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► To cite this version:

Gioannipaolo Ferrari, Paolo Diana, Layne Vandenberg. A systematic review of the methodological implications in sport social research at the time of Covid-19. *The Lab's Quarterly*, 2022, 10.13131/unipi/1724-451x/etjt-9f27 . hal-04555047

HAL Id: hal-04555047

<https://hal.science/hal-04555047>

Submitted on 22 Apr 2024

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A SYSTEMATIC REVIEW OF THE METHODOLOGICAL IMPLICATIONS IN SPORT SOCIAL RESEARCH AT THE TIME OF COVID-19

by *Giovannipaolo Ferrari, Paolo Diana, Layne Vandenberg* *

Abstract

A systematic review of the methodological implications in sport social research at the time of Covid-19

The Covid-19 outbreak shook all human activities and halted the world of sport, stopping sporting events and competitions to follow strict regulations. Considering the impact on sport social research was experienced in real time, our review seeks to understand the methodological implications and problems of sociological research in studying the social phenomena of sport during Covid-19. We find digital research methods proved to be fundamental to the study of sport and sociology of sport during Covid-19, transforming digital methods into a more traditional method for sociological research.

Keywords

Sociology of Sport; Covid-19; Digital Methods; Systematic Review.

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DOI: <https://doi.org/10.13131/unipi/1724-451x/etjt-9f27>

1. INTRODUCTION

Sport is a complex social phenomenon that occupies a fundamental place in our societies. The specific and original role that sport plays in our lives in terms of social, linguistic, emotional, political, economic and cultural worldviews has been the subject of numerous studies in various scientific fields. However, the Covid-19 outbreak shook all human activities and also the world of sports, which stopped all events and competitions to comply with strict regulations (Diana, Ferrari & Dommarco, 2021: 14-16). During the pandemic, professional athletes and amateurs were forced to respect the rules or stay home.

At the same time, in the academic community, observations and analyses of this recent sports phenomenon and its impact occurred in real-time during the pandemic. Given the constraints imposed by Covid-19, a debate has arisen in the scientific community about the methodological question of how to conduct social research in historical moments of urgency and emergency that limit personal freedoms and prevent direct action in the field of inquiry (Evans et al., 2020; Rowe, 2020). In this short period of time, the social sciences have produced a considerable amount of empirical research within which we can explore different and diverse methodological implications: from research design to the choice of data collection and analysis techniques; from the choice of unit of analysis to the presentation and dissemination of research findings¹.

One of our hypotheses is that the global pandemic crisis will lead scholars to develop different and new sociological interpretive categories and methodological approaches in the social study of sport (Evans et al., 2020). This initial working hypothesis takes into account the time and living conditions during the initial lockdown and the resulting difficulty of conducting empirical research in this context.

Our contribution and analysis do not claim to be exhaustive or generalising. On the contrary, our research is intended only as a first exploratory study, which should be a prerequisite for a more in-depth study that requires further analysis in relation to the pre- and post-

¹ On the occasion of the international mid-term conference of the ESA (European Sociological Association) section RN28 (Research Network 28) entitled Sport and crisis: bodies, practices, representations, held in Teramo on 25-26 March 2021, we participated in the panel, "Covid-19 challenges towards sport and physical activity," with a contribution exploring the methodological implications in sport social research at the time of Covid-19. Here we represent and extend our research.

lockdown period. In our study, we applied certain criteria to consider only scientific production during a specific, well-defined time period (first lockdown, March-July 2020). We know that we need to expand our time horizon and sample to get a complete macro-level picture. Therefore, we are aware that our study is only preliminary background and exploratory in nature, providing only initial inputs and hypotheses for future research.

2. RESEARCH QUESTION

Based on this scenario, our work is concerned with understanding the methodological implications and problems of sociological research in studying the social phenomena of sport during Covid-19. To address this question, we conducted a “research review” in line with the following definition by Thomas, Nelson and Silverman:

A review is a critical evaluation of recent research on a particular topic. The author must be very knowledgeable about the available literature as well as the research topic and procedures. A review involves analysis, evaluation, and integration of the published literature, often leading to important conclusions concerning the research findings up to that time (Thomas et al., 2015: 17-18).

