of research that makes it particularly vulnerable to divergent trends. In fact, from some of the earliest reflections on the status of sport management as a discipline have reflected a concern for its lack of coherence. Thus, Paton (1987), summarizing the earliest trends in the then nascent field of sport management, voices dissatisfaction with the state of the field, drawing attention to a perceived lack of coagulation:

The review of the research included in this paper does not suggest that our work has been systematic. Rarely does one find a concentration of studies at one university that would appear to be part of an ongoing research program, or studies from separate programs that appear to be interrelated. Due to the disparate pattern of sport management research, the studies as a group do not meet the criterion of reductiveness. (p. 29)

A few years later, Chelladurai (1992), discussing the broad scope of sport management as described in the Constitution of the North American Society for Sport Management and the *Journal of Sport Management* editorial policy, echoes a similar concern:

This view of our field is encouraging and makes us feel good about ourselves, but although our involvement with such an expansive field may be flattering, it also poses a problem. Because we do not have the workforce to specialize in the subareas of our field, each of us tends to get involved in all of them. Thus, we

spread ourselves too thin to be able to specialize in any one aspect and create a unique body of knowledge in that specialization. Although the problem will be solved in due course, we must be cognizant of this deficiency at this time. (p. 216)

In a similar vein, but from a point of view that reminds of Pfeffer's (1993) comments on the impact of fragmentation on graduate education, Slack (1991) ponders on the state of graduate education in sport management, noting that the large offer of very diverse courses that are taught by a limited number of faculty members prevents an in-depth specialization. Slack's suggestion is more specialization at the level of advanced education in sport education, but his comments point out to an inherent source of divergence in sport management, which is a scope that is so broad that spans over several disciplines, like marketing, organizational theory and behaviour, event management, tourism, law, and economics. Unlike the concern in Chelladurai's comments, this is not a contingent evolution of the field, which can be altered in time, but rather a fundamental aspect of sport management as a discipline.

To better explain the point made here, I am proposing a model of the relationship between sport management and connected parent disciplines such as marketing, management, tourism, to name a few. This model does not cover the entirety of research in sport management. Chalip (2006) identifies two main streams of research: one that applies theories developed in other areas of research (like the parent disciplines listed above) and one that grows from the specific nature of sport (and, presumably, refers to contributions that are specific to sport management). The model I am proposing here refers to the first research direction, to the applied nature of sport management. In this type of research, ideas from one of the parent disciplines are imported by sport

management. On the basis of the modest account of convergence proposed in the previous section, it is assumed that this idea is the result of a cluster of contributions that ensure the testing of this theoretical construct, building it on the basis of previous contributions. Consequently, an idea that is trustworthy enough to be applied is unlikely to arise from a very small area of convergence.

This idea is then imported by the field of sport management and applied to the case of sport. Certainly, the application of a theoretical framework imported from another discipline can be considered to be a simple affair, almost mechanical in nature. However, if one of the central tasks of sport management as a research field is simply to apply foreign ideas to sport without any critical inquiry about the appropriateness of such an import in the case of sport, then the very rationale behind sport management as a discipline disappears. Just as in the case of grocery stores, there is no separate discipline called "grocery store management," because ideas derived from organizations in other industries can be translated to the case of grocery stores, the same argument could be made with regard to sport organizations. However, it is assumed that sport organizations have a specific nature and that applying ideas from other disciplines requires a reconsideration of these ideas in the context of sport (Babiak & Wolfe, 2009; Smith & Stewart, 2010; Wakefield, 2007).

If the application of foreign ideas in sport is a non-trivial process, then it will require the existence of an area of convergence to ensure the trustworthiness of the application. In other words, if sport management is to be a distinct discipline, then the application of ideas imported from parent disciplines is a scientific contribution in itself,

which will require verification within an area of convergence, just like those that make possible the idea imported.

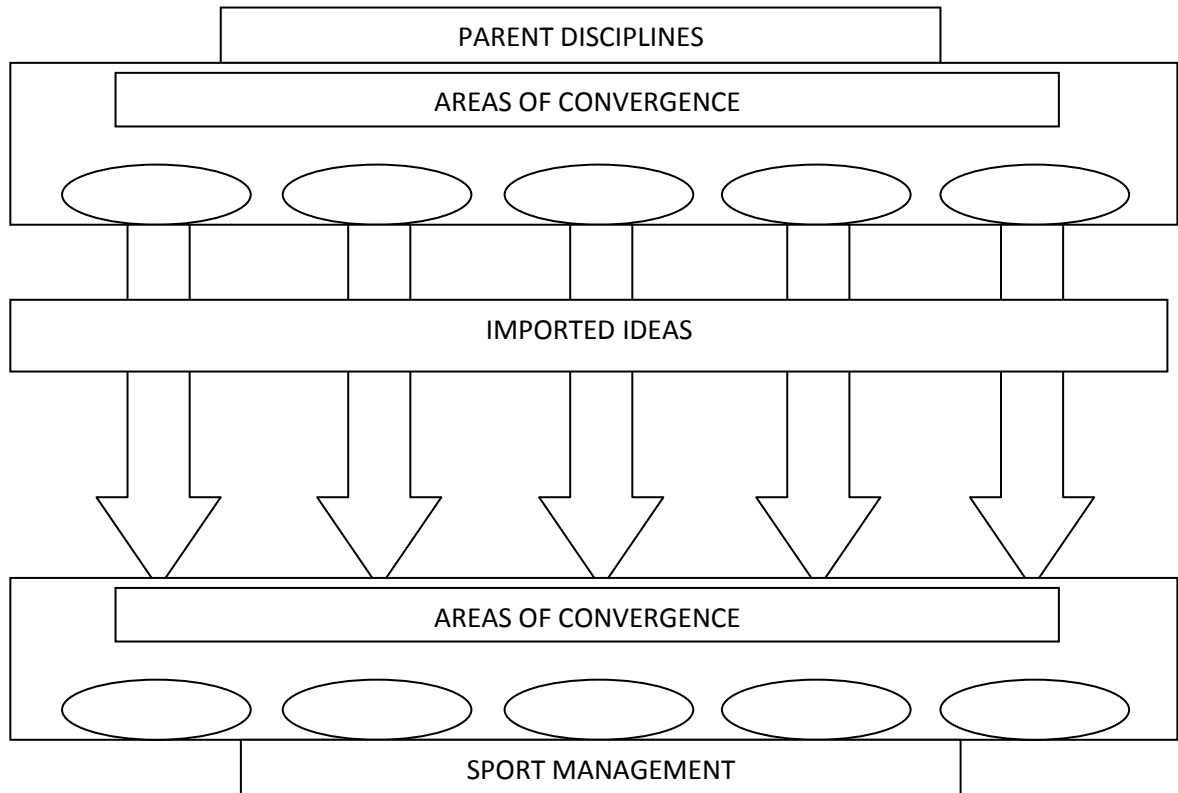


Figure 2. The mirror model: the relationship between sport management and its parent disciplines

Consequently, the relationship between sport management and its parent disciplines appears to present the field of sport management as a mirror reflecting parent disciplines, in the sense that the areas of convergence in parent disciplines that produce the ideas imported by our field are reflected in clusters in sport management that occur around the application of these imported ideas to the case of sport (Figure 2). For this

reason, this model of the relationship between parent disciplines and sport management will be called the mirror model.

The problem with this model is that while sport management it is expected to keep up with the parent disciplines by adequately analyzing the manner in which ideas developed in areas of convergence within parent disciplines apply to sport, which involves areas of convergence in sport management, also, is that sport management lacks the same resources that are available to the parent disciplines. Simply put, sport management lacks the number of researchers, faculty positions, and publication venues that are available in all the parent disciplines combined, which facilitate the publication of contributions that can constitute the areas of convergence that are needed to make the mirror model work.

Surely it can be argued that the difficulty arising from this asymmetry of resources can be avoided if sport management only imports a limited number of ideas that can then be properly analyzed in the context of sport. However, the diagnostics of Paton, Chelladurai, and Slack that were briefly presented above seem to suggest that this has not happened. Instead, in their views, the asymmetry of resources has resulted in the fact that the resources were "spread out thin," preventing sport management from developing an in-depth understanding of the issues.

