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Abstract

At the onset of COVID-19, sport and fitness administrators shut down facilities to mitigate viral spread. To reopen facilities, safety protocols and policies reflecting risk mitigation strategies were established. This case study adopted the International Organization for Standardization's risk management framework to explore strategies for reopening collegiate recreational sport facilities during the pandemic. Document analysis was employed to analyze the reopening plans of four collegiate recreation departments across North America. The reopening plans focused on the risk assessment and treatment process and used a phased approach, with strategies moving from risk avoidance to risk reduction and transfer. Common risk management strategies across facility areas included enforced social distancing, reduced programming/services, and increased sanitization. However, notable differences were found based on risk unique to distinct facility areas. Implications for practice include use of a customized facility inspection checklist, adherence to new industry safety standards, and clear communication with stakeholders.

Keywords: *risk management, risk assessment, risk treatment, policy formation, collegiate recreation*

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Introduction

Risk management is a proactive approach to identify, evaluate, and develop a comprehensive plan designed to reduce or eliminate risk in the environment (Spengler et al., 2006). With hundreds of lawsuits filed against sport and fitness facilities each year claiming negligence for member injuries (Goodman, 2021), mitigating public liability associated with facility usage is a priority. Sport and fitness professionals cite lack of staff training, poor supervision of members, trainers acting outside their scope of practice, equipment misuse, and lack of physical space as the top risks in the industry (Keyzer et al., 2014). As universities evolve and offer more recreational sport opportunities, administrators must be prepared to manage emerging risks.

A recent and unexpected environmental hazard to challenge risk management protocols was COVID-19, which forced institutions around the world to adopt new measures to control viral spread. The sport and fitness industry is susceptible to COVID-19 exposure and spread due to minimal facility space for social distancing, shared equipment, and expulsion of respiratory droplets during exercise (Wackerhage et al., 2020). At the beginning of the pandemic, sport facility administrators were faced with the dilemma of serving the health and wellness needs of their patrons while mitigating the spread of COVID-19. Many utilized risk management strategies to keep facilities open, such as delivering programs in new ways (e.g., online fitness classes) and implementing safety protocols (e.g., sanitation, social distancing, and mask wearing; Ong et al., 2021). This study explored how the risk management strategies of collegiate recreational sport facilities evolved during the COVID-19 pandemic using the International Organization for Standardization's (ISO) risk management framework.

Conceptual Framework

Risk management has been conceptualized in different ways, which can hinder successful implementation of the risk management process. The ISO developed a standardized risk management process that is applicable to all types of risk (Purdy, 2010) and includes establishing the context for risk, assessing the risk, and treating the risk (ISO, 2018). The context for risk includes the unique risk management goals and objectives of an organization and factors that will impact goal achievement (Purdy, 2010). To assess risk systematically, organizations should employ a three-step process of identifying, analyzing, and evaluating the risk, which subsequently informs risk treatment (Gjerdrum & Peter, 2011).

Upon identifying potential risks to manage, the ISO guidelines offer options for risk treatment: (a) "Avoiding the risk;" (b) "Taking or increasing the risk;" (c) "Removing the risk source;" (d) "Changing the likelihood;" (e) "Changing the consequences;" (f) "Sharing the risk;" and (g) "Retaining the risk" (Purdy, 2010, p. 884). For sport and fitness facilities, risk avoidance may eliminate amenities that are available to patrons (e.g., cancelled programs); therefore, it should be a last resort. Changing the likelihood or consequences of a risk involves reducing the frequency, magnitude, and severity of the risk (e.g., capacity limitations, increased physical distancing). To share risk, facilities can assign the risk to another entity by acquiring insurance, contracting out services, and/or having participants sign waivers (Schneider et al., 2008). Risks can be retained if the facility can handle the likelihood and consequences of the risks.

Throughout the ISO risk management framework, two additional processes are occurring. First, organizations should continually communicate and consult with key stakeholders to solicit input and foster ownership over the risk management process (Gjerdrum & Peter, 2011). Second, organizations should monitor and review the risk management process to determine effectiveness, address emerging risks, and make necessary changes (Gjerdrum & Peter, 2011).