Our research paper is therefore a critical evaluation of research on a particular topic²: the relationship between sport and Covid-19. We used a “systematic review” (Tod 2019:1-16; Smith 2010: 43-62) to examine the first published social research on Covid-19 (Best et al., 2014; Pae, 2015; Peters et al., 2015). According to Smith, systemic literature reviews have become prevalent in the field of sport, exercise and health:

Systematic literature review in the field of sport, exercise and health³ have increasingly replaced traditional narrative reviews and literature commentaries as a way of summarising the growing body of research evidence

² Certain publications consist entirely of reviews. A number of journals publish reviews periodically, and some occasionally devote entire issues to reviews. For instance, the 75th anniversary of the *Research Quarterly for Exercise and Sport* (Silverman, 2005) contains some excellent reviews on sport topics. A number of reviews have been published by the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) (Thomas et al. 2015).

³ The reader could find examples of systematic review in the field of sport, health and physical activity in Smith, M. F. (2010). *Research methods in sport*. Learning Matters, SAGE, London, 44-45.

[...] Systematic reviews attempt to bring the same level of rigour to reviewing research evidence as that which was applied in producing such evidence in the first place (Smith, 2010: 44).

This study analyses the methodological choices of twenty empirical studies on the social phenomena of sport. These studies were conducted in recent months using different research approaches and techniques in different social contexts. We analysed how researchers answered their main cognitive questions by using one approach, technique, or research tool over another. As this research remains exploratory, next steps would include expanding our sample and conducting a “meta-analysis” across a larger body of empirical research. Unfortunately, performing a meta-analysis was not possible for this study due to insufficient data on scientific reference production and a lack of empirical research justifying the use of this research technique in this context.

3. SEARCH STRATEGY

Our search strategy is based on two different systematic reviews: a “mapping review” and a “qualitative systematic review”. In the first phase of our research, we conducted a mapping review to map existing literature and categorize data (Grant & Booth, 2009). This procedure fulfils Smith’s defined need for an “audit trail” with “pre-determined protocol”:

The systematic review procedure differs from a traditional literature review as it explicitly focuses on an objective, replicable, systematic, and comprehensive search of literature and research evidence, and includes a transparent audit trail of methods and process. Systematic reviews should be based on a pre-determined protocol so that can be replicated if necessary (Smith 2010: 44).

The systematic literature search strategy is based on the PRISMA statement (Liberati et al., 2009; Moher et al., 2009; Yap et al, 2014). Papers were searched in several electronic databases, including the Web of Science, ScienceDirect, SpringerLink, Pubmed, and Wiley Online Library. A wide range of search terms was provided to ensure that the included articles are comprehensive and specific. The keywords of *Covid*, *Sociology* and *Sport* were used to identify relevant studies (Caliandro &

Gandini, 2019: 68-70)⁴. In addition, the contents of major journals in the field were manually examined for highly cited studies on these research issues. Following this identification process, we also checked the top-rated Journal of Sociology of Sport at Scientific Journal Rankings (SJR), but we did not find any articles on Covid-19 in recent issues⁵.

We confirmed this strategy and searched for any last articles by cross listing our identified articles with Google Scholar, a freely available bibliographic database powered by the world's largest academic search engine (Gusenbauer, 2019; Gusenbauer & Haddaway, 2020). According to scientometrists (Gusenbauer, 2019; Gusenbauer & Haddaway, 2020: 194-195), Google Scholar contains 389 million documents, including not only scientific articles but also many other types of bibliographic materials for academic purposes. While Google Scholar's Ranking Algorithm for scientific articles is unknown (Beel & Gipp, 2009: 230), "citation counts", or the number of times a citation has been cited, are the highest weighted factor in the algorithm. Thus, Google Scholar was suitable for our goal of finding standard literature. Upon searching for *Covid-19+Sociology+Sport* (Caliandro & Gandini, 2019: 68-70), we examined the first twenty pages of the Google Scholar results and confirmed the twenty previously selected articles.

4. INCLUSION AND EXCLUSION CRITERIA

In line with Smith's methodology (Smith, 2010: 45), a "strict scientific strategy" was developed through the following inclusion and exclusion criteria:

- 1) The research must be empirical research on sport social research at the time of Covid-19.
- 2) The research must be published in academic journals in the fields of Sociology and Sociology of sport.
- 3) The research must have been published between March-July 2020, in the first phase of the Covid-19 outbreak.
- 4) Specific survey data must be reported, and pure theoretical research such as literature review must be excluded.