More recently, a solution to the perceived lack of convergence in the field, one that goes beyond the difficulties inherent in the mirror model by focusing on Chalip's second stream of research, the stream that builds theory specific to sport, has been proposed by Boucher (1998). This proposal represents a call for turning sport management into a problem-driven field. Reflecting trends that have manifested in

organizational sciences (Daft & Lewin, 1993; Davis & Marquis, 2005), Boucher (1998) pleads for more empirical research, focused on practical issues, which could act as a unifying force, around the issues that are specific to sport. By concentrating on the practical concerns specific to the sport industry, research could coagulate, transcending the paradigm proliferation problem. However, there are doubts that this kind of turn in sport management could be sustained. Analyses of research patterns in social sciences indicate a tendency for research in organizational studies to be literature-driven, and not problem-driven (Astley, 1985; Staw, 1985), which appears to suggest that a move away from theory would encounter resistance.

To summarize the points made in this chapter, convergence has a positive effect on the quality of scientific contributions, because it fosters scientific progress on the basis of previous contributions, as well as the testing of proposed ideas. Consequently, determining the degree to which the discipline of sport management is characterized by convergence is important as an indicator of its scientific quality. Furthermore, this analysis of convergence is even more imperative because the very broad scope of sport management and the limited resources it has at its disposal, by comparison with those of parent disciplines, creates the danger that sport management research will import ideas from these parent disciplines without analysing in-depth their impact in the case of sport, which affects adversely the quality of sport management research. For these reasons, the research question that drives this study is "What is the level of convergence in the field of sport management?"

Chapter 2. Methods and data

The previous chapter outlines how the research question of this study will be answered, characterizing convergence in terms of two markers. More exactly, the modest account of convergence I proposed here connects solid scientific contributions to the existence of areas of convergence that are large enough in size to make possible the establishment of new contributions on the foundations set by older contributions and the testing of old contributions by more recent ones. This means that the research question will be answered by identifying areas of convergence in sport management research, then by determining to what extent these areas of convergence are characterized by progress on the basis of old contributions and by testing of old contributions.

It is important to point out that "sport management research" is a vague term, which can cover research that has been published, as well as research that has not been published. Since this second category of research is very difficult to access and collect, this study will focus exclusively on published research. However, this does not mean that, as a result, this project loses its ability to be representative of the entire field of research, because this project is based on Kuhn's (1962) theory of science. According to this approach, science is a social phenomenon, as the boundaries of what is relevant from a scientific perspective are determined by the scientific community. Unpublished research can be considered borderline non-scientific from the above point of view, since it has not been submitted to the scrutiny of the scientific community, so it has yet to fully achieve the full scientific status that comes from the approval of the scientific community.

Identifying areas of convergence in sport management is a difficult task, which can be achieved qualitatively by analyzing the literature in the field and developing a

general review, but this approach is problematic because it involves subjective appreciations of the existing literature, and, thus, can be coloured by the preferences of the researcher. Instead, this study relies on a quantitative method, which is bibliometric in nature. Bibliometrics is understood here as "the field whose concern is with the measurement specifically of properties of documents, and of document-related processes" (Borgman & Furner, 2002, p. 3). The basic assumption behind the decision to employ this method is that while research can manifest itself in various manners (e.g., working papers, conference presentations), publications like journal articles and books represent the most trustworthy source, as they undergo a closer scrutiny, representing the best contributions of a field.

Consequently, this study identifies areas of convergence by recognizing contributions to the literature that are similar, which then will allow a more in-depth analysis of these areas of convergence to determine the degree to which the two markers of convergence are present.

Data⁴

The data chosen for this project are selected to provide a representative perspective of the sport management literature. As a result, three journals in this research area, namely *Journal of Sport Management (JSM)*, *European Sport Management Quarterly (ESMQ)*, and *Sport Management Review (SMR)*, are chosen because of their broad focus, which covers all the sub-disciplines of sport management. For this reason, niche journals like *International Journal of Sports Marketing and Sponsorship*, *International Journal of Sport Policy and Politics*, or *Journal of Sports Economics* are

⁴ These data were used previously in Ciomaga (2012). For an in-depth examination of central trends in sport management, this study is suggested.

excluded. While including them would have certainly provided a more complete view of the field, selecting them all would have been very difficult to carry out because of difficulties accessing data pertaining to their articles, while selecting only some of them would have skewed the data by giving preferential treatment to some sub-disciplines. Other journals that share with the above three journals a general focus, like *European Journal of Sport Management*⁵ and *International Journal of Sport Management*, were not included because of difficulties of accessing them.

The three journals generate a number of 804 articles, a number that was reduced to 757 articles by eliminating articles containing editorial or educational material that use fewer than five references. The remaining articles are distributed among the three journals as follows: 420 in JSM, 178 in ESMQ, and 159 in SMR. These articles cover an area spreading from 1987, the year JSM was first published, until 2010.

Information about these articles and their references was collected electronically or manually. The electronic data import used resources from the Thomson Reuters ISI Web of Science and Elsevier Scopus databases, which are widely used in studies of similar nature (Benckendorff, 2009; Boyack & Klavans, 2010; Cornelius, Landstrom, & Persson, 2006; Long, Bowers, Barnett, & White, 1998; McWilliams, Lockett, Katz, & Van Fleet, 2009; Raghuram, Tuertscher, & Garud, 2009; Schildt, Zahra, & Sillanpaa, 2006; Wissmann, 1993). The electronic import was performed with the help of Sitkis (Schildt, 2005), a free bibliometric software available online and the data thus obtained were introduced in a Microsoft Access 2007 database. The information regarding articles from JSM and ESMQ that was not available in the mentioned databases was imported manually.

⁵ This journal is a precursor to the ESMQ.

Given the important number of errors that exist in the mentioned databases (Seglen, 1997), it was necessary to perform an extensive process of quality control, making sure that the information is accurate. Of particular importance are cases in which, due to missing data, the same article is introduced in the database as two different entries, which influences citation data. As the analysis progressed, once important clusters were identified, a further check was performed on the members of the identified clusters, in order to ensure an even higher level of quality. Overall, the generally accepted standards of quality employed in these kinds of studies (Benckendorff, 2009) were achieved. Still, due to the very large amount of data involved in this kind of study, errors are still possible, but they are unlikely to have a major impact on the results of the study.

The data used in this study can be divided into two main categories: the 757 citing articles and 21,154 unique cited sources used by them. The unique cited sources were used in 32,499 citations, as certain unique cited sources were cited more than one time in different citing articles.

Methods

The analysis of the convergence level of the sport management field is divided into four phases. The first phase focuses on the existence of testing relationships between the citing sources that are used as data. This phase is performed first because it does not require the identification of convergence areas and it should be interpreted as a preliminary phase. The basic assumption at the basis of this phase is that a previous contribution being tested by or building on a new contribution is reflected in a citing relation from the new contribution to the old one. As a result, studying citation patterns in sport management compared to those in parent disciplines can offer a preliminary

measure of the likelihood of testing and building on relationships occurring in the sport management literature.

The next two phases analyze the existence of areas of convergence in the three sample journals by using a co-citation analysis, (i.e., an analysis that discovers similar cited sources based on the likelihood of them being cited together by the same articles). Once areas of convergence are identified, it becomes possible to make judgments regarding the general level of convergence in the field by exploring the number and size of the resulting areas of convergence, as well as the relationship between them.

Finally, once areas of convergence are identified, it is possible to explore the two markers of convergence presented in the previous chapter (i.e., scientific advancement on the basis of previous contributions and testing of previous contributions) by performing a case study analysis of one of the areas identified. This phase will not only provide a descriptive view of the way the two markers function in the sport management literature, but also test the ability of the co-citation method used here to identify clusters of similar works and the assumption that large clusters have an important potential for fostering the testing of old contributions and the introduction of new contributions on the basis of old ones.

Phase 1. First, if testing and building on in this study require a citation from the testing contribution to the tested contribution, then the nature of the citing relationship influences the likelihood of the testing and building on relationships occurring. This influence can manifest itself in two ways, both of which will be analyzed. In the first case, the more citations a source receives, the more likely it is that one of these citations functions as a testing or building on relationships. In the second case, the time it takes for

a publication to get cited (i.e., citing lag) by other scholarly works determines the length of the testing or building on relationships. If the interval between publication and citation is extremely long, this makes it less likely that testing will have any impact on the field as a whole, as it becomes more likely that, at the moment the testing contribution is published, the entire field moved away from the issues discussed in these two contributions, making the test irrelevant in the new scientific context.

