

Impacts of the Covid-19 Pandemic on Youth Sport in Canada and Scotland

Keaton Aubin, Simon Darnell, Grant Jarvie, Kait Simpson, Ross Walker



THE UNIVERSITY
of EDINBURGH



UNIVERSITY OF
TORONTO

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INTRODUCTION

In December 2019, 2019-nCov (Coronavirus/Covid-19) spread worldwide. By March 2020, sport was curtailed indefinitely. Consequently, sport's very nature was significantly affected and, in some instances, permanently altered with the entire industry enduring a period of uncertainty which ultimately led to the dissolution of some sports businesses, competitions, organisations and teams (Pedersen, Ruihley, and Li, 2021). In creating a new field of study, research until now has focused more broadly on sport during the Covid-19 pandemic in terms of the experiences, impacts, issues and responses (Grix et al., 2021; Razai et al., 2020; Skinner and Smith, 2021). Less has been said about youth sport and Covid-19 (Drummond et al., 2020; Kelly et al., 2020; Sanderson and Brown, 2020). Some have concentrated upon specific countries, demographics and sports (Dorsch et al., 2021; O'Kane et al., 2021; Zago, Lovecchio and Galli, 2022). However, none have offered comparisons between two countries, like Canada and Scotland. Given the value attached to sport for youth as shown by the United Nations (UN) (2017) labelling it a fundamental human right, there is an increased need to give youth sport during the Covid-19 pandemic attention. While this paper does not assert that a lacuna about youth sport and Covid-19 exists, it is rather proposed that with the world progressing back to a perceived sense of 'normality', it is time to review all relevant research which documents youth sport during the pandemic in Canada and Scotland.

Understanding youth sport during the Covid-19 pandemic can help build the environment back better by improving current systems. To do so, our collective knowledge of the context must be set forth before critically reflecting upon its developments. Throughout Covid-19, researchers thought about youth sport's global fragility and challenged society to rethink of sport as a tool to protect and enable youth (Boris and Stephane, 2020; Watson and Koontz, 2021; Whitley et al., 2021). An opportunity exists to ignite what could be a crucial turning point in youth sport history with Covid-19 affording a reflective window to spark positive change whilst resetting and reimagining the overall youth sport landscape (Schwab and Malleret, 2020). With hindsight, lessons can be learned to help redefine and reshape the future in ways more equitable and resilient by advancing methodological and theoretical understandings. The evidence presented can be utilised to inform existing and future governments, governing bodies and sports organisations' policies and practices aimed at enhancing sport, physical activity and exercise for youth. Insights can strengthen the non-sporting associated physical and cognitive outcomes which are linked to youth sport by improving the conceptual design, equity, foundations, impact and processes of interventions and programmes.

This paper offers an integrative, comparative review of the research which was published about youth sport in Canada and Scotland during Covid-19 from March 2020-March 2022. Canada and Scotland were selected as both countries have strong youth sport programming, are English speaking, and offer a comparison between a larger and smaller population size. It synthesises knowledge about youth sport during Covid-19 within these two countries to determine whether their experiences align. The aim is to unearth the main overarching challenges, impacts, outcomes, responses and trends alongside gaps in knowledge and limitations of the study relating to the field itself. In researching youth sport during Covid-19 in Canada and Scotland, this report is structured as follows. Section one describes the research processes taken in this literature review. Section two begins by providing an overview of the research previously conducted on youth sport during Covid-19 by delineating key concepts, organisations and themes. Section three documents the current state of knowledge surrounding youth sport and Covid-19 in Canada.

Section four chronicles the current state of knowledge surrounding youth sport and Covid-19 in Scotland. Having outlined the available data, section five discusses the study's findings by contrasting the two nations' experiences. The final section offers concluding remarks concerning the field of research and overall study. While these sections reflect the investigation's content, they are only part of the narrative that has been constructed in this paper. Within, key terms surrounding "Covid-19" alongside "youth sport" are unpacked.