⁴ Studies were chosen if one of the keywords was present in the title and/or abstract, or if studies contained all three keywords in the article content.

⁵ This reflects sophisticated peer review systems and the longer publication process more than it indicates a lack of scholarship on these recent issues.

- 5) The literature must report a clear sample size and the correlation between Covid-19 and the Sociology of Sport.

5. METHODOLOGY

In the second phase of our research, we conducted a qualitative systematic review to code the data and look for themes or constructs (Nodes in NVivo terminology) across studies (Grant & Booth 2009). Twenty studies were included in our final review with a total of 120,034 words and 16,668 unique word forms⁶. Based on this approach, we then conducted a general data analysis.

First, we determined the prevalence of sports and recreational activities and the different categories of athletes and sportspeople included in our data. As shown in Table 1, many of these studies involved groups of students, such as college athletes (3), sports students (2), and elderly students of sports like pilates (1); PE teachers (3) or coaches (1); new sport phenomena in the digital space, such as fitness influencers (2) and e-athletes (2); martial arts (3); and professional athletes (3), such as Australian football players, boxers, and elite sportswomen.

<i>The different categories of athletes that are the object of the selected studies.</i>	
College athletes	3
Martial artists	3
PE teachers	3
Fitness influencers	2
e-athletes	2
Sport students	2
Australian football players	1
Boxers	1
Coaches (Boxing)	1
Elderly students of pilates	1
Elite sportswomen	1

Table 1 - The different categories of athletes that are the object of the selected studies.

⁶ We have included the bibliographic information for the 20 academic papers in our sample in a subsection of the bibliography. This subsection is named "Corpus".

As demonstrated in Table 2, the most prevalent countries in our dataset are Germany and the UK.

<i>Nation</i>	
Germany	4
UK	4
Russia	3
Indonesia	2
Poland	2
Spain	2
USA	2
Austria	1
Australia	1
Bulgaria	1
France	1
Japan	1
Norway	1
Sweden	1

Table 2 - Countries involved in the research analysed.

Eventually, a frequency distribution of the type of methodology was conducted. Table 3 showcases that both quantitative (9) and qualitative (8) methods were used on a more equal basis, while mixed methods were used less frequently (3).

<i>Qualitative/Quantitative</i>	
Quantitative	9
Qualitative	8
Quali & Quanti	3

Table 3 - Frequency distribution of the type of methodological approach in the research analysed.

As seen in Table 4 below, the majority of the research techniques used in the considered studies featured a web survey, almost a quarter conducted web content analysis, about another quarter opted for web interviews and one case used social network analysis and digital ethnography. As some studies used more than one technique as part of a mixed methodology, the total number of techniques used is 22, not 20.

<i>Techniques</i>	
Survey	10
Interviews	5
Literature Review	3
Content Analysis	2
Participant Observation	1
Social Network Analysis	1

Table 4 - The research techniques used in the considered studies.

We posit that most researchers in our sample conducted quantitative research with structured questionnaires due to the variable nature of the data. A data matrix allows for faster and more efficient collection of information compared to textual data, and the organisation and subsequent analysis of the data is further facilitated by the use of quantitative analysis software.

Covid-19 also presented a health emergency that resulted in restrictions, including limiting personal freedoms such as travel and outings. The studies considered showcase a preference to send and collect structured questionnaires via mailing lists, social media, or existing panels over conducting in-depth or semi-structured interviews via video conference. In this situation, digital methods played an extremely important role by opening up research opportunities that would not have been otherwise possible during lockdown.

Covid-19 challenged researchers of the sociology of sport in terms of their research purposes. Despite the popularity of ethnography among sociologists of sport, it was not possible to conduct ethnographic research during this period using traditional qualitative research techniques, such as participant observation, for obvious reasons. Secondly, sociologists of sport found themselves faced with the sudden halt and subsequent stall of sporting events, temporarily pausing the mammoth that is the global sports industry.

This situation nonetheless gave rise to unexpected opportunities for sports scientists. For example, the conditions that arose in the case study of MMA fighters as a direct result of Covid-19 paradoxically provided the researcher with “an opportunity in the shape of a naturalistic experiment to examine how the absence of an audience may impact a fighter’s performance on the highest level, which would never occur otherwise” (Mickelsson & Shaw, 2020: 51). These particular research conditions allowed for a comparative analysis of the quality of MMA fighters’ performances in the presence and absence of a live audience based on data collected prior to and during Covid-19. Surprisingly, the study showed that athletic performance improved when live audiences were absent.