Since there are no clear-cut standards for evaluating a field as having a high level of citedness (i.e., number of citations per article), the analysis compares sport management with other areas in order to make a relative assessment. Since areas of study have shown to have different tendencies in terms of citedness (e.g., mathematics uses far fewer citations than biochemistry) (Seglen, 1997), the fields to which sport management is compared are very similar in focus: management, marketing, economics, and tourism. In order to make this comparison, the Social Science Citation Index (SSCI) is selected, as it covers a broad range of areas and uses the same methods to determine citedness for all areas of research, being already used in bibliometric analyses of sport management (Shilbury, 2011).

Since only JSM and ESMQ are covered by SSCI, SMR is excluded from this phase. Furthermore, SSCI provides data on ESMQ only starting in 2008, which makes the sample available very limited, so only JSM is retained, which is covered by SSCI starting with 1997. However, the last two years of the 1997-2012 interval are eliminated, because articles published in 2011 and 2012 have not had enough time to be cited. The period of two years is chosen because journal impact is calculated as the number of citation received two years after the publication of an article (Seglen, 1997), which means

that this period allows articles to receive a number of citations that are representative of its impact in the scientific community. Consequently, articles published between 1997 and 2010 constitute the focus of this analysis.

To facilitate the calculation the citedness of the cognate areas listed above, with which sport management will be compared, a sample of five journals were selected from each field. A sample was necessary because a field like economics has over 180 journals covered by SSCI, making it impractical to calculate the citedness of the entire field. The five journals were selected using ISI Web of Knowledge Journal Citation Reports (ISI JCR). The criterion used to make this selection reflects the relationship between JSM, on one side, and ESMQ and SMR, on the other. Since no impact variable of SMR is available, the number of articles published yearly in a journal was used as a criterion for selecting the five sample journals from each cognate field. JSM is the journal with most articles (420 compared to 178 for ESMQ and 159 for SMR), so the five journals in the four cognate areas with the most articles were selected. Due to the disproportionately large number of publications in economics, which made it impossible to create a citation report for all five journals, only three journals were selected.

With regard to the second stage, citation lag can be measured in two different ways: diachronous obsolescence, which begins with the selection of documents published in the past, calculating the rate of citations to them for multiple years after, and synchronous obsolescence, which chooses documents from the present, determining when the more recent half of the references they use were published (cited half-life) (Cunningham & Bocoock, 1995).

Diachronous obsolescence is determined by counting the citations articles from JSM, ESMQ, and SMR that represent the sample of this paper have received and are catalogued in SSCI in and before 2012. As it was pointed out already, only parts of JSM and ESMQ are covered by this database. In order to offer a more complete perspective of the degree to which the articles in these three journals have been cited, the citations they received in these three journals before 2011 is also measured. Since the most recent articles have little time to accumulate citations, only those articles published before 2007 were taken into consideration.

These results will be then analyzed in relation to Price's (1970) work on the evolution of knowledge accumulation in science. Price uses the distinction between research front (i.e., most recent contributions to the field) and the archive (i.e., previous contributions), pointing out that science is characterized by what he calls an "immediacy effect," i.e., "a special hyperactivity of the rather recent literature which was still ... at the research front" (p. 9). In order to measure this effect, Price introduces the Price's index, which represents the percentage of citations a scientific contribution receives within five years of its publication: $\text{Price's index} = (\text{number of citations received within five years} / \text{total number of citations received}) * 100$. Price then points out that the Price's index of fields of research is correlated to the nature of these fields, being higher for "hard" sciences and lower for social sciences, being lowest for humanities, which are more likely to use more heavily the archive of their discipline and less its research front. It follows that by determining this index, the place of sport management among other disciplines can be better determined.

Synchronous obsolescence is measured by using ISI JCR and comparing the cited half-lives of JSM and that of the journals selected at the first stage of this phase to calculate citedness for economics, management, marketing, and tourism.

Phase 2. As it was mentioned before, this phase identifies areas of convergence in sport management literature by developing clusters of similar contributions from the sport management literature, producing a number of clusters that can be measured in terms of size and number.

In order to identify articles that are similar, a co-citation method is used, along the lines of a previous study by Ciomaga (2012). This approach is based on the assumption that if two references are cited together very often, they are similar (McCain, 1990; Small, 1973). The degree of co-occurrence of the articles is measured with the help of the Jaccard coefficient (Small & Greenlee, 1980), which is calculated as follows:
$$\text{Jaccard coefficient} = \frac{\text{number of common citations to articles A and B}}{(\text{total citations to A} + \text{total citations to B} - \text{common citations to A\&B})}$$
 The software Sitkis (Schildt, 2005) is used to analyze the data and to obtain a number of clusters of similar references. These clusters are obtained by employing a dense network sub-grouping algorithm, which

begins by forming a group at the dyad that has the highest co-citation value and then iteratively adds nodes ordered by the highest average co-citation link to the existing members of the group, until the average link value is lower than a pre-determined cut-off value chosen by the researcher. The resulting group is then removed from the network, and the algorithm proceeds from the beginning.

(Schildt & Mattsson, 2006, pp. 146-147)

The obtained clusters are visualized with the help of Netdraw (Borgatti, 2002).

The applications of the dense network sub-grouping algorithm with the help of Sitkis are possible only when the total number of citations are reduced to those that have had an important impact in the field, i.e., have been cited a certain number of times, because this method requires large computing capacities, which would be overwhelming if all references were taken into consideration. Furthermore, Sitkis allows for customization in terms of the cut-off value of the Jaccard coefficient.

The interpretation of the results obtained will consist of comparing resulting clusters to those from studies using the same method in fields related to sport management (entrepreneurship (Schildt et al., 2006), virtual work (Raghuram et al., 2009), and family business (Schildt & Mattsson, 2006)). In order to make this possible, the same input parameters (i.e., minimum number of citations per reference and cut-off Jaccard coefficient values) as these studies will be used. Finally, the number and size of clusters obtained in these three articles and those of clusters obtained in this study will be compared to determine the relative coagulation of sport management.

Phase 3. This stage supplements the second phase, by expanding the coagulation analysis from the clusters obtained with the help of Sitkis to the relations between clusters (Grégoire, Noël, Déry, & Béchar, 2006; Raghuram et al., 2009). This is necessary because the number and size of clusters are not necessarily reflective of the coagulation level of a field. A field with fewer or smaller clusters can still be very coagulated if the clusters themselves are closely connected, compared to a field with large and numerous clusters that are isolated.

To determine the relations between clusters, the network of the clusters obtained at the previous stage is used to identify relationships between their members. In order to

eliminate the "noise" created by research like this one, which brings together research that comes from unconnected areas of research, ties whose Jaccard coefficients are lower than .04 are eliminated.

Phase 4. At this level, a content analysis is used to describe the manners in which the two markers of convergence are manifested in the context of sport management research. This phase examines closer at the two markers of convergence discussed in the first chapter by performing a case study on one of the clusters identified at phase 2. Under the assumption that the larger the area of convergence, the more chances of identifying these two markers, and given the stated secondary purpose of this phase to test this presupposition, efforts were made to obtain the largest possible cluster. Thus, a larger cluster was obtained by applying the dense network sub-grouping algorithm with a very low minimum number of citations, namely eight (i.e., cited by approximately 1% of the citing articles in the sample) and a low Jaccard coefficient cut-off of 0.10. Furthermore, the largest resulting cluster was selected. In order to strengthen this phase, two other clusters were added to the analysis. The second cluster analyzed is second in size, while the third cluster analyzed is similar to the second cluster in area of interest, but much smaller in terms of size. By performing the analysis of these three clusters, it will be determined if size, and not the area of interest, depends on the extent to which the two markers are present in an area of convergence.

The two markers of convergence are construed here as citing relationships. While it is always possible for a contribution to build on or to confirm/reject a previous contribution without citing it, this possibility is considered remote. Therefore, citations from a node of the selected clusters to other nodes chronologically anterior help guide the

analysis. The testing relationship is defined as any citing relationship that offers an evaluative judgment of the cited source by either supporting it or confirming it, or by pointing out deficiencies at the conceptual, methodological, or logical levels. It becomes apparent that the testing relationship does not always have to be part of the purpose of the paper, as sometimes the testing relationship is an unintended consequence of the results the study unveils. Given these characteristics, testing relationships are mostly identified in abstracts, as well as in the results, discussion, and conclusions sections.