For sport facilities on college campuses, the National Intramural Recreational Sports Association (NIRSA): Leaders in Collegiate Recreation published guidelines to reopen facilities in accordance with state, local, and institutional mandates (NIRSA, 2020a), as well as reopening plans from four collegiate recreation departments (NIRSA, 2020b). These guidelines addressed managing public liability, rather than property liability or business operations (see Ammon, 2021), as the overarching goal was to reduce liability to patrons and staff as facilities reopened in the midst of the pandemic. This study employed document analysis to understand the COVID-19 risk management strategies for recreational sport facilities on college campuses. More specifically, we attempt to answer the following research questions:

RQ₁: How did risk management strategies during the COVID-19 pandemic vary across sport facility areas?

RQ₂: How did risk management strategies evolve for sport facilities during the reopening phases of the COVID-19 pandemic?

Methods

Research Design

We used an interpretivist epistemology, relativist ontology, and document analysis methodology to explore reopening plans in collegiate recreation. An interpretivist epistemology allowed us to interpret and obtain meaning, knowledge, and understanding of the reopening policies and procedures. A relativist ontology was used to understand the nature and structure of the reopening plans relative to the college recreation context (Alharahsheh & Pius, 2020). Document analysis is a systematic procedure for evaluating data to elicit meaning, gain understanding, and develop empirical knowledge (Bowen, 2009). Document analysis is often used alongside other methods including interviews and observation (Wood et al., 2020), but in this study, documents were the only necessary data source because an interpretivist design was adopted (Bowen, 2009).

Case Study

We analyzed NIRSA's (2020b) publicly available document containing the reopening plans of four collegiate recreation departments in North America. The document was intended to guide member institutions in creating risk management policies and processes to reopen their facilities. The institutions in the document are NIRSA members and represent four NIRSA regions (i.e., Region II, Region IV, Region V, and Canada). Please see Table 1 for a description of each institution.

Table 1
University Profiles

| NIRSA Region | Institution Type | Location | Number of Recreation Facilities | Department Affiliation | Reopening Date |
|--------------|-----------------------------|--------------------------|---------------------------------|------------------------|-------------------|
| Region II | Large, public university | Southeast, United States | 3 | Student Life | August 1, 2020 |
| Region IV | Large, public university | South, United States | 2 | Student Life | July 20, 2020 |
| Region V | Small, community college | Midwest, United States | 1 | Independent | May 18, 2020 |
| Canada | Midsized, public university | Western Canada | 1 | Athletics | September 8, 2020 |

Data Analysis

Reopening plans were reviewed and coded within Microsoft Word. When thematic categories emerged from the document, a code was created and organized into an individual file. While coding, it was found that Region II institution's reopening plan was three times longer than the other institutions' plans, which was taken into consideration when analyzing the data. After all codes were created, the collated reports were examined to determine the most robust themes that emerged. To improve trustworthiness of the analysis, a second researcher reviewed the documents and coding report to assess the relevance of topics identified. Having data cross-checked and audited by an external coder increased consistency of judgment, ensured the codes were taken directly from the reopening documents, and confirmed the codes corresponded to themes (Cascio et al., 2019).

Findings

The ISO (2009) risk management framework established a consistent standard for risk management and vocabulary to guide best practices. In assessing COVID-19 reopening guidelines in recreational sports, aspects of these standard protocols were reflected across documents' therefore, findings are organized according to the ISO framework.

Establishing the Context

Prior to assessing risks and articulating a strategy, it is vital that leaders consider their overarching goals. Purdy (2010) described this step as, "defining what the organization wants to achieve and the external and internal factors that may influence success in achieving those objectives" (p. 884).

Plans reflected the desire to reopen as soon as possible, as recreational sport facilities were deemed essential to campus operations. However, the context of COVID-19 meant navigating shifting guidelines as the scientific community and public health officials grew more knowledgeable of the virus. To reflect this, reopening plans (across all aspects of society) largely utilized a phased approach that moved from avoiding risk to reducing and transferring risk onto individuals. By using a phased approach, recreational sport facilities could provide important, although restricted, services for the community.

Risk Assessment and Treatment

Risk assessment is defined as the process where “risks are analyzed, considering likelihood and impact, as a basis for determining how they should be managed” (Gjerdrum & Peter, 2011, p. 11). Risk treatment considers how controls can be implemented to manage identified risks (Purdy, 2010). Although the phased approach afforded continual opportunity for analysis and input by key stakeholders, it also allowed flexibility in the reopening plans as COVID-19 best practices fluctuated. Risk treatment strategies varied across reopening phases and facility spaces based on the risk assessed in that environment.