6. WORD FREQUENCY ANALYSIS

We then performed word frequency analyses using NVivo for the titles and keywords of the articles, along with the whole text corpus. The analysis of the frequencies shows that the researchers had to deal with the dimensions of a ‘self’ sphere and a ‘social’ sphere to address

different research questions. As shown in Figure 1, we identify two spheres of the self: the intimate and the emotional (Lupton, 1998). We also identify two social spheres: that of well-being and that of distress or social risk (Keyes, 1998; Ryff & Keyes, 1995).

	Words	Length	Number	Weighted % of total
1	lockdown	8	359	0,54%
2	activity	8	275	0,46%
3	health	6	260	0,39%
4	online	6	260	0,39%
5	media	5	247	0,37%
6	training	8	197	0,29%
7	digital	7	182	0,27%
8	stress	6	172	0,26%
9	home	4	168	0,25%
10	education	9	152	0,23%
11	exercise	8	140	0,21%
12	clubs	5	127	0,19%
13	satisfaction	12	117	0,17%
14	strategies	10	117	0,17%
15	impact	6	114	0,17%
16	leisure	7	113	0,17%
17	bodies	6	95	0,14%
18	support	7	95	0,14%
19	fitness	6	91	0,14%
20	self	4	88	0,13%

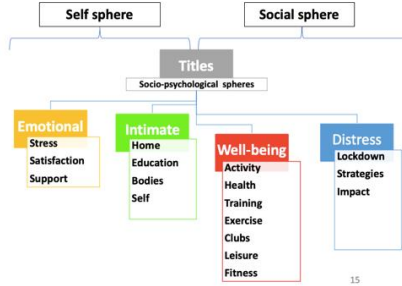


Figure 1: Codification of the 4 "spheres" using the word frequency analysis of the full articles content analysed.

Within the sphere of the self, the words “behaviour”, “adaptation”, “mood” and “identity” are associated within the category of the person or subject, and thus are related to an emotional self (Lupton, 1998). The results of the word frequency analysis are displayed in Figure 2.

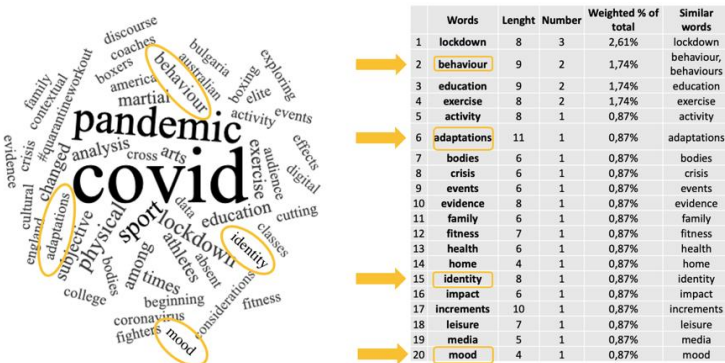


Figure 2: Codification of the “emotional sphere” using the word frequency analysis.

Within the social sphere, well-being comprises two perspectives: hedonism and eudaimonism (Deci & Ryan, 2008), based on the subjec-

tive, psychological and social aspects of well-being (Waterman, 1993). Subjective well-being is the hedonistic view based on the experience of happiness. In contrast, eudaimonism considers self-actualization and social value derived from a meaningful life and built on psychological and social well-being. (Russo, 2013; 2011; Keyes, 1998; Ryff & Keyes, 1995).

As visualized in Figure 3, these four dimensions are dominated by a third sphere: the digital sphere (Lupton, 2015). The digital sphere has enabled athletes, sports clubs, and institutions to continue communicating and reorganising themselves online through video courses, chat exchanges and the creation of ad hoc content. The digital sphere notably encompasses the temporal and spatial dimensions created by the four other spheres, creating the conditions for sporting activity to adapt to exceptional circumstances and then resume in new and unexplored ways.

