Tian, E and Wise, NA

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An Atlantic Divide? Mapping the Knowledge Domain of European and North American Based Sociology of Sport, 2008–2018

Enqing Tian
Shanghai Normal University

Nicholas Wise
Liverpool John Moores University

Abstract: The sociology of sport has become a burgeoning subdiscipline in the 21st century. To assess knowledge domains and the status quo of the field in Europe and North America, this study uses CiteSpace (a bibliometric visualization software) to analyse 870 academic articles published in the *International Review for the Sociology of Sport*, *Journal of Sport & Social Issues* and *Sociology of Sport Journal* from 2008-2018. By mapping/examining core contributors, keywords, high citations/cited-authors, major clusters and citation bursts, the findings echo John W. Loy's 'risk of critical mass' calling for various citation analysis approaches. The study expands Jon Dart and Ørnulf Seippel's recent topic model studies on subdisciplinary development in recent decades, contributing to informed discussions of geographical politics and research directions in the field. The scale and scope of this analysis is highly generalizable to assess pre-existing state-of-the-art research on the sociology of sport.

Keywords: sociology of sport; knowledge domains; scientometric analysis; CiteSpace; Europe; North America

Introduction

In the 19th/20th centuries, modern sports developed along self-reinforcing path-dependent mechanisms and social contexts separately in Europe and North America (Van Bottenburg, 2013). This notably caused many fundamental differences in patterns of sport, such as organizational arrangements with respect to sport participation and professional sport competition (Nafziger, 2008). Guttmann (2001) argued the particular configuration of sport culture on both sides of Atlantic might be a clue to different cultural/social characteristics including insight on collectivism in Europe and individualism in North America.

Based on relationships between sport, culture and society (Dart, 2014), the sociology of sport has been seen as one of 'the liveliest and most fruitful' sport subdisciplines (Dunning, 2004:17), developing with geographical distributions of politics, concerning knowledge and language (Malcolm, 2012). Although 'knowledge does not develop in a vacuum' (Malcolm, 2014:17) it is important to assess Atlantic differences between Europe and North America, as there does exist different social and cultural configurations that comparative research can discover (Malcolm, 2014). For example, such a divide exists when looking at research on business strategy where Baum (2011) found methodological differences, with North America being more 'objectivist' and Europe more 'subjectivist'. In 'European Union' studies, Jensen and Kristensen (2018) applied a quantitative content analysis and found meta-theoretical, subdisciplinary, epistemological and methodological differences (at varying levels) between

Europe and North America.

There is also need to consider if the sociology of sport knowledge domain has developed with wide-ranging discrepancies? Ingham and Donnelly (1997) developed a sociological analysis of the subdiscipline in North America to identify some changes surrounding popular theoretical approaches. Weiss (2004) outlined the status quo and future of the subdiscipline in Europe, suggesting that new scientific orientation and research have evolved. More specifically, Malcolm (2012) pointed out that 'there were important differences between the development of the sociology of sport' (33), but also compared the field of physical education and sociology to interpret the reasons behind subdisciplinary emergences with (different) power balances/social networks. Although research exists, none has systematically compared subdisciplinary knowledge domains.

The sociology of science shows that researchers who achieve in a certain field add to existing works by past/foundational authors—based on citations to show disciplinary knowledge domains (Harker and Adam, 2018). Furthermore, as the main formal medium for academic communication, academic articles published in peer-reviewed journals are the 'life-blood' of the discipline. Increasingly, papers on sport and social issues based on sociological theory/methods construct valuable subdisciplinary 'foot prints', investigated to ascertain patterns of disciplinary growth and advent various thoughts.

Since the 1970s, scholars have narrated and tracked sociology of sport research patterns (e.g. Snyder and Spretzer, 1974; McPherson, 1975; Ingham and Donnelly, 1997; Weiss, 2004; Dunning, 2004; Harris, 2006; Silk and Andrews, 2011; Malcolm, 2012; Malcolm, 2014; Pike et al., 2015; Jackson, 2015; Yong, 2016). These studies have mapped the evolution of subdisciplinary knowledge to qualitatively present self-examinations of how the field was socially constructed (Malcolm, 2014). Nevertheless, most previous state-of-the-art reviews not only present subjective selection, but also feature particular impressionistic assessments (Malcolm, 2012; Malcolm, 2014). Presenting a relatively objective, quantitative, empirical assessment on the field, Loy (1979) bibliometrically analysed productivity patterns of 100 North America-based contributors and considered that the subfield confronts a lack of 'critical masses'. He suggested that further studies should revolve more on publication quality 'by employing various methods of citation analysis' (Loy, 1979: 111). Other contributors analysed sociology of sport articles published in *International Review for the Sociology of Sport* (IRSS), *Journal of Sport and Social Issues* (JSSI) and/or *Sociology of Sport Journal* (SSJ) using content analysis (e.g. Coakley, 1987; Heinemann and Wiebke, 1990; Dart, 2014; Tian and Qiu, 2016; Seippel, 2018). Dart (2014: 664) used term coding and the text-mining software *Wordle* (a product of IBM) to compare major theme distributions, looking at different sports and countries published in IRSS, JISS an SSJ, offering 'the first large-scale assessment of the sociology of sport as represented in three of its leading journals'. Seippel (2018) later applied topic models to examine similar large-scale data from IRSS, JSSI and SSJ—systematically mapping dominant topics as well as comparing different trends to offer a complete picture of research in these journals.

The use of scientometrics to compare sociology of sport knowledge domains between Europe and North America offers an additional perspective to inform critical evaluations of published literature. This research intends to assist both established and new researchers identify new gaps in the sociology of sport knowledge domain. Scientometrics allow researchers to identify not only core contributors and highly cited-authors, but keywords, major clusters and citation bursts (including co-occurring/bursting keywords and high/bursting co-citations) so that future research not only builds on key literature, but helps scholars clearly identify gaps so new contributions (including PhD research) can further explore essential knowledge to fulfil these gaps—to impact on the progress of/for the subdiscipline. As a newly evolving interdisciplinary area of science, mapping knowledge domains help expand co-citation-based methods to visualize the process of 'charting, mining, analysing, sorting, and displaying knowledge' (Shiffrin and Börner, 2004: 5183). Bibliometric quantitative analyses (e.g. co-citation analysis or co-occurrence analysis) challenge researchers to explore intellectual landscape structures to assess empirically different sociology of sport knowledge domains between Europe and North America, to position the 'state-of-the-field'. Therefore, this paper echoes Loy's (1979) considerations and expands on Dart's (2014) and Seippel's (2018) findings.

In this study we use CiteSpace (a freely available java software), developed by Chen (2016), to explore and visualize scientific domains to seek and compare the Atlantic divide. It must be noted that no studies have echoed Loy's 'risk of critical mass' calling for various citation analysis approaches, nor have previous studies systematically compared subdisciplinary knowledge domains geographically. While the geographical element is unique in our analysis, the basis for such a comparison is not only about seeking differences—but also identifying/mapping subdisciplinary development in last decade. As noted, the internationally recognized journals with established reputations (with recognized impact factors) are in Europe and North America, which forms the precondition/basis to compare both sides of the Atlantic. Thus, from a methodological standpoint, there is a need to use scientometrics to map sociology of sport knowledge domains between Europe and North America, and CiteSpace helps us and challenges us to explore this gap. Using scientometrics, this paper seeks to uncover the following:

- Which main institutions have contributed to the subdisciplines development?
- Which topics/themes have emerged as hot-spots or dynamic research trends, similar or different to Dart's (2014) and Seippel's (2018) findings?
- Whom are the influential authors contributing to the base of knowledge?
- Which papers/books are impactful publications in the field?
- How are co-citation clusters distributed/dominated on both sides of the Atlantic?

Seippel (2018) was conscious of the special status of academic descriptions, based on the use of limited data. However, this study is a 'premise' for discussing some grander and/or consequential questions on 'how/why we got here, strengths and weaknesses of the situation, and where to head from here' (Seippel, 2018: 18). This is where using CiteSpace helps us develop understandings and recognize research trends and gaps.

Methodology

Mapping knowledge domain software

Scientific knowledge visualization explores visual representations about the creation of/spread of knowledge (Eppler and Burkhard, 2008). Meanwhile, this approach offers a way to acquire recent developments and future orientations of a field (Chen, 2006). It has drawn a great deal of attention to various computer tools to enable domain analysis efficiently, such as CiteSpace, SciMAT, and HistCite, each popular for analysing scientific development processes and structural relationships. Comparatively, CiteSpace helps achieve increasingly complicated science visualization to improve interpretability when seeking vital trends and pivotal knowledge structures (Ping et al., 2017). Researchers can set parameters, including time slice, nodes, and thresholds (Chen, 2016).

CiteSpace has been used to visualize science and technology (Liu, 2013), geography (Wang and Liu, 2014; Wei et al., 2015), social commerce (Cui et al., 2018a) and organizational culture (Cui et al., 2018b). However, CiteSpace has not been used to analyse/compare rapidly expanding sociology of sport literatures. Additionally, CiteSpace can map co-occurrence networks by two-dimensional presentations using a statistical approach to show relationships among items being investigated (Ping et al., 2017). The latest version, CiteSpace5.4. R1 (64bit) is used to map/explore sociology of sport knowledge domain characteristics on both sides of the Atlantic. This is done by analysing document clusters and citations bursts in the networks to present significant milestones.

Data Collection/Processing

Domain visualizing analyses involve three main data collection steps. Prior to commencing the study, it is important to choose specific research to analyse with CiteSpace. While sociology of sport research has expanded, Dart (2014: 648) notes IRSS, JSSI and SSJ are the three 'leading, international journals whose remit centred on the *sociology of sport*', with 2018 impact factors of 1.771, 1.308 and 1.418 respectively. While *Sport in Society* and *European Journal for Sociology of Sport* also serve the subdiscipline, they have only been indexed in ISI Web of Science (WOS) since 2015 (which is only the last few years of this paper's study period). Therefore, to achieve the aim of mapping the subdisciplinary development between Europe and North America from 2008-2018, IRSS, JSSI and SSJ, the three leading/international journals serving the sociology of sport were assessed. Furthermore, as one of the most comprehensive and robust bibliographic databases, WOS offers access to high-quality refereed journal articles resources. While some limitations in WOS data exists - for instance, it cannot index all publications globally compared to Google Scholar - it is viewed a desirable data source for bibliometric researchers based on quality, rigour and scientific impact (Van Leeuwen, 2006).