Reopening Phases

Phase 1 of reopening plans reflected an eliminate/avoid risk management strategy due to the high risk assessed in the environment. Although risk elimination is a last resort since it necessitates facility and/or programmatic closure, institutions saw the COVID-19 pandemic as requiring such measures. Consistent strategies in Phase 1 were having only essential staff report in person, eliminating fitness programming, closing water fountains and bathrooms, suspending guest passes, and closing gyms and fitness areas.

Phase 2 of reopening reflected departments retaining and reducing risk considering the moderate risk assessed. Facility areas that had been closed reopened with various restrictions and expanded cleaning protocols to mitigate viral spread. Examples of strategies to reduce and retain risk included plexiglass barriers where physical distancing could not be maintained, health screening questions, and capacity restrictions on staff and members. Not all facility areas reopened, as institutions determined acceptable retention of risk. For example, one institution allowed one-on-one personal training, but group fitness remained prohibited.

Phase 3 of reopening plans reflected a different pandemic reality than the initial phase, with less risk assessed in the environment. At this stage, risk treatment moved to risk transfer where the safety burden shifted to members. Facilities promoted participant hygiene and member education about pandemic regulations instead of limiting services. Self-screening replaced mandated health questions, and member-initiated cleaning of equipment after use replaced staff-driven cleaning protocols.

Gyms

Reopening plans referenced closed gym spaces, such as basketball and racquet courts. During Phase 1, only one facility plan allowed any use of basketball courts. However, the plan noted that access was “Open for drop-in basketball only and will be restricted to one person per hoop.” Other institutions closed all gym space and basketball courts in Phase 1. During Phase 2, institutions began to retain and reduce risk by reopening some gym spaces. For example, the institution that restricted each hoop to one participant during Phase 1 permitted two people per hoop. Another university embraced a more technical policy, noting, “during Phase II, our courts will be available for individual workouts/practice or immediate family use only. Immediate family includes family members that reside in the same household.”

Since Phase 3 was characterized by a return to “normal” operating practices, there were no restrictions observed in gyms during the final phase of three reopening plans. Only one plan maintained restrictions in gym space, writing that “individual basketball shooting, singles badminton and pickleball will be allowed.”

Fitness and Weight Rooms

Institutions took different risk treatment approaches to the initial reopening of fitness areas, with some avoiding risk by closing these areas, whereas others embraced a reductionist philosophy. Those that retained access to weight room and fitness areas implemented social distancing restrictions, with one institution creating a policy of 10 people maximum in the space. Other documents used more general language of “restricted access to equipment to ensure social distancing requirements.” One institution specifically identified protocols for equipment spotting, functional training systems, and equipment check-out.

Phase 2 moved weight rooms and fitness areas into a risk reduction and retention strategy, but the detail within reopening plans varied across institutions. Although some documents simply stated that equipment would be positioned to maintain social distancing, one university specified they would, “create a ten-foot perimeter around each plate-loaded machine or cardiovascular piece of equipment. In the free weight and functional training areas, ten-foot boxes will be marked for members to use.” Institutions that allowed access to these areas in Phase 1 did not expand occupancy during Phase 2. The final phase eliminated previous facility restrictions and operated at pre-COVID capacities while retaining detailed cleaning protocols.

Aquatics

Pool areas were assessed to have a lower risk threshold, allowing for a reduction of risk from the initial phase. Lap swimming was permitted across institutions, with a limitation of one individual per lane. Leisure pools were also open, with one university clarifying “no basketball, volleyball, log rolling at leisure pool.” Furthermore, institutions embraced social distancing using facility guidelines regarding seating in pool areas and the number of lifeguards present.

Because pools were more accessible during Phase 1, there was not a significant shift in treatment strategy for Phase 2. Instead, Phase 2 reinforced reduction strategies implemented during Phase 1. However, institutions identified more specific recommendations for transferring risk to guests. For example, one reopening plan noted that “swimmers are encouraged to refrain from sharing equipment like goggles and swim caps.” During Phase 3, institutions maintained language promoting social distancing in lap pools (1 swimmer per lane), but there was no practical difference in language or relaxation of restrictions.