The other marker, which involves a relationship through which the citing contribution builds on the cited one is more complex. Unlike the testing relationship, the citations that identify it are found in the introduction and literature review sections and clearly participate in the elaboration of the concepts, methods, models, theories, and scales used by the citing contribution. It follows that not all citations found in the citing contribution fall in this category. While it might be argued that new contributions built on all their citations, certain citations play a more central role and are directly used in constructing theoretical framework or applying these frameworks to empirical data.

In the end, the chronological analysis from the point of view of the two markers described above allows the construction a narrative outlining the evolution of the cluster and the relationship between the foci or early and later research, making it possible to determine to what extent the new research is built upon and tests previous contributions.

Chapter 3. Results and analysis

In this chapter, the results and analysis will be presented for each phase, while the overall conclusions of the study will be detailed in the last chapter.

Phase 1. Table 2 presents the results of the citedness analysis for the five research fields which represent the focus of this stage of phase 1 of this analysis.

Table 2. Citedness measurements for sport management, tourism, economics, management, and marketing 1997-2010

Field	Number of citations per article	Number (and percentage) of articles without any citations
Sport management	5.47	33 (14.34%)
Tourism	10.17	198 (11.6%)
Economics	12.13	1648 (18.1%)
Management	17.8	882 (11.8%)
Marketing	22.13	212 (6.6%)

It appears that sport management has a relatively low number of citations per article, while in terms of articles that have no citations, it has a fairly high percentage, surpassed, surprisingly, by economics. The solid number of citations per article and the high percentage of articles without any citations suggest that economics is an unbalanced field, in which the distribution of citations tends to be uneven. The high percentage of articles with no citations compounds the concerns voiced in the mirror model: if sport management has resources that are more limited than those of any of the other four fields with which it is compared here, the fact that a relatively high number of them have no impact in the field and, therefore, are not being tested, means that resources are used more inefficiently than in the other four fields. The relatively low number of citations per

article means that fewer opportunities for the occurrence of testing relationships exist.

Together, these two trends justify the call for more coagulation in the field.

Citation lag, as it was already pointed out, was measured in two manners:

diachronous (Tables 3 and 4) and synchronous obsolescence (Table 5). It is important to

point out that in the interval 1993-2002 that was chosen here to analyze citation lag, SSCI

covers only JSM. As a result, Table 3 contains no information regarding ESMQ and

SMR. Table 4 covers the three journals analyzed here (JSM, ESMQ, and SMR).

Table 3. Diachronous obsolescence: Distribution of citations to the sample articles (from JSM) in number and percentages (in brackets) based on SSCI

Year	Nr art.	< 4 years	4-5 years	6-7 years	8-10 years	> 10 years	Price's index
1993	3	0(0%)	1(20%)	0(0%)	0(0%)	4(80%)	20.0%
1994	4	3(11.5%)	3(11.5%)	2(7.7%)	5(19.2%)	13(50%)	23.1%
1995	6	21(16.3%)	10(7.8%)	8(6.2%)	22(17.1%)	68(52.7%)	24.0%
1996	19	21(12.8%)	19(11.6%)	19(11.6%)	29(17.7%)	76(46.3%)	24.4%
1997	14	12(9.5%)	11(8.7%)	14(11.1%)	32(25.4%)	57(45.2%)	18.3%
1998	10	6(8%)	4(5.3%)	12(16%)	16(21.3%)	37(49.3%)	13.3%
1999	12	15(19.5%)	10(13%)	11(14.3%)	26(33.8%)	15(19.5%)	32.5%
2000	11	12(11.9%)	13(12.9%)	18(17.8%)	43(42.6%)	15(14.9%)	24.8%
2001	9	12(15.8%)	17(22.4%)	12(15.8%)	33(43.4%)	2(2.6%)	38.2%
2002	16	14(18.9%)	18(24.3%)	24(32.4%)	18(24.3%)		43.2%
Avg.		11.6(12.4%)	10.6(13.7%)	12(13.3%)	22.4(24.5%)	28.7(36.1%)	26.2%

Table 4. Diachronous obsolescence: Distribution of citations to the sample articles in number and percentages (in brackets) in JSM, ESMQ, and SMR (self-citation)

Year	Nr art.	< 4 years	4-5 years	6-7 years	8-10 years	> 10 years	Price's index
1993	23	10(23.3%)	6(14.0%)	4(9.3%)	7(16.3%)	16(37.2%)	37.2%
1994	16	20(27.8%)	13(18.1%)	6(8.3%)	8(11.1%)	25(34.7%)	45.8%
1995	22	18(12.4%)	15(10.3%)	16(11.0%)	37(25.5%)	59(40.7%)	22.8%
1996	27	26(21.3%)	20(16.4%)	16(13.1%)	28(23.0%)	32(26.2%)	37.7%
1997	14	8(12.1%)	9(13.6%)	9(13.6%)	28(42.4%)	12(18.2%)	25.8%
1998	13	10(11.2%)	19(21.3%)	15(16.9%)	25(28.1%)	20(22.5%)	32.6%
1999	23	24(24.7%)	14(14.4%)	22(22.7%)	14(14.4%)	23(23.7%)	39.2%
2000	20	28(22.0%)	27(21.3%)	23(18.1%)	49(38.6%)		43.3%
2001	30	17(28.3%)	20(33.3%)	7(11.7%)	16(26.7%)		61.7%
2002	40	25(29.4%)	28(32.9%)	19(22.4%)	13(15.3%)		62.4%

Avg.	18.6(21.3%)	17.1(19.6%)	13.7(14.7%)	22.5(24.1%)	18.7(20.3%)	40.8%
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Table 5. Synchronous obsolescence: Citation half-lives of JSM compared to those of the journal selected as sample from four cognate areas

Field	Journal	Citation half-life
Sport Management	Journal of Sport Management	7.5
Tourism	Tourism Management	6.5
	International Journal of Hospitality Management	6.3
	Tourism Economics	6.0
	International Journal of Tourism Research	6.3
	Journal of Sustainable Tourism	6.6
Management	Journal of the Operational Research Society	>10.0
	International Journal of Human Resource Management	7.1
	Management Science	>10.0
	Operations Research	>10.0
Economics	Harvard Business Review	>10.0
	Economics Letters	9.9
	Applied Economics	8.6
Marketing	American Economic Review	>10.0
	Industrial Marketing Management	6.9
	Journal of Marketing Research	>10.0
	Journal of Consumer Research	>10.0
	Marketing Science	>10.0
	European Journal of Marketing	>10.0

The analysis of diachronous obsolescence is usually based on Price's (1970) interpretation of Price's index (the percentage of citations received within five years of the publication of the cited source). Price analyzes a number of different disciplines and journals, identifying the area of hard science as having an index of at least 42%. As it is visible in Table 3, in the case of sport management journals covered by SSCI, the index is fairly low, of 26.2%, which is close to the limit of the bottom quartile in Price's (1970) study (23%). This suggests that the research front in sport management is underdeveloped relative to the archive of the field, which provides the potential for long

testing relationships. In other words, according to this interpretation, the field of sport management tends to move fairly slowly, as only a small percentage of citations are received within five years of the publication of articles in JSM. However, this conclusion should be regarded in context. As Table 4 indicates, the Price index covering self-citations in the three journals is 40.8%, which is much closer to the threshold considered by Price (1970) the separator between hard and soft science. So, it appears that the research in the three analyzed journals has a solid research front, which means that the overall low Price index in Table 3 is the result of citation patterns either in sport management journals other than SMR, ESMQ, and JSM, or outside of the field of sport management. Also, while the citation half-life of JSM in the synchronous obsolescence comparison with four cognate areas presented in Table 5 is compatible with the diachronous obsolescence measurement in Table 3 (because the diachronous half-life of JSM is 7.5 (Table 5), while in Table 3 the average synchronous half-life of JSM is somewhere between 7 and 10, offering some degree of support to Stinson and Lancaster's (1987) thesis that synchronous and diachronous obsolescence are statistically equivalent), it should be made clear that in Table 5, with the exception of tourism journals, which have consistently lower half-times, JSM has lower citation half-lives than most journals in management, economics, and marketing.

To summarize the points made about this phase, there are reasons to be concerned about the citation patterns present in the sport management literature. The number of citations per article and the number of article with at least a citation are low in comparison with the cognate areas analyzed here. However, in terms of citation lag, which can impact the length of potential testing relationships, while the Price's index is

very low, in other respects (citation half-life) cognate areas are either not too far from it or have an even lower score. Therefore, while a concern should be expressed about citedness and citation lag in sport management, it should be made with care, without exaggerating.