Due to CiteSpace requirements, the next step involved searching for related articles from the three journals using WOS. To eliminate data 'noise', the type of publication was specifically 'articles' to filter out editorial material, research notes and book reviews. The search query used was 'Publication Name = (International Review for the Sociology of Sport OR Journal of Sport & Social Issues OR Sociology of Sport Journal)'. Timespan 2008-2018 was set because pre-2008 IRSS publications were not available in WOS. With language set to 'English' and

document type set to 'article', institution affiliations regions/countries were calculated based on the first author's address; the record contents were defined as 'full record and cite references'. Of the 987 full bibliographic records, 870 (446 Europe and 424 North America articles) were downloaded and saved the file format as 'plain text' named 'download EU/NA name.txt'. Then the retrieved results were exported to CiteSpace for merging the similar institutions (e.g. 'Leeds M Univ(ersity)' merged with 'Leeds Beckett Univ(ersity)'), keywords (e.g. 'youth sport/people' merged with 'youth'; 'soccer', 'footballer' merged with 'football'; 'globalisation' merged with 'globalization') and authors (e.g. Andrews D merged with Andrews DL; Coakley JJ merged with Coakley J; Connell R merged with Connell RW).

The last major step was map processing and setting parameters. Based on the bibliographic record information, the identified eleven-year timespan was set to one-year time slices (dividing the timespan into 11 one-year slices). CiteSpace can generate co-citation networks from articles for each year; then we integrate a co-citation (time series) analysis for all 11 years to show synthesized networks (Chen, 2016). Four nodes were set to conduct the analysis: institution, keyword, cited author, and reference. All nodes set as 'threshold selection=Top 50 per slice' (CiteSpace will select the 50 most cited or occurred items from each slice to map a network) and 'pruning choice=Pathfinder and Spanning Slice network' (to remove excessive links systematically making maps clearer). Four pairs of networks are generated, including institution corporation network, keyword co-occurrence network, author co-citation network and document co-citation network.

Node thickness and labels in maps are proportionate (by frequency). Links between nodes reflect the cooperative, co-word or co-cited relationships established by two or more items (Chen, 2016). Different colours from light grey to black indicate temporal orders presenting publication time: 2008-2018 (Figure 1). The frequency and Freeman's betweenness centrality (BC), as important indexes in the analysis of social network, help partially assess the contribution and influence/position of node in the network and research influence. The BC is defined by the Equation:

$$Centrality \ (node \ i) = \sum_{i \neq j \neq k} \frac{\rho jk(i)}{\rho jk}$$

ρjk is the number of shortest paths between node j and node k, and $\rho jk(i)$ indicates the number of those paths passing through $node \ i$ (Chen, 2006).

'Citation burst' is another significant indicator. The burst frequency during a period shows a specific duration occurring, or an abrupt change. With burst-detection algorithms, Citespace can identify emergent keywords/articles with extraordinary degrees of attention from its scientific community even before attracting sufficient citations (Chen, 2016). Therefore, using burst-detecting, this study grasps some research fronts or emerging trends from the keywords and co-citation networks. Here, CiteSpace offers precise ways of identifying groupings, using the clustering function (Chen, 2016) to reveal underlying intellectual structures and clusters.

| 2008 | 2011 | 2014 | 2018 |

Figure 1. The spectrum of colours corresponding to years 2008–2018.

Results

Analysis of core contributors

Looking at the node type, 'Institution', there are 54 nodes and 29 links in the network of Europe with a density of 0.0203, and 44 nodes and 27 links exist in North America with a density of 0.0285 (Figure 2). Table 1 shows the top-five institutions based on the total publication (TP) and cooperative network BC in Europe and North America. Mapping the number of academic outputs shows concentrated university research strength. Examining both networks shows Europe has lower density than North America, suggesting the latter has more corporative relationships between institutions, which helps confirm Malcolm's (2012: 24) point that North America has 'the strongest networks for sociologists of sport'. Additionally, because co-authors come from different continents in one paper, a number of transcontinental cooperation links can be found, for instance with Toronto University, University of Alabama in Europe's network and University of Otago, Glasgow Caledonian University, York University and University of Bath in North America's network.

With regard to the important institutions, in Europe, except for Norwegian School of Sport Science, most (core) institutions are UK-based, such as Loughborough University, Leeds Beckett University, University of Brighton and Durham University (showing more research productivity). Particularly, Loughborough University is the centre for sociology of sport with its strong contribution and influence—evidenced by TP and BC ratio. Edge Hill University have the second highest BC in Europe, followed by Norwegian School of Sport Science, University of Hull and Leeds Beckett University with higher BC. Notable clusters of academics conducting sociology of sport research are based at these institutions (Horne and Malcolm, 2016). In North America, Canada is located in the centre of the network; many productive Canadian institutions are emerging, including University of Alberta, University of British Columbia, University of Ottawa and University of Toronto, each with high TP. University of Alabama with relative high TP and University of Maryland with high BC are (core) USA institutions in North America.

Specific authors greatly contribute to the field work in these research-intensive universities and teaching-centred institutions. Except for Leanne Norman from Leeds Beckett University, who contributed over four articles to the three journals from 2008-2018, most core authors are from Loughborough University, including Joseph Maguire, Alan Bairner, Jamie Cleland and Dominic Malcolm, who have each contributed over four articles. In North America, Jay Scherer (University of Alberta), Brian Wilson (University of British Columbia), Andrew C. Billings (Clemson University), David L. Andrews (University of Maryland) each contributed over three articles from 2008-2018. Most author affiliations are in England, USA and Canada, indicating geographical distributions of power and language politics in the field (Malcolm, 2012). Such dominant journals publishing in the English language suggests 'linguistic imperialism' (Pike et al., 2015), which can threaten global distributions/contributions of sociology of sport

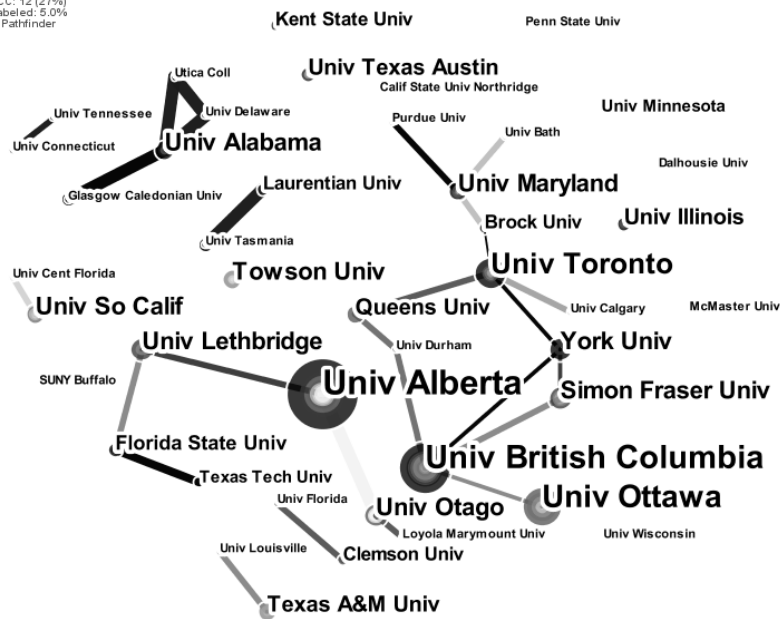knowledge domains based on fundamentally uneven development.
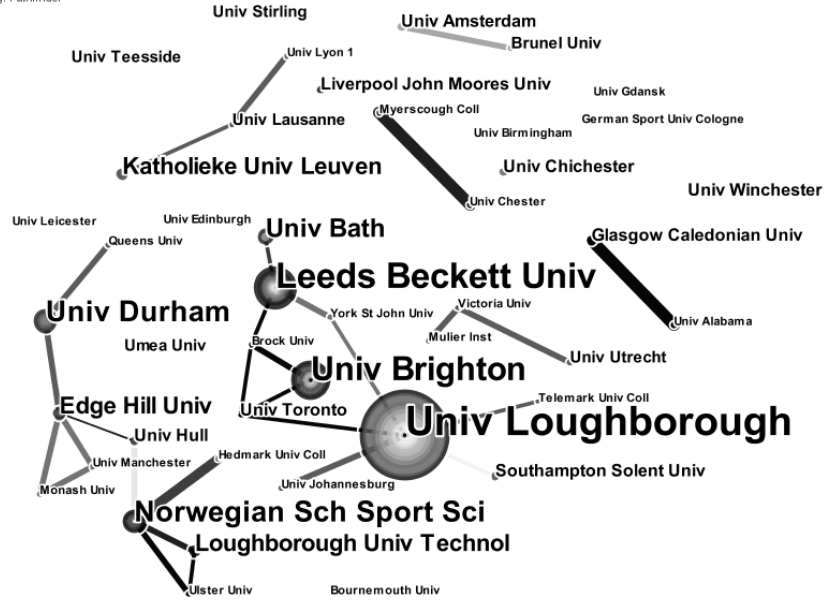
Figure 2. Institution corporation network for sociology of sport in Europe (top) and NA (bottom), note that universities outside Europe or NA included in each map are based on paper collaborations.

Table 1. Top 5 core institutions according to TP and BC in Europe and NA.

No.	Europe		NA	
	TP	BC	TP	BC
1	Univ Loughborough 47	Univ Loughborough0.05	Univ Alberta 21	Univ Toronto 0.08
2	Leeds Beckett Univ 23	Edge Hill Univ 0.03	Univ B Columbia 18	Brock Univ 0.05
3	Univ Brighton 20	Norwegian SSS 0.03	Univ Toronto14	Univ Maryland 0.04
4	Univ Durham 14	Univ Hull 0.03	Univ Ottawa12	York Univ 0.04
5	Norwegian SSS 14	Leeds Beckett Univ 0.01	Univ Alabama 8	Univ B Columbia 0.03

Note: *TP = total publication; BC = betweenness centrality; Univ=University; SSS=School of Sport Science.*

Analysis of Co-occurring/Bursting Keywords

Keywords 'act to essentialise and compartmentalise the research carried out and reported' in a publication (Dart, 2014: 651). Moreover, keywords are pivotal for generalizing/refining publications—therefore, co-occurrence (co-word) analyses can describe interactions among keywords to identify changing trends/directions and research 'hot-spots' (Chen, 2006). Next, the CiteSpace node 'Keyword' generated a co-occurrence network (Figure 3). Table 2 presents the top 10 keywords based on the total frequency (TF) and BC.