BACKGROUND AND REVIEW OF LITERATURE

From March 2020-March 2022, investigations into youth sport during the Covid-19 pandemic have taken place around the world in countries ranging from America (Post *et al.*, 2022; Watson *et al.*, 2021) to Ireland (O'Kane *et al.*, 2021) and Spain (Pons *et al.*, 2020). In contrast, very little has been directly written about Canada and Scotland whilst a comparative study regarding the two experiences is yet to be undertaken. Until now, the body of knowledge that has contributed to our general understanding of youth sport during the Covid-19 pandemic has tended to rely upon some or all the following themes: (i) a lost generation (Drummond *et al.*, 2020); (ii) a call for change (Watson and Koontz, 2021); (iii) athlete impact (Fitzgerald *et al.*, 2021); (iv) contextual, methodological and practical considerations (Kelly *et al.*, 2020); (v) economic, developmental and psychological impacts (Sanderson and Brown, 2020); (vi) parental perceptions (Dorsch *et al.*, 2021); (vii) participation and retention (Elliott *et al.*, 2021); (viii) practitioner and researcher considerations (Kelly, Erickson and Turnnidge, 2022); (ix) venue and event return preparations (Pierce *et al.*, 2020); (x) virtual development (Bates, Greene and O'Quinn, 2021).

Various international agencies and intergovernmental organisations such as the United Nations (UN) and World Health Organization (WHO) have either conducted research or documented the COVID-19 pandemic global impacts through a wide international lens. The body of knowledge gathered from these institutions that relates generally to our understanding of youth sport during the Covid-19 pandemic derives from some or all of the following themes: (i) engagement strategies (UNICEF, 2020); (ii) exercise patterns (WEF, 2021); (iii) impact (IOC, 2020; 2021); (iv) implications (The Commonwealth, 2020); (v) negative social impacts (CSHR, 2021); (vi) PA rates (WHO, 2021); (vii) relief (FIFA, 2021); (viii) response, recovery and resilience (OECD, 2020); (ix) social development (UN DESA, 2020b); and (x) sport (UN DESA, 2020a). A systematic review and meta-analysis on changes to PA patterns during the pandemic noted that PA levels decreased in all 14 countries included across all age groups; university students and children were two groups that saw large decreases (Wunsch *et al.*, 2022)

These sources agree upon the need to build youth sport back better from Covid-19. Every nation's processes or strategies that were in place pre-pandemic were affected by what has been agreed to be a global health, psychological, and crisis (Pollard *et al.*, 2020; Stockwell *et al.*, 2021; Thakur & Jain, 2020). Covid-19 presented unprecedented circumstances which afforded a once in a lifetime opportunity to review, adapt, and improve the current procedures employed for youth sport worldwide. Most importantly, these documents highlight the value of sport, PA and exercise to youth development from a sociological perspective, whether that be physical or mental. Continuously, sport is alluded to and even labeled as the ideal resolution to many, if not most of the social ramifications that the pandemic sparked such as mental health and loneliness (O'Kane *et al.*, 2021). During the pandemic, there became a heightened need for connections and relationships which led to a prioritization to get sport up and running at the first possible chance; Tacon (2021) wisely reflected that governments "tend to rediscover social capital in times of

crisis". Concerns around racial representation, access to facilities, and continued wariness of the safety of play continue to resonate as efforts to 'build back better' continue around the world (MLSE, 2021). In losing accessibility and opportunities to play sport, its value to various youth demographics has become evidently clear with its upkeep being heavily advocated at a time when many other daily aspects of life were deemed to be not of equal necessity (Whitley et al., 2021).

It is only from there that we can start a network beyond our familiar field to involve the wider world of sport. The COVID-19 crisis forced sport to take a back seat, in order to preserve health. It highlighted the fragility of the sport ecosystem. This should encourage us to rethink its role in our society, in order to maintain its capacity to contribute to society in complex times, where health is at the center of everyone's attention. We are currently experiencing an unprecedented crisis (COVID-19), which highlights the lack of sustainability in the sports and performance economic systems (Boris, 2020). The pandemic put pressure on individuals, organizations, and sports as a whole. Leagues folded (Jumpstart, 2022), volunteer organizations were left on the brink of closure, and youth athletes dropped out of sport in general (MLSE, 2021). Many solutions have been proposed to build back better which include: (i) Increasing access (Whitley et al. 2021); (ii) low cost areas of sport participation (Watson & Koontz, 2020); (iii) Reengaging youth with the social aspect of sport (Kelly, 2022); (iv) Adapting top-down directives locally (Doherty et al. 2022) and (v) Making sure coaches are trained in trauma-informed policy (Whitley et al. 2021) amongst others. Limited time has been given to these suggestions and thus it is worthwhile to keep track of the inclusion of them moving forward. The pandemic has therefore opened up a dialogue in youth sport for positive changes to be made going forward. However, a much smaller amount of literature has discussed changes in skill and ability amongst youth.