Phase 2. Below is an outline of other studies in areas similar to sport management, with the most important parameters selected (Table 6). It is important to understand that these studies start from a sample that is fixed, but they vary the minimum number of citations that a reference needs to receive in order to be introduced in the algorithm and the cut-off Jaccard coefficient in order to achieve an ideal level of granularity, i.e., clusters that are large enough (by varying the Jaccard coefficient) and that are manageable in number (by changing the minimum number of citations threshold).

Table 6. Studies that have used Sitkis and a dense network sub-grouping algorithm in cognate areas

Study	Area of study	Sample	Min. nr cit. ⁶	Jaccard coef.	Nr. clusters obtained
(Schildt & Mattsson, 2006)	Family business	108 (1986-2008)	4 (3.7%)	0.25	20
(Schildt et al., 2006)	Entrepreneurship	733 (2000-2004)	15 (2.04%)	0.15	25
(Raghuram et al., 2009)	Virtual work	490 (1976-2006)	10 (2%)	0.10	25

Consequently, multiple analyses of the data gathered are performed, obtaining several series of clustered that can be compared in number and size to those obtained in

⁶ The threshold of the minimum number of citations a reference was put in perspective by adding in brackets the percentage of citing articles this represents. This allows for comparisons between studies which have different sample sizes.

the above three studies. The first analysis is performed with the lowest minimum citation number and Jaccard coefficient cut-off value of all the three studies, to make an initial determination of the relative coagulation of the data from JSM, ESMQ, and SMR. This means that the dense network sub-grouping algorithm is applied to references cited by at least 2% of the articles constituting the sample (which is 757), therefore at least 15 times, with a Jaccard coefficient cut-off value of 0.10. Fourteen clusters resulted, far fewer than those obtained by all of the three studies in the cognate areas. With regard to size, two large clusters were obtained (25 and 12 nodes, respectively), with the rest having 6 (2 clusters), 4 (1 cluster), 3 (1 cluster), and 2 nodes (8 clusters). It is hard to make a comparison in terms of size, because the three studies in Table 6 do not always give detailed information about size. Still, Schildt's two studies (Schildt & Mattsson, 2006; Schildt et al., 2006) offer at least a partial view of the size, which seems to surpass that of the clusters obtained in this study. For example, at least 8 of Schildt and his colleagues' (2006) clusters have at least 10 nodes, compared to only two in this study.

Changing the Jaccard coefficient cut-off value from 0.10 to 0.15 increased the number of clusters from 14 to 17, but the size is reduced, so that the largest cluster has only 14 nodes, the number of clusters with only two nodes remaining constant at 8. Only reducing the minimum citations for reference to 13 (1.71%) produced over 20 clusters (23 clusters, more exactly) with a Jaccard coefficient of 0.10. Since it is clear that increasing the threshold for the minimum number of citations will reduce the number and size and clusters, as fewer references will qualify, it seems that compared to these studies, the sample utilized in the analysis performed here is less coagulated, being less able to produce clusters of similar works and creating clusters that are smaller in size.

A few elements should be pointed out before drawing too strict of a conclusion. The sample of this sport management analysis is much larger than those of Schildt and Mattsson (2006) and Raghuram and colleagues (2009), which might impact the conclusion. The only study with a similar sample (Schildt et al., 2006) has a very short time frame (2000-2004), which might impact the level of coagulation. Still, it is not clear how size of sample and time frames can impact the size and numbers of the clusters obtained, so the conclusion drawn above, that sport management is less coagulated than entrepreneurship, virtual work, and family business, appears credible. One other difference is that the three studies from Table 6 use a sample obtained by searching keywords in electronic databases and collecting the resulting articles, while this sport management study uses journals to delineate the field. This difference is certainly important, but it reflects the broad nature of sport management that was outlined in the mirror model. Since it covers a large research area composed of sub-areas that are largely separated and independent, it is hard to find keywords that are likely to characterize the entire literature (besides the obvious "sport"), unlike the much narrower research fields like family business, entrepreneurship, and virtual work.

Phase 3. This phase uses the clusters obtained at phase 2 by setting the parameters in Sitkis at 13 for the minimum number of citations per reference and at 0.10 for the cut-off value for the Jaccard coefficient. This choice provides a good level of granularity, meaning that the number of clusters obtained is not too great to make a visual analysis too confusing to be effective.

The general outline of the field is presented in Figure 3.

At first glance, the network of the most influential clusters in the three journals studied confirms trends outlined elsewhere (Ciomaga, 2012), (i.e., outlines the dominance of two important clusters), one composed of studies of consumer behaviour, team identification, and loyalty to teams (Cluster 1), and another composed of analyses of radical organizational change (Cluster 2). The two clusters are completely separated, as there are no co-citation instances between them. Around these two poles, there are a number of clusters that are closely connected, to the point that could be considered as forming two major clusters (1, 3, 7, 8, and 11, on one side, 2 and 5, on the other). Even at this level, the two major clusters are not connected in a meaningful way.

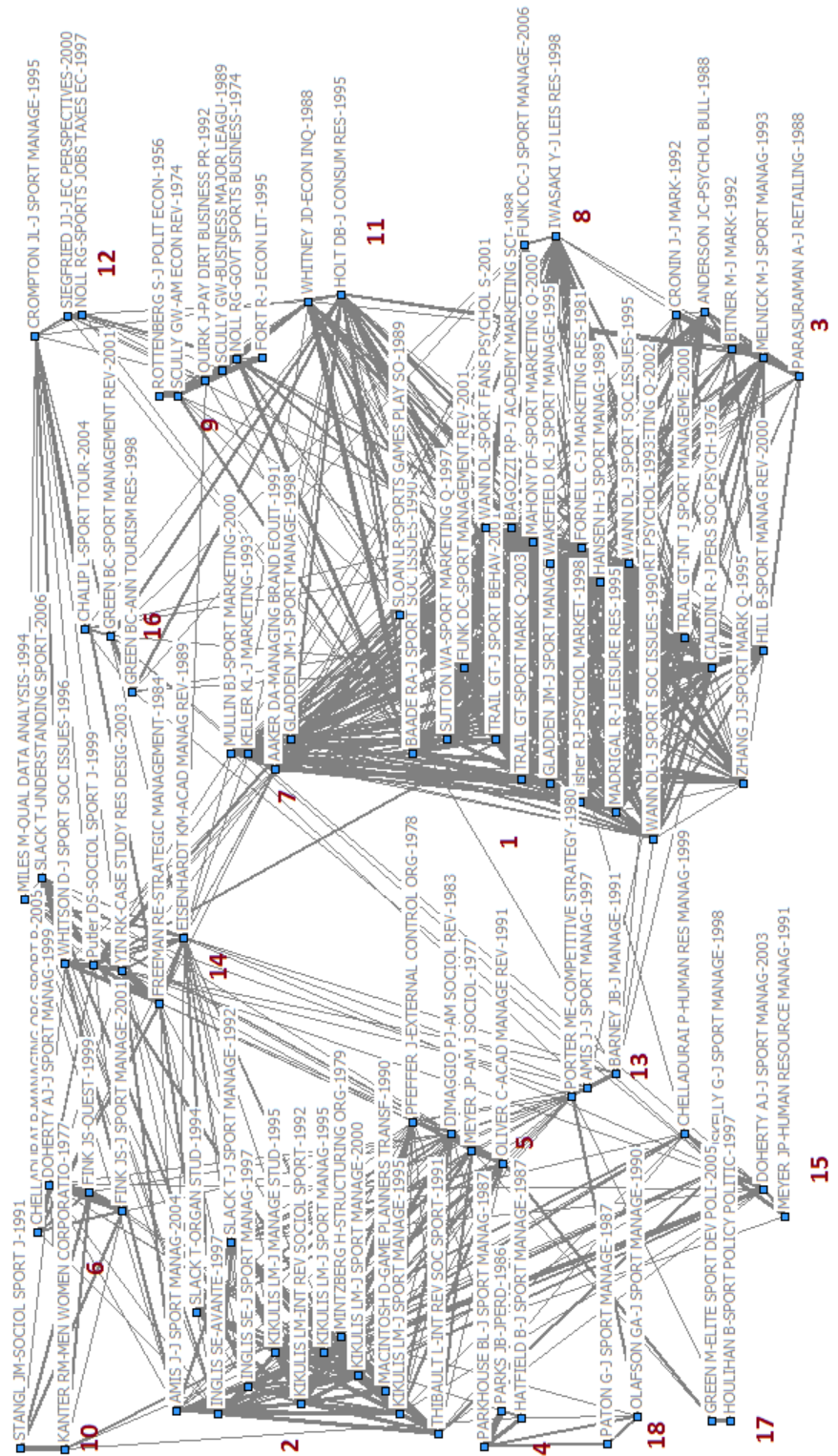


Figure 3. Clusters of most cited references (at least 13 citations) and relationship between them

Next, there are a series of clusters that have relatively strong ties to these two major poles. First, there is a sport economics cluster (9), focused on labour markets, ticket prices, and economic consequences, which is connected to the sport marketing major cluster (1, 3, 7, 8, 11), reflecting a common interest in professional teams and attendance. This cluster is relatively strongly connected to another economics cluster (12). Another cluster (16), focused on sport tourism, is strongly connected to cluster 12 (through Crompton, suggesting an interest in the economic impact of events) and cluster 11 (through Holt, suggesting interest in consumer behaviour). It is important to note that none of these clusters is connected to the organizational theory major cluster.