Similar to Dart's (2014) findings, there is consensus among 'top 10' keywords in both Europe and North America. Common research hot-topics, such as gender, identity, body, politics (including power) and masculinity, feature not only based on TF, but also with large BC ratios. Gender and masculinity continue to gain popularity, even though prior studies note that the study of masculinities in the UK remain relatively underdeveloped compared to North America (Young, 2016). Studies focusing on identity, politics and body are prominent in both Europe and North America. This indicates researchers from both continents are engaged in 'classic sociological traditions', exploring 'how power and ideology are manifested in difference an inequality' (Dart, 2014: 662). Although culture shows high TF in Europe, Seippel (2018) argues culture as a 'clear frontrunner' with high citation frequency including subthemes, such as body, football and gender. 'Media' is another noted topic with high TF, in both Europe and North America, but displays low BC, suggesting sport media is an important topic but without central positions like gender or race. Unlike Dart's (2014) finding, 'psychology' is no longer popular on both sides of the Atlantic.

Considering TF topics 2008-2018, Seippel (2018: 17) witnessed 'more general and vague topics are becoming less popular'. With regard to different trends during this period, comparing TF from 2008-2013 shows sport (84 of 145), gender (38 of 52), identity (34/60), body (17 of 31) raised in Europe from 2014-2018. Likewise, media (19 of 24), women (20 of 22), musicality (20 of 32), culture (23 of 33), race (14 of 23) increased quickly. Nevertheless, politics (11 of 23) kept stable. In North America, the TF of sport (91 of 167), politics (24 of 42), identity (22 of 38), and media (28 of 48) had increased slightly. Research on women (26 of 53), masculinity (17 of 33) and culture (6 of 11) kept relatively stable; but race (28 of 61), gender (37 of 78), and body (14 of 34) decreased slightly over five years.

Dart (2014) noted football is prevalent in these three journals. It has the second highest TF in

Europe (without American/Canadian football studies), and a smaller TF number in North America, but with higher BC (including three articles on American/Canadian football, Gilbert, 2018; Renfrow et al., 2016; McLeod et al., 2014). 'Football studies' is particularly notable in the UK where football hooliganism studies play an important role in scholarly development (Horne and Malcolm, 2016). Related to the following sections, Elias, Dunning and Giulianotti have written extensively on hooliganism and sociology of football (Seippel, 2018). Related to Seippel (2018), Europe (49 of 79) and North America (15 of 23), excluding the three articles on American/Canadian football, continued a rising trend from 2014-2018.

There exists difference among some important topics between the two networks. Notable, is Europe's focus on globalization, but this TF (7 of 25) has decreased in the past five years. This is opposite to Seippel's (2018) findings that globalization research increased. Here, globalization decreased in North America with a TF of 11, appearing nine times from 2008-2012, and then only twice post-2014. Despite bursting co-citations on athletic labour migration in Europe from 2013-2014 (Elliott and Maguire, 2008), the longest bursting keyword in North America from 2008-2012 was globalization (see below). Furthermore, topics on youth and participation show high BC among Europe-based keyword networks because such research not only concerns youth sport 'participation', but also various social, individual and/or group 'participation' in sport and physical activity, viewed by Giulianotti (2011) as a 'social fact'. Such research involves issues on politics and identity, body and health, social capital and sport for development and peace (SDP).

Looking at North America, topics about physical activity and neoliberalism feature strongly compared to Europe. North America research increasingly discussed sport/physical activity and individual/collective wellbeing (which is topical to avert given health concerns/problems). Linked to people's everyday lives, physical activity is a vehicle for exploring obesity, gender, youth, age, health and Physical Cultural Studies (PCS) (Esmonde and Jette, 2018). Therefore, it is unsurprising that more studies focus on neoliberalism given capitalism/consumer-oriented sport systems (Montez de Oca, 2016). There is a popular assumption that human wellbeing is advanced by liberating individual entrepreneurial freedoms, involving free markets and free trade (Andrews and Silk, 2012).

Figure 3. Keyword co-occurrence network on sociology of sport in Europe (top) and NA (bottom).

Table 2. Top 10 Keywords according to TF an BC in Europe and NA.

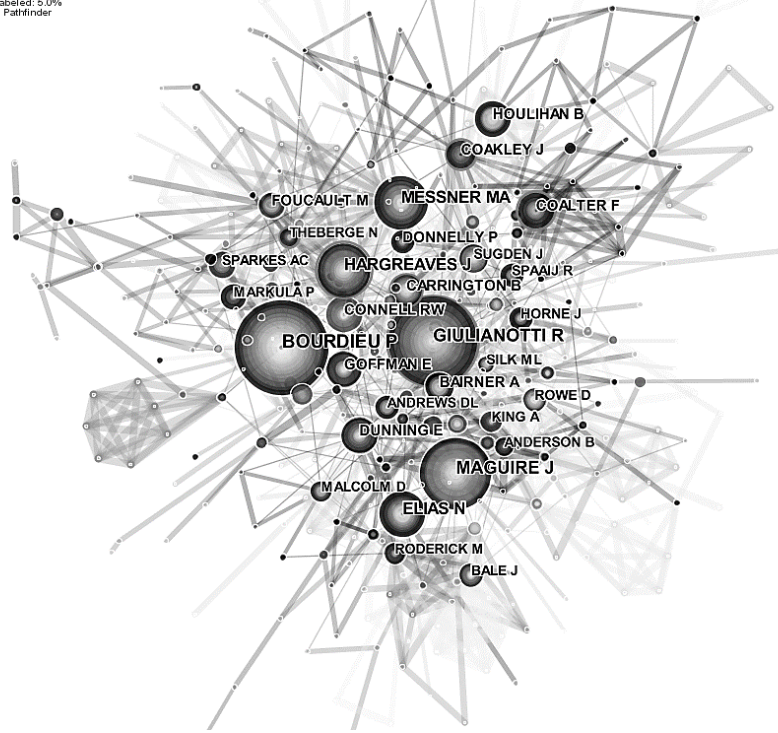| No.	Europe		NA	
	TF	BC	TF	BC
1	sport145	gender0.22	sport 167	identity0.26
2	football79	sport0.17	gender 78	politics0.21
3	identity60	body0.17	race 61	race0.18
4	gender52	masculinity0.16	women 53	masculinity0.16
5	culture33	youth0.16	media 46	physical activity0.16
6	masculinity32	participation0.16	politics 42	sport0.14
7	body31	race0.15	identity 38	gender0.13
8	media25	politics0.14	body 34	body0.13
9	globalization 25	identity0.13	masculinity 33	football0.13
10	Politics/race23	power 0.11	football 26	neoliberalism0.11

Note: *TF = total frequency; BC = betweenness centrality.*

Bursting keywords are crucial indicators of emerging tendencies and levels of attention put on particular topics (Chen et al., 2010). Tables 3 and 4 show keywords that represent citation bursts. The time when a busting keyword was tested, it is represented with a black segment, indicating the burst duration period. Of the listed keywords, six were detected as strong citation bursts (as emerging topics) in Europe. Narrative was an important qualitative method with the longest duration from 2009-2014. Even if women didn't have as high TF in North America, it had the biggest influence degree, followed by identity, sociology of sport, fan and feminism. Four keywords had strong citation bursts in North America, with sociology of sport the strongest, globalization with the longest duration, game and social movement with different bursting periods. It is likely that 'sociology of sport' was a common bursting keword on both sides of the Atlantic 2014-2015, beacuse it was the International Sociology of Sport Association's 50th anniversary. A special issue on 'assessing the sociology of sport' concerning the subdicsiplines development was published in IRSS (Pike et al., 2015).

Table 3. Detected Keywords with the Strong Citation Bursts in Europe.

Keywords	Strength	Begin	End	2008 - 2018
narrative	3.3419	**2009**	2014	
feminism	2.7146	**2011**	2012	
identity	3.6914	**2012**	2014	
sociology of sport	3.0085	**2014**	2015	
women	3.8876	**2015**	2016	
fan	2.8774	**2016**	2018	

Table 4. Detected Keywords with the Strong Citation Bursts in NA.

Keywords	Strength	Begin	End	2008 - 2018
globalization	2.957	**2008**	2012	▆▆▆▆▆ ▃▃▃▃▃▃
social movement	2.8517	**2014**	2015	▃▃▃▃▃▃ ▆▆ ▃▃▃
sociology of sport	3.2947	**2015**	2015	▃▃▃▃▃▃▃ ▆ ▃▃▃
game	2.5948	**2017**	2018	▃▃▃▃▃▃▃▃ ▆▆

Analysis of Author Co-citation

To identify potential specialties and critical mass formation, author co-citation analysis (ACA) helps identify and visualize intellectual disciplinary structures by counting frequencies (Chen et al., 2010). ACA involves the node 'Cited Author' in the software, which generates author co-citation networks (see Figure 4). Table 5 shows the top ten highly co-cited authors based on TF number and detailed BC ratio.

Dart (2014) identified Bourdieu and Foucault as popular theorists, and Seippel (2018: 3) commended Bourdieu 'as a leading star'. Bourdieu shows high BC ratio and the highest citations (appearing 92 times in Europe), twice-in comparison to North America. Norbert Elias (including Eric Dunning), influential figurational theorists, show relatively high BC and citation frequency, whereas Erving Goffman, Michel Foucault and Raewyn Connell are cited regularly in Europe. Foucault has the third highest number of citations (63) in North America, whose writings on discipline, punishment, power, discourse and technologies of self are widely used to analyze obesity (Rail, 2012) and sports association politics (Ceron-Anaya, 2010). Stuart Hall, a culture studies scholar, has also played an important role with a relatively high TF number in North America. Furthermore, David Harvey's work is influential in North America studies (with high TF). Norman K. Denzin's work on qualitative methodology displays high BC ratio (0.12), receiving much attention in North America. Overall, findings show North America-based researchers 'explicitly engage with social theory, the orientation is largely towards European theorists' (Malcolm, 2012:39-40).