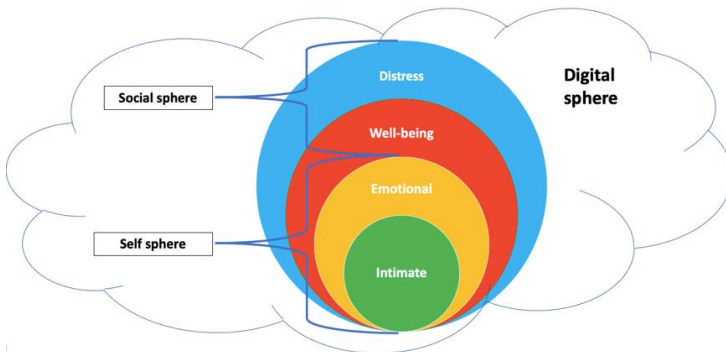


Figure 3: Self, Social and Digital spheres.

These spheres have allowed the global sports industry to not grind to a halt during the initial lockdown and subsequent phases of Covid-19. At the same time, it enabled the discovery and exploration of new frontiers of sport and physical education and practice.

6. CONCLUSION

In summary, the methodological implications for sociologists of sport were manifold and helped frame the previously observable phenomenon of the process of elaboration/evolution and application/refinement of digital social research methods. During Covid-19, this process ac-

celerated, and many sociologists felt compelled to go into the digital space to conduct field research. Many who were not accustomed to using digital methods had to learn and adapt quickly; many others who were still hostile to its existence had to admit its importance and pervasiveness in the work of data collection and analysis.

In order to develop programs and strategies that enable positive outcomes in these unique circumstances, collaboration between researchers and practitioners is critical. The impact of the Covid-19 pandemic has led researchers and practitioners to find creative ways to connect with each other and ensure that we are getting designated information to the right people, at the right time, and in the right form. To achieve this, we can explore new ways to collaborate, such as harmonized data collection and rapid approaches to knowledge development, synthesis, and dissemination. We can also recognize the value of different perspectives and methodological approaches. The number of articles published on Covid-19 is growing daily; however, this knowledge must be applied in the real world, and it will prove critical to find ways to quickly translate these insights into practical tools that can be used to improve the quality of social research in sport. Looking forward, it will be important for researchers and practitioners to develop new ways to capture the immediate, short-term, and long-term effects of the Covid-19 pandemic on sport.

Over the past two years, Covid-19 has changed and adapted the research habits of sports sociologists and social researchers in general. The alternative was to stay home and not do research. Digital methods have offered many sport sociologists the opportunity to continue to work actively in the digital social sphere. This seems fairly obvious, but from a methodological perspective, it is of utmost importance to follow the new trends in social research. Of course, we did not discover and define digital methods with the lockdown. The advent of the Internet and social platforms has opened new possibilities for research in the humanities and social sciences (HSS), especially in the mining and analysis of Big Data. Digital environments are indeed a vast field in which researchers can observe situations and interactions, create new fields of research, collect data and research materials, and thus create complex collections of data that can be analysed using different and new methodological approaches. The inability to access field research first due to lockdown and then subsequent restrictions measures – implemented at a nearly global level – limited the possibilities of conducting research and led to the prioritization of digital spaces. Faced with the dilemma of halting research entirely during the

pandemic, digital methods served as a life-saving methodology for sociologists faced with lockdowns, restrictions, and other limitations. In the last twenty years, digital methods were confirmed as a strategic advantage for sociologists, but these methods proved to be fundamental during Covid-19, transforming into more traditional methods as academics were confronted with limited options for conducting research. Many researchers also acquired skills and knowledge about how to conduct research online. The web became not only a vast field, but – more importantly – a universal field in which social researchers can play an important role by sharing good practices and innovative research methods.

Digital methods therefore not only enabled easy data collection even during initial lockdown, but also promoted the rapid dissemination of research results thanks to several open access initiatives by journals and publishers. The latter has facilitated the way research is conducted. Open access publications and hundreds of calls for papers on a variety of topics provided sociologists with the opportunity to publish extensively during Covid-19. These advantages may also bring disadvantages in the form of abundant, but potentially poorer quality, scholarly output in 2020 and early 2021.

As mentioned earlier, our study is preliminary, and we do not have enough empirical evidence to say that research practices in the sociology of sport have really changed or are changing. We hope that this initial exploratory study will be developed into comparisons with the pre- and post-lockdown. We also hope that the debate to which we are making a modest contribution on this occasion can serve as a stimulus and spark the interest of the scientific community in understanding the phenomenon of the use and diffusion of digital methods in the sociology of sport and social research.

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