With regard to the organizational theory major cluster (1,5), two clusters are relatively strongly connected to it, one focused on competitive advantage (13) and one connected to human resource analysis (15). These two clusters are weakly connected to the sport marketing cluster⁷ (1) and the sport tourism cluster (16). Two clusters built around diversity issues (6 and 10) are strongly connected, cluster 6 being weakly connected with the organizational theory cluster. Other two clusters (4 and 18), which are composed of early studies of the field of sport management, are strongly connected between themselves, but fairly isolated from the rest of the clusters.

In essence, there are patterns that point out to both convergence and divergence at the same time. As it was shown elsewhere (Ciomaga, 2012), the sources cited most often (at least 23 times) in the three journal studied tend to fall into a small number of groups, of which sport marketing and organizational theory are the most important. This seems to

⁷ Furthermore, the connection between clusters 15 and 1 involves Chelladurai's book *Human Resource Management*, which covers a broad range of topics, meaning that it can be connected to a large number of clusters, thus exaggerating the connection between these clusters.

indicate that convergence exists in sport management research because the academic resources of the sport management field have been concentrated in a limited number of areas. In this respect, the most influential research in sport management displays a high level of coagulation, using the limited resources it has at its disposal in an effective fashion. Furthermore, this concentration of resources seems to provide support for Chelladurai's (1992) optimistic prediction about the future of sport management, because this concentration of research in the two dominant clusters makes possible strong scientific progress (as it will be shown in the final phase), providing the depth that Chelladurai was hoping sport management will achieve.

However, the above judgment should be put in perspective. Outside of the two major clusters identified above, most clusters are limited in size, which can make one wonder what kind of scientific progress in which older contributions represent the basis of new contributions can be achieved in an area of convergence of three contributions. From this point of view, it seems that the network presented in Figure 3 falls short of the ideal suggested in the modest proposal account of convergence, which allowed for a multitude of areas of convergence that are large in size, which could foster the manifestations of the two phenomena identified as markers of strong scientific progress (i.e., scientific advancement on the basis of previous contributions and testing of previous contributions).

However, what is even more significant is that the inherent limitations of convergence pointed out in the mirror model manifest themselves in the inter-cluster network in Figure 3. For example, the connections between the two major clusters identified are almost inexistent, which is to be expected, because the two clusters are

linked to parent disciplines that have little in common (marketing and organizational theory). Also, while the sport marketing major cluster is closely connected to cluster 9, which is a sport economics cluster focused on attendance in professional sports, but only weakly connected to cluster 12, which focuses on the economic impact of professional teams on their communities. Again, this is not a surprising result, because motives for sport consumption and economic impacts of sport are very different topics, but this highlights the broadness of the scope of sport management research, which brings together research from very different areas, making it very unlikely that a high level of convergence can be achieved.

Consequently, while a certain level of convergence between the clusters identified at phase 2 exists, there are also reasons to be less than optimistic about the overall level of convergence in sport management research.

Phase 4. The cluster analyzed here is focused on the motivations of sport consumers, making it a sport marketing cluster (Figure 4).

While the earliest node is [Fishbein 1975]⁸, since it is a general treatise in psychology, with no direct connection with sport, it is left out of the analysis. [Cialdini 1976] is a seminal paper, highly cited, which plays a central role in the way this cluster begins. This contribution introduces the phenomenon of BIRGing (Basking In Reflected Glory), which describes the tendency of supporters of a team to identify with a team (e.g., by referring to the team as "we," by wearing clothing with the team's logo). [Snyder 1986] expands on and tests⁹ Cialdini's paper by developing the concept of CORFing

⁸ The references between square brackets refer to examples of articles found in Figures 4 and 5, not to the list of references at the end.

⁹ It is important to keep in mind that "testing" refers here not just to empirical testing, but to all instances in which a new contribution either supports or criticizes a previous one.

(Cutting Off Reflected Failure), showing that there is more support for the CORFing process than for the BIRGing process when strategies for maintaining self-esteem were analyzed.

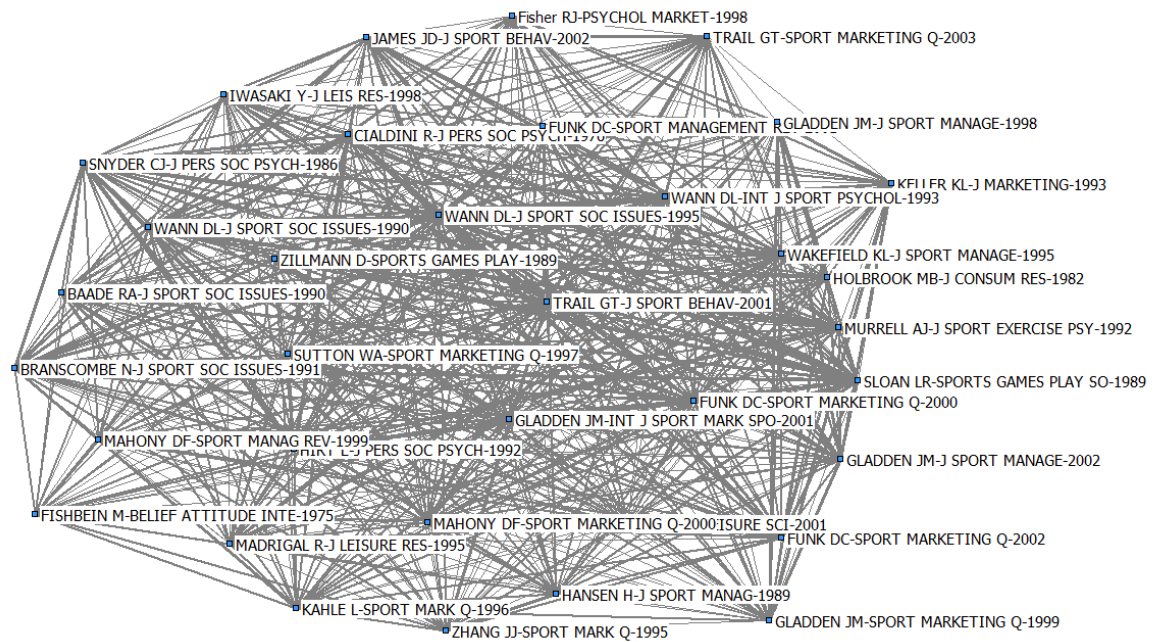


Figure 4. Sport marketing cluster: motivation and behaviour of sport consumers

While later evolutions tend to diverge, there are a number of tendencies which are easily identifiable and which display the two markers of convergence discussed here. Already with [Sloan 1989] and continuing with [Wann 1990], [Branscombe 1991], [Hirt 1992], [Murrell 1992], and [Fisher 1998], Cialdini's and Snyder's results are tested to determine if the strength of allegiance to sport teams affects the tendency of sport consumers to BIRG and CORF, reaching to the same conclusion, that true fans have a lower tendency to CORF. This trend displays an example of a contribution that confirms a previous result and that rejects the explanation offered by the respective contribution, as

[Hirt 1992] at the same time confirms [Sloan 1989]'s thesis that the outcome of the game influences predictions about future performance and points out that this relationship is not mediated by mood, as Sloan believes, but by self-esteem. Still, instances of both building on and testing previous contributions are not very frequent, which should not be very surprising, given the limited relevant literature available in that time frame.