Noted theorists show different citation frequencies over time (Figure 5). Bourdieu has similar inverted N-shape tendencies in both Europe and North America with decreases, then increases in the middle and again decreasing towards 2018. Foucault shows N-shape (Europe) and n-shape (North America) respectively. Raewyn Connell, a gender theorist, displays an M-shape in Europe and N-shape in North America. Goffman, who analyzes micro-sociological processes, shows U-shape results, sharing similar tendencies with Elias and Dunning—suggesting everyday social interaction thoughts and processing are becoming increasingly popular in Europe. Hall and Harvey are highly cited by the North America-based researchers, showing W-shape and a decreasing tendency, respectively (Hall peaked around 2009-2010). After Andrews (2008) appealed to develop PCS, this area displayed increasing frequency towards 2018.
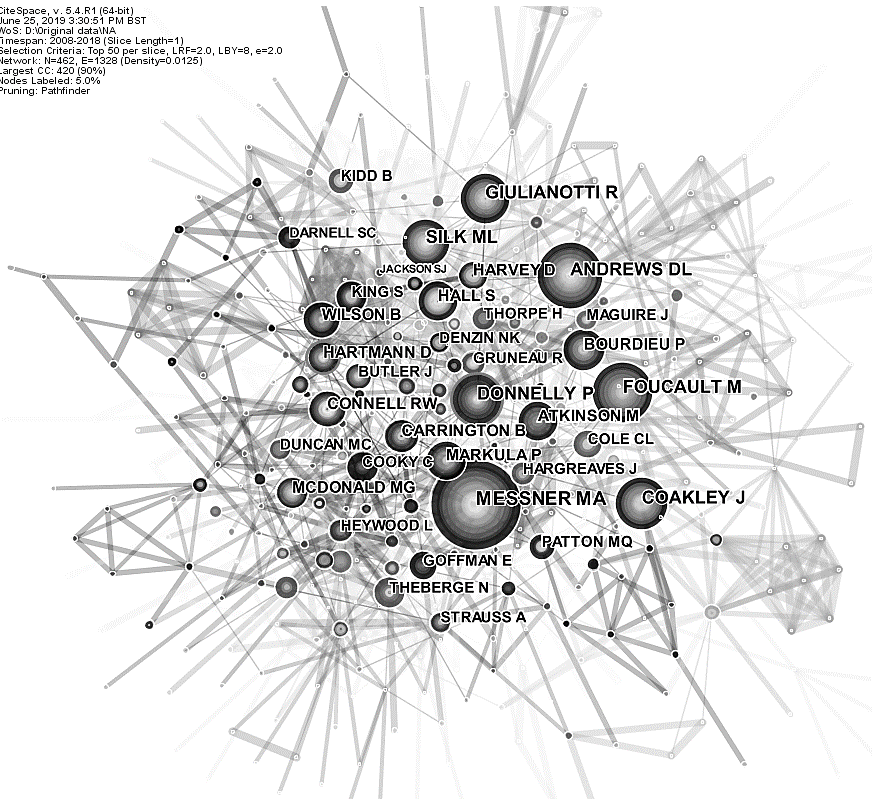
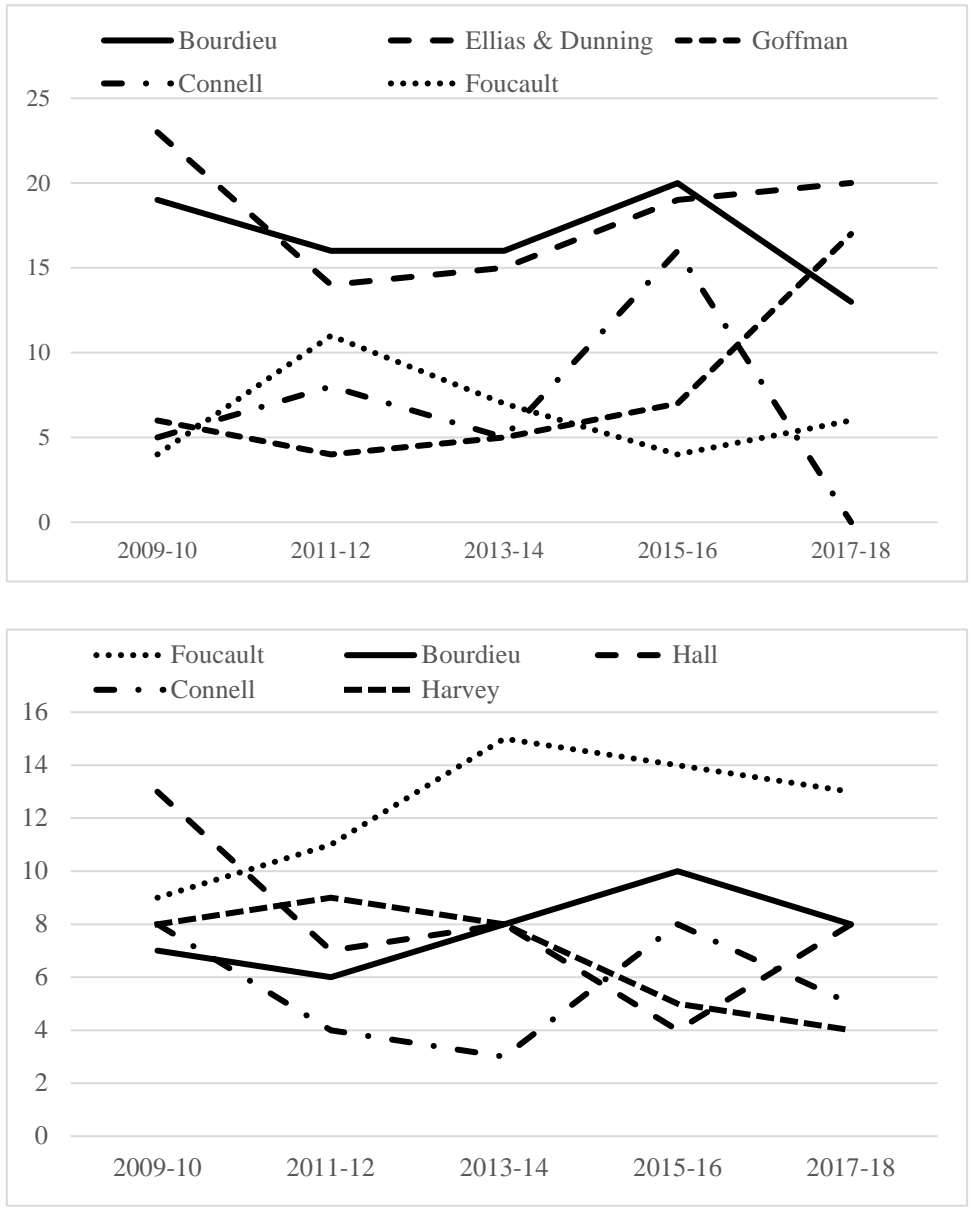*Figure 4. Author Co-citation network of sociology of sport in Europe (top) and NA (bottom).*

Figure 5. Frequency of high social theorists' co-citation in Europe (top) and NA (bottom) over time.

Table 5. Top 10 co-cited author according to TF and BC in Europe and NA.

No.	Europe		NA	
	TF	BC	TF	BC
1	Bourdieu P 92	Hargreaves J 0.15	Messner MA 85	Donnelly P 0.15
2	Giulianotti R 89	Andrews DL 0.15	Andrews DL 64	Denzin NK 0.12
3	Maguire J 72	Anderson B 0.14	Foucault M 63	Andrews DL 0.11
4	Messner MA 60	Donnelly P 0.12	Coakley J 55	Foucault M 0.11
5	Hargreaves J 58	Giulianotti R 0.11	Donnelly P 53	Birrell S 0.11
6	Ellias N 50	Messner MA 0.10	Silk ML 49	Coakley J 0.10
7	Dunning E 45	Elias N 0.10	Giulianotti R 48	Bourdieu P 0.10
8	Coalter F 45	Coalter F 0.09	Hall S 43	Carrington B 0.10
9	Goffman E 43	Dunning E 0.08	Bourdieu P 40	McDonald MG 0.10
10	Connell RW 39	Coakley J 0.08	Markula P 40	Griffin P 0.10

Note: TF=total frequency; BC = betweenness centrality.

Scholars influencing both sides of Atlantic, including Richard Giulianotti (UK), Michael Messener, David L. Andrews and Jay Coakley (USA), Peter Donnelly (Canada), show high citation frequencies or high BC ratios. Moreover, Joseph Maguire, Jennifer Hargreaves, Eric Anderson, Fred Coalter, and Alan Bairner (cited highly by Europe-based authors), Pirkko Markula, Wilson Brian, Michael L. Silk, Susan Birrell, Michael Atkinson, Douglas Hartmann, Ben Carrington, Mary G. McDonald and Pat Griffin (cited highly by North America-based authors) constitute critical mass and influence subdisciplinary development.

Seippel (2018) argues that theorists are associated with particular topics, such as Foucault being used to analyse cultural, politics, power and body; and Elias, Dunning and Giulianotti drawn on extensively in sociological analyses of football/soccer. Elias and Bourdieu have also had substantial impacts on critical body studies. Furthermore, Andrews, Silk and Atkinson suggest PCS can help solve crises rooted in kinesiology (Atkinson, 2011: 136). North America-based researchers reference Hall, further indicating that PCS is flourishing (Montez de Oca, 2016).

Analysis of High/Bursting Co-citation

It is important to look at past references in publications that inform the knowledge base (Chen, 2016). Document citation-based analysis helps examine more potential landmark publications and authors who influence the field, to catch emerging trends in a domain (Kim & Chen, 2015). In CiteSpace, with the node set to 'Reference', the software generated document co-citation networks. There are 18,809 valid references in the map of Europe with 412 nodes and 844 links, with a network density of 0.01 (higher than North America: 0.0093). In North America, 18,715 references with 445 nodes and 918 links exist. Table 6 lists the top five co-cited references based on frequency of citations and BC. This reveals different authors who share common interests, or group consensus, when arguing related points and citing the same works (Chen, 2016).

As shown, references with higher citation frequencies (with higher BC ratios) in the co-citation networks include critical analyses concerning the social role(s) of sport (Coalter, 2007) and

critical race theory (Hylton, 2009) in Europe, and new media and social movements (Wilson, 2007) in North America. Most representative references with large TF numbers, or high BC ratios, include Anderson's (2009) book on inclusive masculinity (with the second highest citied frequency), followed by Coakley (2011) and Coalter (2010) in Europe. In North America, Travers (2008) and Kidd (2008) display the highest TF, followed by Dworkin and Wachs (2009), and Markula and Pringle (2006).