Bathrooms

Every plan closed bathroom and locker room facilities under Phase 1 due to the high risk assessed in that space. Multiple reopening plans identified state health department mandates as a driving force in embracing an avoidance strategy. During Phase 2, two institutions kept their locker rooms closed, and the others reopened and maintained strict social distancing. Two facilities used tape to identify safe distances between areas. One institution kept individual bathrooms and showers stalls open while closing more communal areas to restrict group interactions. As reflected across other areas, Phase 3 was characterized by a return to “normal” operating practices. Whereas one institution stipulated they would, “open when allowed by state regulations,” all other policy documents noted that during Phase 3 there were no anticipated restrictions to bathroom and locker room spaces.

Monitor/Review and Communicate/Consult

Two aspects of the risk management process not specific to any one stage include monitoring/reviewing and communicating/consulting with stakeholders. Institutions utilized these elements across all facility areas and phases, particularly when policies mirrored strategies utilized by state and local offices. When developing the reopening plan, institutions consulted guidelines published by public health and governmental agencies to inform their risk treatment approach. To monitor and review reopening plans, one institution explicitly claimed, “we will employ a dynamic process of updating and reviewing progress and adjust the plan as needed and with approval.” Communication of the plan targeted multiple stakeholder groups, including staff responsible for plan implementation and patrons responsible for adherence. For example, one institution stipulated, “staff will need to be trained on COVID-19 mitigation processes.” Another institution explained, “some of the ownership for ... safety must be placed upon the users. This can be facilitated by strong marketing, messaging, and communication.”

Discussion

This study aimed to understand risk management strategies adopted by university recreational sport facilities during the COVID-19 pandemic (Gjerdrum & Peter, 2011). The reopening plans aligned with the ISO’s risk management framework, with particular focus on the risk assessment and treatment process (Gjerdrum & Peter, 2011). Risk management strategies were organized using a phased approach, with the most restrictive strategies in Phase 1 and least restrictive in Phase 3. Phase 1 reflected risk avoidance (e.g., closing facility areas), Phase 2 focused on risk reduction (e.g., social distancing, cleaning), and Phase 3 shifted to risk retention and transfer (e.g., member education, self-screenings) as the risk of COVID-19 abated.

There were notable differences in how facility administrators treated risk based on the unique conditions of facilities. When comparing facility spaces, aquatic centers and pools saw the fewest restrictions across all three phases and were most accessible to patrons based upon the low risk assessed in that space. The Centers for Disease Control and Prevention (CDC, 2022) found no evidence that COVID-19 can be spread through swimming pools and reported proper operation of public aquatic venues (e.g., disinfection with chlorine) should inactivate the virus. These unique conditions allowed administrators to focus on risk reduction strategies through social distancing and equipment sharing guidelines.

Comparatively, bathrooms are associated with high touch surfaces (e.g., door handles, soap dispensers), tight quarters, and poor ventilation, which can increase viral spread (Dancer et al., 2021). Due to these high-risk conditions, facility administrators largely adopted a risk avoidance treatment strategy and kept bathrooms and locker rooms closed through Phases 1 and 2. Locker rooms and public restrooms are one of the few facility areas specifically addressed by federal and state health mandates for gyms and fitness centers (e.g., Ohio Department of Health, 2021). Other facility areas, such as basketball courts, are not explicitly addressed by global or national health agencies, giving administrators flexibility in their reopening approach, which accounts for some variability across universities.

Across facility areas, administrators implemented policies to reduce the frequency, magnitude, and severity of the risk of spreading COVID-19 (Purdy, 2010). Administrators enforced social distancing and personal hygiene, limited programs and services, required health screenings, and increased cleaning

protocols to account for how COVID-19 uniquely affects the health and safety of staff and patrons. These policies aligned with recommendations from state, federal, and global health agencies for gyms and fitness centers (e.g., Ohio Department of Health, 2021), acknowledging the broader systemic response to COVID-19 and importance of consulting internal and external stakeholders to inform risk management strategies (Gjerdrum & Peter, 2011). Similarly, the adoption of a standardized phased approach aided in communicating reopening plans as the consistent format was more likely to be understood, accepted, and implemented by key stakeholders (Lower-Hoppe et al., 2022).

Although the reopening documents predominately outlined risk treatment strategies, these strategies were grounded in each institution's goal of protecting the health and safety of staff and patrons by being vigilant in their approach to reopening facilities. This overarching goal reinforces the reality that sport and fitness facilities operate in a service industry where member priorities drive organizational decisions (Polyakova & Mirza, 2016). To achieve this goal, administrators must monitor their plan, review the effectiveness of their risk management strategies, and make changes where necessary (Gjerdrum & Peter, 2011).