[Wann 1993] builds on the above focus on team allegiance by proposing a scale for measuring the degree of identification with teams. With this, the cluster enters in a qualitatively different stage, characterized by a tendency to propose and test theoretical models with varying foci that are linked to sport consumption. Thus, [Madrigal 1995] builds on [Wann 1993]'s scale of team identification and [Cialdini 1976]'s BIRGing research to propose a model of fan satisfaction with attending. Testing this model empirically confirms the previous trend, that team identification affects the BIRGing effect [Wann 1990, Hirt 1992] and the claim that team identification influences enjoyment [Zillman 1989].

The same patterns apply to other models proposed, as the models introduced in the late part of the 1990s almost all build on previous contributions from the cluster discussed here, although they contain few instances of testing. For example, the models from [Zhang 1995] and [Kahle 1996] are constructed on the basis of the model proposed by [Hansen 1989], the model in [Sutton 1997] is built on the scale from [Wann 1993]. The Sport Fan Motivation Scale from [Wann 1995] is composed 8 factors, which are all based on several previous contributions [Cialdini 1976, Sloan 1989, Zillman 1989, Branscombe 1991]. [Gladden 1998] puts forward a framework of brand equity based on the concepts introduced by [Keller 1993], as well as on the [Cialdini 1976] (the impact of

winning on attendance) and [Sutton 1997] (the concept of "fan identification"). Of all the members of the cluster introducing models, only [Iwasaki 1998] does not build on previous members of the clusters, because it comes from a different context (leisure research), but even it becomes a basis for later contributions [James 2001].

The most recent set of members of the cluster (early 2000s) tend to display an even higher level of both markers of convergence [Mahony 1999, Gladden 2001, Trail 2001, Gladden 2002, James 2002], being built on a significant number of previous contributions and containing instances of testing (which sometimes can be of contributions outside of the cluster). This trend is to be expected, as most recent members in the cluster have a broader pool of literature on which to build on or which to test. Furthermore, as the number of cluster members expands, certain broad syntheses of the research available are proposed [Funk 2001, Trail 2003], which at the same time clarify the concepts used and provide a useful unifying basis on which future research can be carried out. As a further sign of increase in quality from previous to later contributions, there is a trend that moves beyond the mostly behavioural analysis of sport consumptions, to add the attitudinal dimension [Funk 2000, Mahony 2000].

As the number of models proposed increase, there are cases of cluster members that set out to test multiple models and build on their strength to create a superior model [Trail 2001, Trail 2003]. [Trail 2001] is a perfect example of multi-dimensional testing of two previous models [Wann 1995, Kahle 1996], which points out weaknesses in terms of concepts used, narrow focus, statistical methods used, and the nature of the sample selected. Given the complexity of the test, it is fair to assume that the resulted model

represents a step forward from the previous contributions, or at least the starting point of a dialogue that can further generate increasingly more accurate and trustworthy models.

Consequently, the cluster analyzed here appears to have a high level of convergence, displaying frequent manifestations of both building on and testing relationships. This offers support to the assumption that large clusters are likely to display more instances of the two markers of convergence. Also, the analysis shows that the cluster is unitary, with a clear focus, confirming the ability of the co-citation algorithm used here to produce clusters of highly similar citations.

Still, it might be argued that using a single cluster is not a good enough proof, and that the high level of convergence might be the result of the characteristics of the topic discussed and methods used (which is almost without exception quantitative). In order to avoid this potential criticism, two other clusters, one which is the second largest cluster (23 nodes) and another, selected randomly, much smaller in size (7 nodes), from the series obtained by applying Sitkis to the data with a minimum citation threshold of 8 and Jaccard coefficient cut-off of 0.10, are submitted to the same type of analysis to determine if the nature of the area of research influences the level of convergence present (Figure 5). Both clusters come from organizational theory, using a mix of qualitative and quantitative methods, the first concentrating on change in organizations, the other on organizational culture.

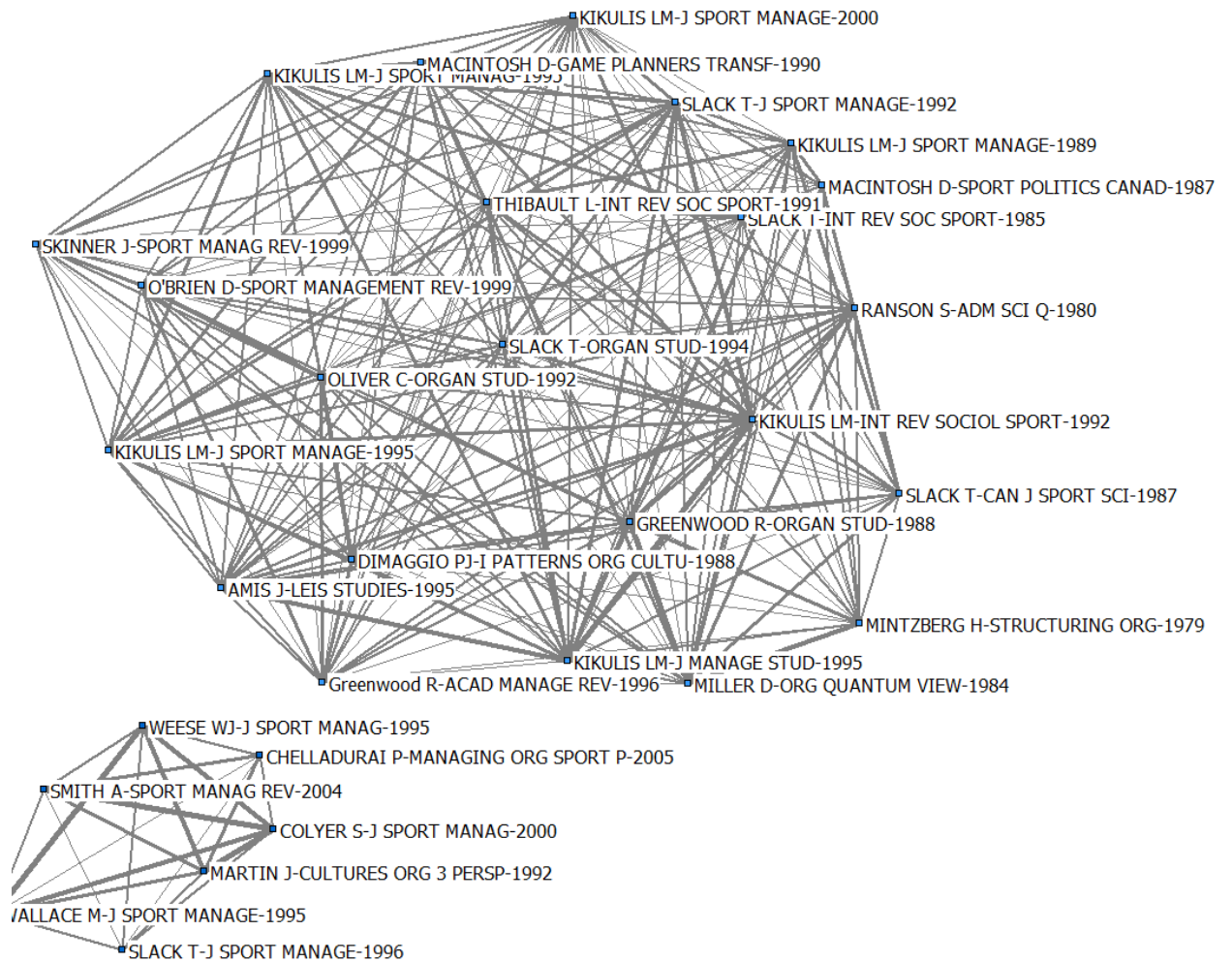


Figure 5. The organizational change and organizational culture clusters

Applying the same method to the organizational change method resulted in the discovery of certain differences with the sport marketing cluster, but the differences in terms of the presence of the two markers discussed is larger between the organizational change cluster and the organizational culture cluster than between the sport marketing cluster and the organizational change cluster. The organizational change cluster displays consistently instances of building on and testing previous cluster members. For example, [Slack 1987] tests [Slack 1985] by challenging the previous claim that the changes underwent by national sport organizations are just a case of more bureaucratization,

claiming that it is also a case of a change in organizational structure. Also, [Kikulis 1989] tests the claim that the NSOs have suffered an increase in bureaucratization, supporting empirically the finding of [Macintosh 1990], as well as [Slack 1985]. Also, [Slack 1992] tests and confirms conclusions in [Kikulis 1989]. More recently, [Kikulis 2000] tests the previous uses of the institutional framework in [Slack 1992] and [Slack 1994], arguing that this framework is insufficient because it cannot determine if the changes adopted by NSOs under the pressure of a government that provides resources to these organizations were accepted wholeheartedly by them or they were superficially implemented to satisfy formal requirements. Also, [Skinner 1999] criticizes the framework used by [O'Brien 1999] to study change in Australian sport, arguing that it fails to illuminate complexities that only a postmodern approach would be able to uncover. The other marker, which refers to the relations through which new contributions build on old ones, can also be found very frequently. Consistently, new members of this cluster build on previous ones, which can also be attributed to the fact that authors tend to be part of a small group, with similar interests. A great number of these relations, unlike the marketing group, tend to include members that are not specifically connected to sport, which are fairly numerous in the organizational change cluster (7 out of 23), acting as foundations for the sport specific studies.