Also noteworthy, references without large citation numbers but high BC ratios are regarded as remarkable works in sociology of sport (showing influential knowledge domain value). Kelly (2011) offered critical social policy insight on sports-based interventions; Cashmore and Cleland (2012) proposed viewpoints on fans, homophobia and masculinities in association football; and Clayton and Harris (2009) discussed metrosexual identity in sport media. Collectively, these publications offer critical insight for sport, gender and homosexuality studies in Europe. In North America, Darnell's (2012) SDP study, with critical sociological methods, has been widely cited. Referring to Harvey's (2005) work on neoliberalism, Andrews and Silk (2012) show the highest BC ratio (0.28), which means their sport and neoliberalism synthesis has much influence. Studies on digital activism and neoliberalism in sport youth (Wilson and Hayhurst 2009) and the theory of globalization (Ritzer and Ryan, 2004) are also influential in North America.

Table 6. Top 5 co-cited references according to TF and BC in Europe and NA.

No.	Europe		NA	
	TF	BC	TF	BC
1	Coalter (2007) 15	Coalter (2007) 0.30	Travers (2008) 11	Andrews (2012) 0.28
2	Hylton (2009) 12	Kelly (2011) 0.19	Wilson (2007) 11	Darnell (2012) 0.26
3	Anderson (2009) 12	Hylton (2009) 0.16	Kidd (2008) 11	Wilson (2009) 0.26
4	Coakley (2011) 10	Cashmore (2012) 0.16	Dworkin (2009) 10	Wilson (2007) 0.24
5	Coalter (2010) 9	Clayton (2009) 0.15	Markula (2006) 10	Ritzer (2004) 0.22

Note: *TF=total frequency*；*BC=Between Centrality*

Citation bursts demonstrate emerging significant citations within a certain timeframe in a co-citation network. Stronger bursts suggest higher attention on a cited publication—which better represents the front of a field (Chen, 2016). As an analytic method, burst-detection can spot cited publications with sharp citation increases during certain timeframes. CiteSpace generated several citation bursts in this study. Tables 7 and 8 show top references (with 9 and 10 burst publications observed in Europe and North America).

Comparing data in Tables 7 and 8, the earliest Europe citation burst during the investigated time is Maguire et al. (2002), presenting an in-depth look at the sociology of sport. References with strong values imply significant milestones. For instance, given SPD popularity, Coalter's (2007) book presents critical insight into the positive role of sport with the strongest strength from 2011-2014; rethinking the concept of hegemonic masculinity, Connell and Messerschmidt (2005) offer theoretical perspectives for studying gender and sport. A recent citation burst among Europe-based authors is Bryman's (2012) book on social research methods. Football

studies show hotpots in recent years. There are two bursting citations on football, from Millward's (2008) research on using E-zines as a data source for football fan studies and Roderick's (2006) insights into the precarious career and ordinary working culture of professional footballers.

Table 8 shows North America early citation burst on masculinities (Connell, 2005) emerging from 2008-2009. The newest citation burst is Coalter (2010), who explores policy rhetoric concerning the SPD movement. Markula and Pringle's (2006) book on Foucault and sport/exercise has the longest citation burst (five years) in North America. Other bursting citations on city sporting spaces (Silk, 2004) and geographies of gender, sexuality and race (Van Ingen, 2003), developments of gender policies in sport in relation to recent changes in transsexual rights legislation and gender identity activism (Sykes, 2006), qualitative research in sports studies (King, 2005), and new media and social movements (Wilson, 2007).

Noteworthy is theoretical perspectives on gender and masculinity from Connell and critical insights into the positive role of sport (SDP) from Coalter emerge in citation bursts on both sides on Atlantic. Foucauldian approaches on power, knowledge and transforming the self (Markula and Pringle 2006) and neoliberalism (Harvey, 2005) were more popular in North America, along with social research methods (especially qualitative methods) used to conduct research.

Table 7. Detected References with the Strongest Citation Bursts in Europe.

References	Strength	Begin	End	2008 - 2018
MAGUIRE J, 2002, SPORT WORLDS SOCIOLO, V0, P0	2.8357	2008	2009	
RODERICK M, 2006, WORK PROFESSIONAL FO, V0, P0	2.6571	2009	2011	
HYLTON K, 2009, RACE SPORT CRITICAL, V0, P0	4.244	2010	2012	
CONNELL RW, 2005, GENDER SOC, V19, P829	3.5659	2010	2013	
COALTER F, 2007, WIDER SOCIAL ROLE SP, V0, P0	4.7619	2011	2014	
SPAAIJ R, 2009, IRSS, V44, P247	2.9577	2012	2013	
ELLIOTT R, 2008, SSJ, V25, P482	2.6994	2013	2014	
MILLWARD P, 2008, JSSI, V32, P299	3.022	2014	2016	
BRYMAN A, 2012, SOCIAL RES METHODS, V0, P0	2.7234	2016	2018	

Table 8. Detected References with the Strongest Citation Bursts in NA.

References	Strength	Begin	End	2008 - 2018
CONNELL R, 2005, MASCULINITIES, V0, P0	2.8051	2008	2009	▬▬▬▬▬▬▬▬
HARVEY D, 2005, BRIEF HIST NEOLIBERA, V0, P0	2.6065	2010	2013	▬▬▬▬▬▬▬▬
SILK ML, 2004, JSSI, V28, P349	2.5624	2010	2011	▬▬▬▬▬▬▬▬
MARKULA P, 2006, FOUCAULT SPORT EXERC, V0, P0	2.5966	2010	2014	▬▬▬▬▬▬▬▬
KING S, 2005, QUALITATIVE METHODS, V0, P21	3.0788	2010	2011	▬▬▬▬▬▬▬▬
INGEN C, 2003, IRSS, V38, P201	2.5624	2010	2011	▬▬▬▬▬▬▬▬
SYKES H, 2006, WOMEN SPORT PHYS ACT, V15, P3	2.8331	2011	2013	▬▬▬▬▬▬▬▬
WILSON B, 2007, SSJ, V24, P457	2.8690	2013	2015	▬▬▬▬▬▬▬▬
COALTER F, 2010, IRSS, V45, P295	2.5555	2016	2018	▬▬▬▬▬▬▬▬

Analysis of Cluster

Based on document co-citation analysis, cited members of clusters help improve interpretations of intellectual bases. Prominent clusters with high numbers suggest intellectual milestones in a field of study (Chen, 2016). Assessing co-cited publication proximities in CiteSpace's landscape view, Figure 6 displays co-citation network clusters. The modularity of a network represents the extent to which a network can be decomposed to multiple components, or modules. The silhouette value of a cluster represents the degree of homogeneity of a clustering configuration, with values ranging from -1 to 1 (Chen, 2016).

In the results, both networks can be considered relatively high value with modularity of 0.844 and 0.8744, revelling clearly confirmed specialities among co-citation clusters; average silhouette scores (0.2705 and 0.3777) are relatively low because of numerous small clusters (Chen et al., 2010). Major clusters with sufficiently high silhouette values (>0.8) are considered in this study, with 14 significant Europe clusters and 18 North America clusters (see Figure 6). Clusters are labelled using a log-likelihood ratio (LLR) algorithm that extracts top-ranked terms from the abstract texts and assigns the best label with high uniqueness and coverage for each cluster (Song et al., 2016). It is important to note, members of each cluster represent the thickness of the label in the map proportionally.
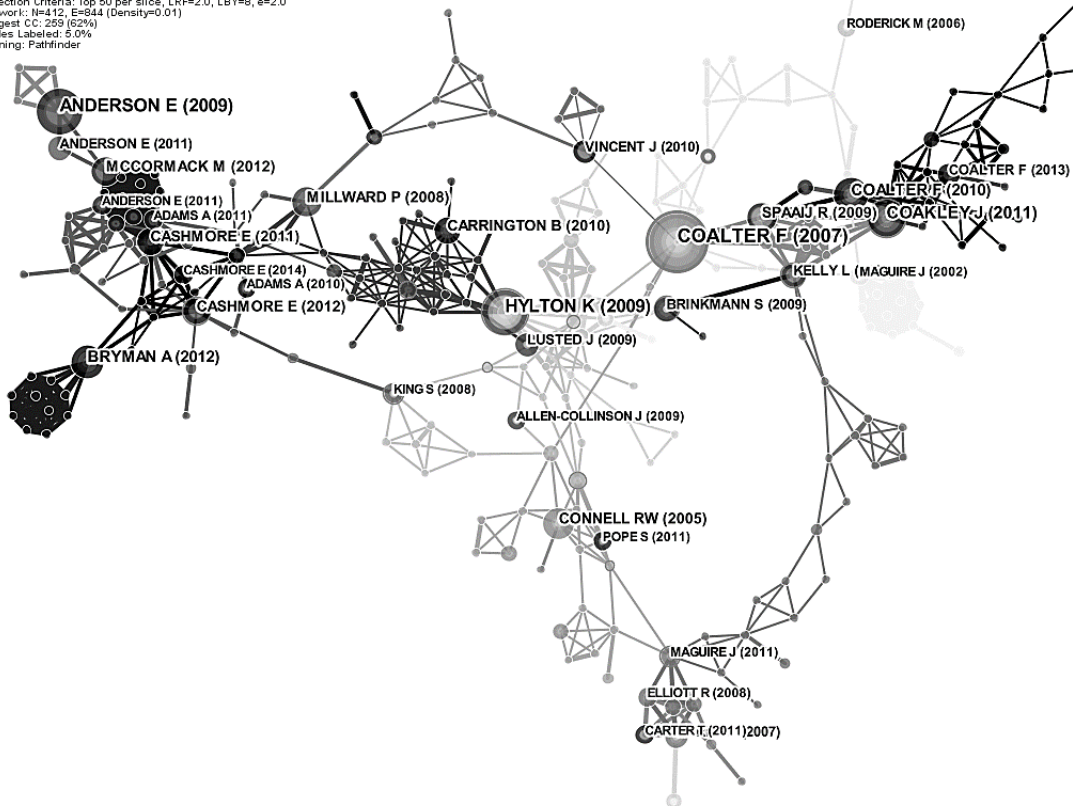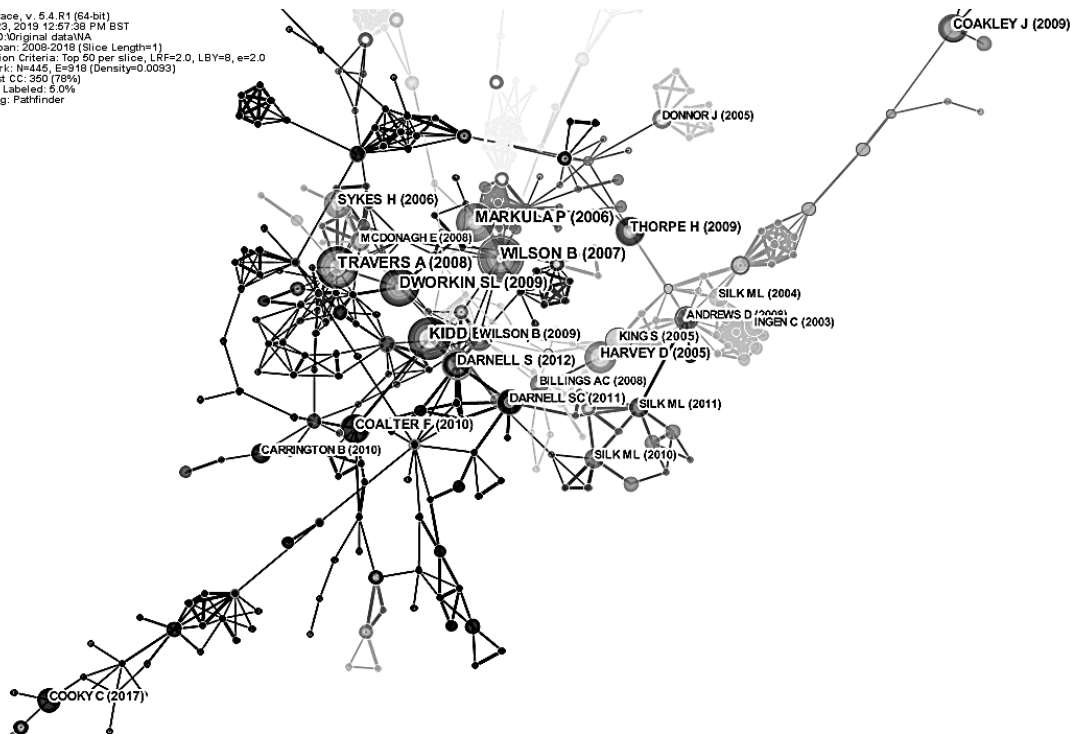
Figure 6. Document co-citation network on sociology of sport in Europe (top) and NA (bottom).