Implications

In the unfortunate event of a surge in COVID-19 cases or an emergent pandemic, sport administrators can apply ISO's risk management framework when creating risk management plans (Gjerdrum & Peter, 2011). However, these plans should be tailored to distinct facility areas to ensure all risks and unique conditions are strategically managed (e.g., spotting in weight rooms, sauna in aquatic centers). A facility inspection checklist, with risk management strategies organized by facility area rather than risk category (e.g., social distancing, sanitization, hygiene), can ensure all facility conditions are scrutinized and associated risks assessed (Seidler, 2021).

Prominent strategies adopted across facility areas that should be considered to mitigate the spread of infectious diseases in sport and fitness facilities include social distancing (e.g., capacity limitations, reservation systems), limiting programs and services (e.g., personal training, towel service), promoting health screenings and personal hygiene, and educating members on health and safety guidelines. Health and fitness experts suggest COVID-19 changed the sport and fitness industry permanently, with new best practices and member needs (Easter & Williams, 2021; Walsh, 2022). Moving forward, sport administrators are encouraged to continue rigorous cleaning of high touch surfaces, spacing equipment to promote physical distancing, providing virtual program options, using contactless check-in, and adopting virus air filtration systems to mitigate the risk of infectious disease transmission. This will help reduce the potential risk of lawsuits as universities expand their fitness programs and facilities.

When creating a risk management plan, sport administrators must be flexible and expect rapidly changing policies as more knowledge surrounding an emerging risk becomes available. As suggested in the ISO risk management framework, assessing the risk should be an ongoing and collaborative process utilizing internal and external sources of information on the established risk (Gjerdrum & Peter, 2011). Administrators may be forced to transition back and forth across risk management phases to effectively respond to new risks in a dynamic environment. As such, clear communication across management responsible for developing and revising the risk management plan, staff in charge of implementing the plan,

and patrons adhering to the policies is imperative (Lower-Hoppe et al., 2022). Administrators can also use social media as an effective tool for disseminating real-time, accurate information across stakeholder groups (Abrams & Greenhawt, 2020). Finally, sport administrators can benchmark within their professional network to learn from one another when creating and revising their risk management plan. Although there is no blanket solution to reducing risk when operating diverse facilities, the ISO framework can be considered a tool to help sport and fitness facility administrators develop a comprehensive risk management plan to successfully reduce areas of risk during situations such as the COVID-19 pandemic.

Limitations and Future Directions

This study provides insight into risk mitigation in sport and fitness facilities; however, the findings should be interpreted with the limitations in mind. The case study was limited to document analysis of the reopening plans of four university recreational departments across North America at the onset of COVID-19, limiting the transferability of the findings to outside institutions and present-day risk management of COVID-19. Future research may consider exploring how community sport and fitness facilities reopened, collecting policy documents over time to capture changing risk management strategies, examining federal and state/provincial health mandates informing reopening policies, and interviewing sport and fitness professionals for a deeper understanding of risk mitigation and policy formation. Future research may explore the dissemination and implementation of risk management policies for a broader understanding of the risk management process and examine which policies will likely remain post-pandemic.

References

- Abrams, E. M., & Greenhawt, M. (2020). Risk communication during COVID-19. *The Journal of Allergy and Clinical Immunology in Practice*, 8(6), 1791–1794.
- Alharahsheh, H. H., & Pius, A. (2020). A review of key paradigms: Positivism vs interpretivism. *Global Academic Journal of Humanities and Social Sciences*, 2(3), 39–43.
- Ammon, R. (2021). Risk management process. In D. J. Cotten & J. T. Wolohan (Eds.), *Law for recreation and sport managers* (8th ed., pp. 226–236). Kendall Hunt.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40.
- Cascio, M. A., Lee, E., Vaudrin, N., & Freedman, D. A. (2019). A team-based approach to open coding: Considerations for creating intercoder consensus. *Field Methods*, 31(2), 116–130.
- Centers for Disease Control and Prevention. (2022). *COVID-19 and public pools and beaches*. <https://www.cdc.gov/healthywater/swimming/aquatics-professionals/covid-19-and-aquatic-venues.html>
- Dancer, S. J., Li, Y., Hart, A., Tang, J. W., & Jones, D. L. (2021). What is the risk of acquiring SARS-CoV-2 from the use of public toilets? *The Science of the Total Environment*, 792, 148341.
- Easter, M., & Williams, B. (2021, March 12). The future of the post-pandemic gym. *Men's Health*. <https://www.menshealth.com/fitness/a35686797/gyms-after-covid-19-pandemic/>