Conversely, the organizational culture cluster lacks these kinds of relationships almost completely. In fact, it was hard to find even citing relationships, suggesting that the members of this cluster, although sharing similar interests, are not connected to one another. The only testing relationship discovered involved a methodological criticism in [Smith 2004], directed at [Colyer 2000], which referred to the unconditional use of an

organizational culture model that was created for the US utility companies in the case of Australian sport organizations.

It follows that it is the size of the cluster that is more likely to foster the creation of the relationships constituting the markers of convergence discussed in this study, which supports the assumption made in the modest convergence model proposed here.

Chapter 4. Conclusion

Once the analysis of each stage in particular is presented, it becomes possible to answer the research question at the heart of this study. As it was pointed out in the modest proposal of convergence presented in Chapter 1, the basic assumption of this study is that large areas of convergence (i.e., of contributions with similar areas of interest, methods, and concepts) are more likely to contain instances of the two markers of convergence, namely new contributions building on previous ones and new contributions testing previous ones. The fourth phase of the analysis shows that this assumption is supported by empirical data, as the two largest clusters (i.e., the marketing and organizational change clusters) display many more instances of the two markers than the organizational culture cluster. In the organizational culture cluster, its components tend to cover different topics and use different methods, only rarely displaying enough similarity to make possible the existence of the two markers of convergence. Consequently, it can be argued that the model of convergence proposed here is solid, and that large clusters are beneficial for the strength of a field of research.

While large clusters have a positive impact on the solidity of a discipline, they are not very numerous in the three journals examined here. Compared to the results of similar analyses in cognate disciplines, the number of clusters discovered using a co-citation analysis in phase 2 is consistently lower. It is difficult to identify the cause of this phenomenon, due to the complexity of the analysis involved, but a possible answer would be to point out a possible imbalance between the resources and the subject area of sport management discipline. Compared to the cognate disciplines discussed at phase 2 (i.e., virtual work, entrepreneurship, family business), it appears that sport management has

fewer resources (e.g., avenues for publication, researchers, financial and institutional resources) than these cognate fields, while the area it covers is much larger. While the claim about the inequality of resources between sport management and parent disciplines is not supported by empirical evidence, given the youth of sport management, it seems to have at least intuitive appeal.

The results from phase 3 appear to contradict the results from phase 2, because the former point out the existence of two large areas of convergence, suggesting that some level of convergence exists. However, while this is true, it is also true that the network from Figure 3 falls short from the ideal outlined when the modest proposal of convergence was discussed. According to this ideal, a convergent field would allow multiple areas of convergence (thus acknowledging that the idea of a unified paradigm espoused by Kuhn and Pfeffer is unrealistic), but these areas need to be sufficiently large to permit the two markers of convergence to manifest themselves. The network in Figure 3, besides the two large clusters, does not fit this ideal, as most clusters are composed of fewer nodes than the organizational culture network analyzed in phase 4, which, it was shown here, is not conducive to the apparition of the two markers of convergence discussed above.

This concerning image of sport management is supported by the citation analysis at phase 1. In terms of citations received by sport management articles in the three journals examined here, the field displays relatively few citations per article and a relatively high number of articles without any citations, which could be caused by the limited resources sport management has at its disposal, meaning that there are relatively few publications in sport management in which these citations could appear (a

phenomenon compounded by the low impact of sport management literature in management journals (Shilbury, 2011)). Furthermore, in terms of citation lag, the SSCI-based Price's index is very low, which suggests that the research front of sport management is reduced by comparison with its archive, which is especially problematic for a discipline that has a relatively short history. This suggests that research moves relatively slowly, as contributions are cited later than in most parent disciplines. These two tendencies, few citations received and long citation lag, suggest that the two markers of convergence are less likely to occur in sport management than in parent disciplines, because the two markers of convergence are defined here as citing relationships (i.e., A is based on/tests B can only occur if A cites B). While the analysis at phase 1 is different from that applied at phases 2 through 4, the results of these analyses support each other, which further justifies the negative answer to the question regarding the existence of convergence in sport management.

While this answer is pessimistic, it also needs to be qualified. In phase 1, the synchronous obsolescence citation half-life appears better than that of most other parent disciplines used as a comparison basis. With regard to phase 2, as already pointed out, due to the limited number of similar studies, it is difficult to draw a comparison with studies that have the same sample size and a similar time frame. Finally, phases 3 indicates that there are two major areas of convergence with a large size. Still, the fact that at each level the negative answer to the research question receives a strong level of support makes it very likely that these three qualifications added to the conclusion are unlikely to significantly affect the final answer to the research question.

These points made here suggest further avenues of study. Given the limited number of studies in similar areas, the same kind of study could be carried out on applied fields that are strongly connected to sport management (e.g., sport sociology, sport psychology), in order to determine if the same kind of lack of convergence exists or if the fragmentation in sport management is a specific characteristic of the field, rather than a result of its applied nature. Also, an analysis of resources available to sport management research could be performed, determining the capacity of the field to grow, compared to parent disciplines like management, marketing, or economics. Finally, narrower analyses could be applied to determine if certain subfields of sport management (e.g., organizational theory, sport tourism, event management) are equally fragmented, or if this phenomenon is present unevenly.

In interpreting this conclusion one should keep in mind the limitations that are inherent in bibliometric studies. Seglen (1997) indicates a number of concerns that are relevant in the context of this project. For example, certain patterns that affect citations are not connected to research quality, like the tendency of authors to self-cite or to cite editors or potential referees in order to further the chances of publishing an article, which skews the data. Also, the primary reason for citing is not the quality of article, but rather utility within research. This means that the most cited sources, a group that plays a fundamental role in this study, are not necessarily the best qualitatively. Also, Seglen (1997) draws attention to the inaccuracies widely present in the ISI database and to the cultural bias that affects the selection of the sources included in this database. With regard to this concern, the quality control measures used in this study likely reduced to a minimum the impact of this limitation. At the same time, he draws attention to the fact

that different fields have different citation patterns, some using more citations than others, which makes comparisons between different fields from the point of view of citation patterns problematic. Still, since the fields chosen as a basis of comparison in this study are closely related to sport management, these differences are likely to be much reduced.

Finally, one other limitation comes from the way the three journals that represent the object of this study are selected. Besides the general scope of the journals representing the sample, the other criterion used to determine this sample is the ability to access them using databases like ISI Social Sciences Citation Index or Scopus. However, the journals available through these databases also tend to be considered by the scientific community as qualitatively superior (Shilbury & Rentschler, 2007), which means that the studies that rely on electronic databases will tend to be representative of research that is viewed in the respective field (sport management, in this case) to be of higher quality, not of the entire research in the discipline studied. Consequently, the reader should interpret the conclusions of this project with this qualification in mind.

Still, these limitations are unlikely to have too large of an impact on the overall conclusion of this study. And if this is the case, the logical step is to consider the ways in which a higher level of convergence can be achieved. While eschewing Pfeffer's (1993) heavy handed solution that calls for a tighter control of the field by the academic elites, three solutions come to mind. First, graduate education in sport management should encourage and foster not just the effort of producing new theories, completely isolated from those of predecessors. Graduate students should be encouraged not just to bring new ideas from parent disciplines, but also test existing ones. Second, editorial policy, an

important factor in citation patterns, could be tailored to stimulate major debates in the field by giving more visibility to articles that are linked to previous contributions. Finally, a greater awareness of the advantages of a coagulated field could provide a beneficial balance to the numerous calls for constant renewal. Understanding the need for great debates, that bring together large number of researchers, could change the dynamics of the field from the constant effort to renew the field, to the need to consolidate it. In this respect, this study is a modest initial step.

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