Figure 7 presents four clusters (#0, #1, #2 and #3) with more than 25 members in both Europe and North America. The biggest Europe cluster #0 on 'young people' has 39 members,

followed by cluster #1 'gay men', cluster #2 'sport coaching' and Cluster# 3 'FIFA world cup finals'. However, in North America, the biggest cluster #0 had 48 members, labeled as 'Lesbian Softball Leagues' which is included under the topic of homophobia in sport. Following is cluster #1 'international development', cluster #2 'ethical subjects' and cluster #3 'ecological modernization'.
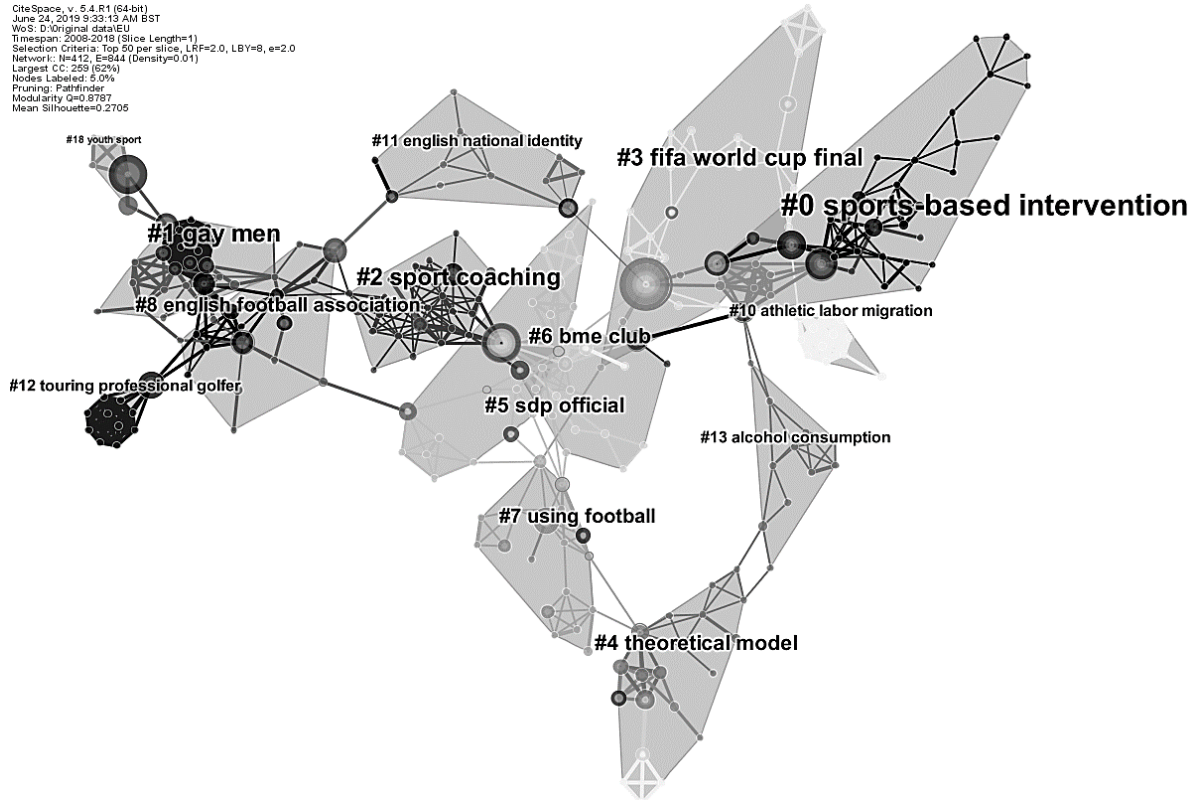
Several clusters contain similar topics in Europe and North America (see Table 9), including gender/masculinities, media, SDP, identity, globalization/migration, race, homophobia, alcohol and sport coaching studies. It is worth noting that SDP studies were burgeoning in recent years, including Europe cluster #0, #5, #7 and North America cluster #1, #9, #11, which indicates a broader debate that sociology of sport research must be 'politically and socially engaged' to keep its utility (Atkinson, 2015: 5).

Table 9 presents several differences. In Europe, youth sport study is included in cluster #0 and #14, and workplace culture in cluster #12 gained more popularity than North America. Furthermore, some clusters on soccer, like cluster #1, #2, #3, #7, #8, #11, were dominant in Europe. However, gender studies were more popular in North America, including cluster #2, #6 and #11 on women sport and cluster #14 and cluster #15 on men/ masculinity in sport. Media research got the same popularity including 5 clusters (#2; #6; #11; #12; #15) in North America. Other topics, such as cluster #3 on environmentalism, cluster #8 on PCS, cluster #10 on disability, cluster #18 on athlete abuse constituted a milestones in North America.

Table 9. Comparison of clusters between Europe and NA

Topic	Europe	NA
gender/masculinities	#7	#2; #6; #11; #14; #15
media	#3; #11	#2; #6; #11; #12; #15
SDP	#0; #5; #7	#1; #9; #11
identity	#2; #11	#4; #7
globalization/migration	#4; #10	#12; #13
race	#2; #6	#16
homophobia	#1; #8	#0
alcohol	#13	#5
sport coaching	#2	#7
football	#1; #2; #3; #7; #8; #11	
youth	#0; #14	
workplace culture	#12	
disabilities		#10
environmentalism		#3
athlete abuse		#18
PCS		#8

#18 youth sport

#11 english national identity

#3 fifa world cup final

#0 sports-based intervention

#1 gay men

#2 sport coaching

#8 english football association

#6 bme club

#10 athletic labor migration

#12 touring professional golfer

#5 sdp official

#13 alcohol consumption

#7 using football

#4 theoretical model

#6 women blogger

#15 male figure skater

#5 binge drinking

#12 new zealand

#18 narrative pedagogy

#16 post-undergraduate accomplishment

#7 sport coaching

#2 ethical subject

#13 israeli basketball

#14 mens sport

#10 paralympic movement

#0 lesbian softball league

#8 physical cultural studies

#1 international development

#4 flexible citizenship

#9 for-development program
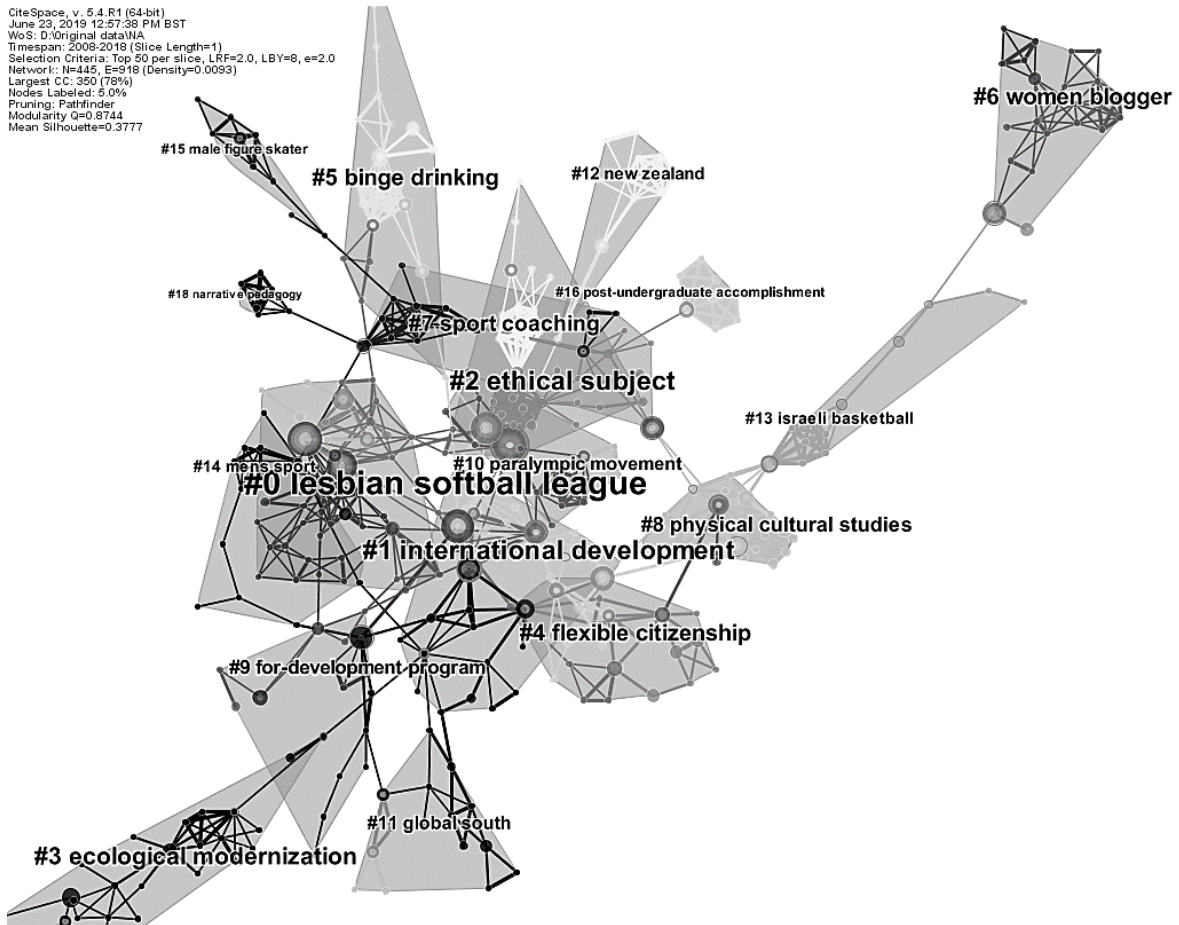
#3 ecological modernization