- Gjerdrum, D., & Peter, M. (2011). The new international standard on the practice of risk management—A comparison of ISO 31000: 2009 and the COSO ERM framework. *Risk Management*, 31(21), 8–12.
- Goodman, M. (2021, March 1). *The litigation process: Lawsuit-proofing your fitness business*. Club Solutions. <https://clubsolutionsmagazine.com/2021/03/the-litigation-process-lawsuit-proofing-your-fitness-business/>
- International Organization for Standardization's (ISO). (2018). *ISO 31000:2018 Risk Management – Guidelines*. <https://www.iso.org/obp/ui/#iso:std:iso:31000:ed-2:v1:en>.
- Keyzer, P., Coyle, I. R., Dietrich, J., Norton, K., Sekendiz, B., Jones, V., & Finch, C. F. (2014). Legal risk management and injury in the fitness industry: The outcomes of focus group research and a national survey of fitness professionals. *Journal of Law and Medicine*, 21(4), 826–844.
- Lower-Hoppe, L. M., Farrell, A., Barcelona, R. J., Brgoch, S. M., Lowe, C., & Dunn, D. (2022). Re-opening collegiate recreation during COVID-19: A case study of plans and policies. *Recreational Sports Journal*, 46(1), 16–30.
- National Intramural-Recreational Sports Association. (2020a). *Reopening considerations: A framework for campus rec*. <https://nirsa.net/nirsa/portfolio-items/reopening-considerations/>
- National Intramural-Recreational Sports Association. (2020b). *Reopening considerations: A framework for campus rec: Example reopening plans*. <https://nirsa.net/nirsa/portfolio-items/reopening-considerations-200619-examples/>
- Ohio Department of Health. (2021). *Responsible restart Ohio: Gyms, dance instruction studios, and other personal fitness venues*. <https://coronavirus.ohio.gov/static/responsible/Gyms-Dance-Instruction.pdf>
- Ong, A. K. S., Prasetyo, Y. T., Picazo, K. L., Salvador, K. A., Miraja, B. A., Kurata, Y. B., Chuenyindee, R., Nadlifatin, R., Redi, A. A. N. P., & Young, M. N. (2021). Gym-goers preference analysis of fitness center during the COVID-19 pandemic: A conjoint analysis approach for business sustainability. *Sustainability*, 13, 1–17.
- Polyakova, O., & Mirza, M. (2016). Service quality models in the context of the fitness industry. *Sport, Business and Management*, 6(3), 360–382.
- Purdy, G. (2010). ISO 31000: 2009—setting a new standard for risk management. *Risk Analysis: An International Journal*, 30(6), 881–886.
- Schneider, R. C., Stier, W.F., Jr., Kampf, S., Haines, S., & Gaskins, B. (2008). Factors affecting risk management of indoor campus recreation facilities. *Recreational Sports Journal*, 32(2), 114–133.
- Seidler, T. L. (2021). Developing the risk management plan. In D. J. Cotten & J. T. Wolohan (Eds.), *Law for recreation and sport managers* (8th ed., pp. 237–252). Kendall Hunt.
- Spengler, J. O., Connaughton, D. P., & Pittman, A. T. (2006). *Risk management in sport and recreation*. Human Kinetics.
- Wackerhage, H., Everett, R., Kruger, K., Murgia, M., Simon, P., Gehlert, S., Neuberger, E., Baumert, P., & Schonfelder, M. (2020). Sport, exercise and COVID-19, the disease caused by the SARS-CoV-2 Coronavirus. *German Journal of Sports Medicine*, 71, E1–E12.

- Walsh, K. (2022). 10 ways gyms will change forever after lockdown. *Reader's Digest*. <https://www.rd.com/list/ways-gyms-will-change-forever/>
- Wood, L. M., Sebar, B., & Vecchio, N. (2020). Application of rigour and credibility in qualitative document analysis: Lessons learnt from a case study. *The Qualitative Report*, 25(2), 456-470.