#11 global south

Figure 7. Landscape view of clusters on sociology of sport in Europe (top) and NA (bottom).

Discussion

Geographic factors are significant when considering research diversity, or fragmentation. Contributors featured in the results include many scholars from different universities in Europe and North America, where some tensions do increase between 'research' and 'teaching' within a prevailing neo-liberal atmosphere (Malcolm, 2012). Significant interactive impact on both sides of Atlantic exists, as many UK-born (sport) sociologists have contributed to the development of the subject in North America, such as Donnelly, Andrews, Carrington, Young and Silk; and many of North America-based researchers have extensive professional and personal connections with UK scholars. Loy (1979) previously argued sociology of sport studies need to confront barriers, including institution and industry formatting. Concerning critical masses, findings here suggest Europe's scholars (including Maguire, Bairner, Giulianotti and Malcolm at Loughborough University) and numerous North America-based scholars continue to be particularly influential in research landscape in recent years (including scholars from Australia and New Zealand). Both individual and collaborative studies within and across these intellectual 'critical masses' are significant to developing the academic subdiscipline.

Related to Dart (2014) and Seippel's (2018) topic studies, with the keyword co-occurrence analysis, there is a broad consensus in the main hot-topics, such as gender, masculinity, identity, body and politics, but with different trends on both sides of Atlantic. Football studies always attract most research attention, especially from Europe. Some Europe (burst) keywords were different from North America, which demonstrates separate research interests and preferences have been evolving in the two regions. Considering research orientations, many high/bursting co-citation and clusters are different and play prominent roles in different regions, with many similar themes, such as race, media, globalization/glocalization and SDP. The consensus here suggests more researchers are engaging in classic sociological issues—exploring how ideology manifests difference and inequality (Dart, 2014). Particularly, even if PCS reframes the field (Andrews, 2008; Atkinson, 2011), it can bring risks, such as reducing subdisciplinary distinctiveness (Malcom, 2012).

Malcolm (2012) argued that sociological theories that sport scholars engage with have been (and continue) to strongly inform the subdisciplines conceptual development. As noted above, European theorists are dominant in the field. Bourdieu's theory of practice and Connell's gender theory is popular on the both sides of Atlantic, but various preferences exist. For instance, Elias' figurational sociology and Goffman's analysis approach play more significant roles in Europe. Foucault's post-structuralism, Harvey's neoliberalism, Hall's culture analysis approach and feminism show more interest in North America. Regarding methodology, a shift from quantitative to qualitative studies in the subdiscipline (Malcolm, 2012; Dart, 2014) is supported partially by this study. Social approaches, in particular, qualitative research methods dominate both Europe and North America 2008-2018.

The knowledge domain features research diversity between Europe and North America. Although the most successful institutionalization has been achieved in North America, white

male (Anglosphere) contributors are predominant (Malcolm, 2018). However, diversity is still rooted in sociology of sport given international/national, global/local, theoretical/methodical and interdisciplinary/multidisciplinary perspectives. Each individual region has a unique social and political culture, making it somewhat different from other regions. For example, the present state of the Europe subdiscipline is 'characterized by heterogeneity and diversity' (Weiss, 2004: 7). In North America, the academic focus has diversified but the subdiscipline remains in a state of disunity (Montez de Oca, 2016). Consequently, the label of 'Atlantic divide', in a sense, becomes less meaningful in the knowledge domain of the subdiscipline.

The label/myth of the 'Atlantic divide' implies a dominant trend in the sociology of sport; that is, the subdiscipline deeply relates to geographical distributions of power and language politics (Malcolm, 2012: 157). Foremost North America-based journals include more localized editorial boards, authors and pattern of citations. For example, JSSI (USA-based), has one editor and five assistant editors (all from USA). JSSI contributors come from 31 nations, with 57% of authors in USA/Canada during 2008-2018. SSJ (USA-based) has an international editorial board with an American editor and assistant editors from North America, UK and Australia. SSJ contributors come from 30 countries, with 63% based in North America (2008-2018 publications). IRSS (British-based), shows the most international editorial group; only the editor and book/media review editor are UK-based, with six corresponding editors from South Africa, New Zealand, Brazil, Canada, Taiwan and USA. Authors come from six continents; still more than 63% are from Europe (294), but others from North America (128), Oceania (75), Asia (31), Africa (11) and South America (7) during 2008-2018. While this indicates IRSS is international, Wenner (2017) argues this extent is still too limited. Indeed, citation patterns suggest that most contributors cite publications mainly from their own region.

Concluding Remarks

Echoing Loy (1979), and adding to Dart (2014) and Seippel's (2018), this study offers a new lens into the 'state-of-the-field' in the sociology of sport knowledge domain. With a geographically comparative perspective, the citation-analysis-expanded approach and software help us visualise to descriptively explore potential institutions and research directions, concerning critical mass, landmark publications, hot-topics, high/bursting co-citation and major clusters influencing the sociology of sport knowledge domain. Each help us understand the diversity surrounding linguistic politics concerning the progress of the field (from 2008-2018). Given the influence WOS has on academia, we might partially investigate intellectual landscapes to empirically assess the development (and status quo) of a field of study—thus dispelling the 'Atlantic divide' myth. In short, the consensuses maintains common points of engagement for advancing the academic community and understanding within the subdiscipline. The current diversity/complexity of knowledge domains rooted in a field can be conserved as prominent features, which are on-going and couple with 'the energy and talents of active sport sociologists', to present 'a positive future' on both sides of Atlantic (Harris, 2006: 87).

The study has several limitations which, as Dart (2014) identified, should be addressed in future research. For instance, IRSS publications were not recorded in the WOS database before 2008.

Apart from three leading subdisciplinary journals, a wide range of journals can be selected due to more journals receiving articles on sport with sociological viewpoints. Even if academic journals are the 'life-blood of the discipline', they cannot solely represent an entire discipline when it comes to transferring and disseminating knowledge to wider audiences. While assessing the three-landmark sociology of sport journals offers crucial insight into research directions and knowledge domains emerging in the past decade, more inclusive analyses should be attempted in future.

Finally, such studies are a 'premise' for exploring grander or consequent questions (Seippel, 2018). Some questions to discuss in future analysis include: why do some institutions/authors dominate in the development of subdiscipline while others remain marginalized? Why do some topics/themes emerge or prevail but some topics such as class or psychology decline? Why do some theories and methods continue to significantly impact on the field? Moreover, it would be useful to map a wider knowledge domain that includes not only continents on both sides of Atlantic but also other regions (including Oceania, Asia, Latin America and Africa) to reflect the increasingly international character of the sociology of sport.

References

Anderson E (2009) *Inclusive masculinity: The changing nature of masculinities.* London: Routledge.

Andrews DL (2008) Kinesiology's inconvenient truth and the physical cultural studies imperative. *Quest* 60(1):45-62.

Andrews DL and Silk ML (2012) *Sport and neoliberalism: Politics, consumption, and culture.* Philadelphia: Temple University Press.

Atkinson M (2011) Physical cultural studies. *Sociology of Sport Journal* 28(1): 135-144.

Atkinson M (2015) Researching Sport. In: R. Giulianotti (ed) *Routledge Handbook of the Sociology of Sport.* London: Routledge, 8-17.

Baum JAC (2011) European and North American approaches to organizations and strategy research: An Atlantic divide? Not. *Organization Science* 22(6) 1664–1680.

Bryman A (2012) *Social research methods.* London: Oxford University Press.

Bury J (2015) Non-performing inclusion: A critique of the English Football Association's Action Plan on homophobia in football. *International Review for the Sociology of sport* 50(2): 211-226.

Cashmore E, Cleland J (2012) Fans, homophobia and masculinities in association football: Evidence of a more inclusive environment. *The British journal of sociology* 63(2): 370-387.

Ceron-Anaya H (2010) An approach to the history of golf: Business, symbolic capital, and technologies of the self. *Journal of Sport and Social Issues* 34(3): 339-358.

Chen C (2006) CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *Journal of the American Society for Information Science and Technology* 57(3): 359-377.

Chen C (2016) *CiteSpace: a practical guide for mapping scientific literature.* New York: Nova Science.

Chen C, Ibekwe-San Juan F and Hou J (2010) The structure and dynamics of co-citation clusters: A multiple-perspective co-citation analysis. *Journal of the American Society for*

information Science and Technology 61(7): 1386-1409.

Clayton B and Harris J (2009) *Sport and metrosexual identity: Sports media and emergent sexualities*. In: John Harris and Andrew Parker (eds) *Sport and social identities*. London: Palgrave MacMillan, pp.132-149.

Coakley J (1987) Sociology of sport in the United States. *International Review for the Sociology of sport* 22(1): 63-79.

Coakley J (2011) Youth sports: What counts as "positive development?". *Journal of Sport and Social Issues* 35(3): 306-324.

Coalter F (2007) *A wider social role for sport: Who's keeping the score?* London: Routledge.

Coalter F (2010) The politics of sport-for-development: Limited focus programmes and broad-gauge problems? *International Review for the Sociology of Sport* 45(3): 295-314.

Connell RW (2005) *Masculinities*. New York: Polity.

Connell RW and Messerschmidt JW (2005) Hegemonic masculinity: Rethinking the concept. *Gender & society* 19(6): 829-859.

Cui Y, Mou J and Liu Y (2018a). Knowledge mapping of social commerce research: a visual analysis using CiteSpace. *Electronic Commerce Research* 18(4): 837-868.

Cui Y, Li Y and Mou J (2018b) Bibliometric analysis of organizational culture using CiteSpace. *South African Journal of Economic and Management Sciences* 21(1): 1-12.

Darnell SC (2012) *Sport for development and peace: A critical sociology*. London: Bloomsbury.

Dart JJ (2014) Sports review: A content analysis of the International Review for the Sociology of Sport, the Journal of Sport and Social Issues and the Sociology of Sport Journal across 25 years. *International Review for the Sociology of Sport* 49(6): 645-668.

Dunning E (2004) Sociology of sport in the balance: Critical reflections on some recent and more enduring trends. *Sport in Society* 7(1): 1-24.

Dworkin SL and Wachs FL (2009) *Body panic: Gender, health, and the selling of fitness*. New York: NYU Press.

Elliott R and Maguire J (2008) Thinking outside of the box: exploring a conceptual synthesis for research in the area of athletic labour migration. *Sociology of Sport Journal* 25 (4): 482-497.

Eppler MJ and Burkhard RA (2008*) Knowledge Visualization*. In: Murray Jennex (Ed.), *Knowledge Management: Concepts, Methodologies, Tools, and Applications*. Hershey PA: IGI Global, pp. 781-793.

Esmonde K, Jette S (2018) Fatness, Fitness, and Feminism in the Built Environment: Bringing Together Physical Cultural Studies and Sociomaterialisms, to Study the "Obesogenic Environment" *Sociology of Sport Journal* 35(1), 39-48.

Gilbert DA (2018) The Gridiron and the Gray Flannel Suit: NFL Football and the Modern US Workplace. *Journal of Sport and Social Issues* 42(2), 132-148.

Giulianotti R (2011) Sport, transnational peacemaking, and global civil society: Exploring the reflective discourses of "sport, development, and peace" project officials. *Journal of sport and social issues* 35(1): 50-71.

Guttmann A (2001) From ritual to record: A retrospective critique. *Sport History Review* 32(1): 2-11.

Harker JL and Adam JS (2018) Mapping a subfield's sociology of science: A 25-year network and bibliometric analysis of the knowledge construction of sports crisis communication.

Journal of Sport and Social Issues 42(5): 369-392.

Harris JC. (2006) Sociology of sport: Expanding horizons in the subdiscipline. *Quest* 58(1): 71-91.

Harvey D (2005). *A brief history of neoliberalism*. Oxford: Oxford University Press.

Heinemann K and Wiebke P (1990) 25 Years of the International Review for the Sociology of Sport-A Content Analysis. *International Review for the Sociology of Sport* 25(1): 3-16.

Hylton K (2009) *'Race' and Sport: Critical Race Theory*. London: Routledge.

Ingham A and Donnelly P (1997) A sociology of North American sociology of sport: Disunity in unity, 1965-1996. *Sociology of Sport Journal* 14(4): 362-418.

Jackson S (2015) Sport, knowledge and power: Critical reflections and future prospects for an international sociology of sport. *East Asian Sport Thoughts* 4(1): 124.

Jensen MD and Kristensen PM (2018). the babel of European Union studies: beyond the trans-Atlantic divide. *European Political Science* 17(3): 437-465.

Horne J and Malcolm D (2016) *Sociology of sport: United Kingdom*, in (ed.) *Sociology of sport: A global subdiscipline in review (Research in the sociology of sport, Volume 9)*. West Yorkshire: Emerald, pp.303-319.

Kelly L (2011) 'Social inclusion' through sports-based interventions? *Critical Social Policy* 31(1): 126-150.

Kidd B (2008) A new social movement: Sport for development and peace. *Sport in Society* 11(4):370-380.

Kim MC and Chen C (2015) A scientometric review of emerging trends and new developments in recommendation systems. *Scientometrics* 104(1): 239-263.

King S (2015) Poststructuralism and the sociology of sport. In: R. Giulianotti (ed) *Routledge Handbook of the Sociology of Sport*. London: Routledge, 142-152.

King S (2005) *Methodological contingencies in contextual Sport Studies*. In D L Andrews, D Mason and ML Silk (Eds.) *Qualitative research in sports studies*. Oxford: Berg: pp.21-38.

Liu G (2013) Visualization of patents and papers in terahertz technology: A comparative study. *Scientometrics* 94(3): 1037-1056

Loy JW (1979) An exploratory analysis of the scholarly productivity of North American based sport sociologists. *International Review of Sport Sociology* 14(3-4): 97-115.

Maguire JA, Jarvie G and Mansfield L et al. (2002) *Sport worlds: A sociological perspective*. Champaign, IL: Human Kinetics.

Malcolm D (2012) *Sport and sociology*. London: Taylor and Francis.

Malcolm D (2014) The social construction of the sociology of sport: A professional project. *International Review for the Sociology of Sport* 49(1): 3-21.

Malcolm D (2018) Learning from history and acting politically: The threats and opportunities facing the sociology of the sport community. *International Review for the Sociology of Sport* 53(1): 3–10.

Markula D P and Pringle R (2006) *Foucault, sport and exercise: Power, knowledge and transforming the self*. London: Routledge.

McLeod CM, Lovich J, Newman JI and Shields R (2014) The training camp: American football and/as spectacle of exception. *Journal of Sport and Social Issues* 38(3), 222-244.

McPherson B (1975) Past, present and future perspectives for research in sport sociology. *International Review for the Sociology of Sport* 10(1): 55-72.

Millward P (2008) The rebirth of the football fanzine: Using E-zines as data source. *Journal of Sport and Social Issues* 32(3): 299-310.

Montez de Oca J (2016), Sociology of sport: United States of America, in Kevin Young (ed.) *Sociology of sport: A global subdiscipline in review*. Emerald, pp.361-375.

Nafziger JAR (2008) A comparison of the European and North American models of sports organization. *The International Sports Law Journal* 7(3-4): 100-108.

Pike E, Jackson S and Wenner L (2015) Assessing the sociology of sport: On the trajectory, challenges and future of the field. *International Review for the Sociology of Sport* 50(4-5): 357-362.

Ping Q, He J and Chen C (2017) How many ways to use CiteSpace? A study of user interactive events over 14 months. *Journal of the Association for Information Science and Technology* 68(5): 1234-1256.

Rail G (2012) The birth of the obesity clinic: Confessions of the flesh, biopedagogies and physical culture. *Sociology of Sport Journal* 29(2): 227-253.

Renfrow DG, Wissick TL and Guard CM (2016) (Re) Defining the Situation When Football Fans Rush the Field. *Sociology of Sport Journal* 33(3), 250-261.

Ritzer G and Ryan M (2004) *The Globalization of Nothing* in: Dasgupta S (Ed.) *The changing face of globalization*. London: SAGE.

Scherer J, Koch J, Holt NL (2016) The uses of an inner-city sport-for-development program: Dispatches from the (real) creative class. *Sociology of Sport Journal* 33(3): 185-198.

Seippel Ø (2018) Topics and trends: 30 years of sociology of sport. *European Journal for Sport and Society* 15(3): 1-20.

Shiffrin RM and Börner K (2004) Mapping knowledge domains. *Proceedings of the National Academy of Sciences* 101: 5183-5185.

Silk ML and Andrews DL (2011) Toward a physical cultural study. *Sociology of Sport Journal* 28(1): 4-35.

Silk ML (2004) A tale of two cities: The social production of sterile sporting space. *Journal of Sport and Social Issues* 28(4): 349-378.

Snyder EE and Spretzer E (1974) Sociology of sport: An overview. *The Sociological Quarterly* 15(4): 467-487.

Song JB, Zhang HL and Dong WL (2016) A review of emerging trends in global PPP research: analysis and visualization. *Scientometrics* 107(3): 1111-1147.

Sykes H (2006) Transsexual and transgender policies in sport. *Women in Sport and Physical Activity Journal* 15(1): 3-13.

Tian E and Qiu J (2016) Theory Application and Comparison of the Sport Sociology Study in Europe and America. *Journal of Shanghai University of Sport* 40(5): 25-36.

Travers A (2008) The sport nexus and gender injustice. *Studies in Social Justice Journal* 2(1): 79-101.

Van Bottenburg M (2013) Why are the European and American sports worlds so different? Path dependence in European and American sports history. In: Tomlinson A, Young C and Holt R (eds) *Sport and the Transformation of Modern Europe*. London: Routledge. pp. 217-237

Van Leeuwen T (2006) The application of bibliometric analyses in the evaluation of social science research. Who benefits from it, and why it is still feasible? *Scientometrics* 66(1): 133-154.

Van Ingen C (2003) Geographies of gender, sexuality and race: Reframing the focus on space in sport sociology. *International Review for the Sociology of Sport* 38(2): 201-216.

Wang J and Liu Z (2014) A bibliometric analysis on rural studies in human geography and related disciplines. *Scientometrics* 101(1): 39-59.

Wei F, Grubesic TH and Bishop BW (2015) Exploring the GIS knowledge domain using CiteSpace. *The Professional Geographer* 67(3): 374-384.

Weiss O (2004) Perspectives on the sociology of sport in Europe. *European Journal for Sport and Society* 1(1): 7-14.

Wenner L (2017) On the International Review for the Sociology of Sport, the field of play, and six years of more "more than less". *International Review for the Sociology of Sport* 58(8): 903-909.

Wilson B (2007) New media, social movements, and global sport studies: A revolutionary moment and the sociology of sport. *Sociology of Sport Journal* 24(4): 457-477.

Wilson B and Hayhurst L (2009) Digital activism: Neoliberalism, the Internet, and sport for youth development. *Sociology of Sport Journal* 26(1): 155-181.

Yong K (2016) *Sociology of sport: A global subdiscipline in review.* West Yorkshire: Emerald.