The closure of places of play reduced PA amongst youth (Abraham 2010), and subsequently resulted in international and regional differences in skill development in countries (Canada, USA) where there were different approaches to Covid-19 containment measures and youth sport (de Lannoy et al., 2020). While youth sport skill development was deprioritized during the pandemic (Vincent et al, 2022), certain priorities were mandated or suggested to youth sport organizations and deemed crucial in supporting the general development of youth during the pandemic. These included: (i) Access to space (Shepherd et al., 2021); (ii) Family income (Guerrero et al., 2020); (iii) Access to internet (Szpunar et al., 2021); and (iv) Access to social interaction (Shepherd et al., 2021). The United Nations Committee on the Rights of the Child encouraged narratives of sport and play to be introduced as a remedy to the pandemic crisis and called for government leaders to lead explorations into solutions and alternative mechanisms for youth leisure and recreation activities (Casey & McKendrick, 2022).

In sum, youth sport during the pandemic left millions of youth without social and athletic activities, and questions about the impacts of this absence. Countries each took different approaches to limiting sport and returning to sport throughout the various phases of the pandemic. The two countries of Canada and Scotland that will be discussed in this review offer examples and reflect impacts on the larger global youth sporting system, while simultaneously allowing new understandings of the impacts through comparison of the evidence base from each nation.

RESEARCH PROCESS

Two parallel reviews were conducted using the same methods, answering the same research questions, but with a focus on including literature relevant to context (Canada or Scotland).

Using the same methodology allowed for consistency around what was searched for and explored, with the aim of enabling rigorous comparison of contexts post review.

Study Design

This study employed a systematic search using scoping review techniques. Scoping studies are used to review a body of literature on a topic that has received little comprehensive attention in the research evidence base and can be useful for determining the range and existence of available evidence (Arksey & O'Malley, 2005). Scoping reviews can meet various objectives through the systematic mapping of evidence (Tricco et al., 2016).

This study aimed to follow Arksey and O'Malley's 5-Stage Process (Arksey & O'Malley, 2005) and the extra recommendations from Levac et al (2010) as a methodological framework. A key requirement of the framework is that it is not linear but rather an iterative process, with expert discussion and reflexivity throughout to ensure the literature is being comprehensively synthesized (Arksey & O'Malley, 2005). Given the novelty of the pandemic and the nature of youth sport being predominantly community-based with varying resource and levels of organizational structure, it was important to discuss how our scoping techniques could be improved to acquire accurate information on this emergent topic.

Initial academic database searches returned few results. Therefore, the research team determined it was relevant here to expand the searching techniques to broadly include grey literature, google searches, and organisational website searches. The approach taken to this process was less of a scientific robust search process and more of a 'sleuthing' exercise, in which we searched various locations to root out relevant materials. This technique returned more literature but it was not substantial and the limitations of non-peer-reviewed evidence also had to be considered (Mahood et al., 2014). It was also time consuming and although returning more body of information, much of it was not relevant to our research questions.

To further scope, the research team reached out to key stakeholders (leaders of youth sport organisations) requesting non-publicly available internal documents and reports (e.g. annual reports) that may add to the evidence base. Contacting key leaders led to a number of these organisations reaching out for meetings to discuss this research project and their observations and understanding of the topic. Although it was not an initially planned part of the research methodology, this inadvertently led to us being able to receive some expert consultation into the accuracy and reliability of the data we had collected, which has been found to be an effective mixed methods application to enhance scoping approaches (Westphalm et al., 2021)

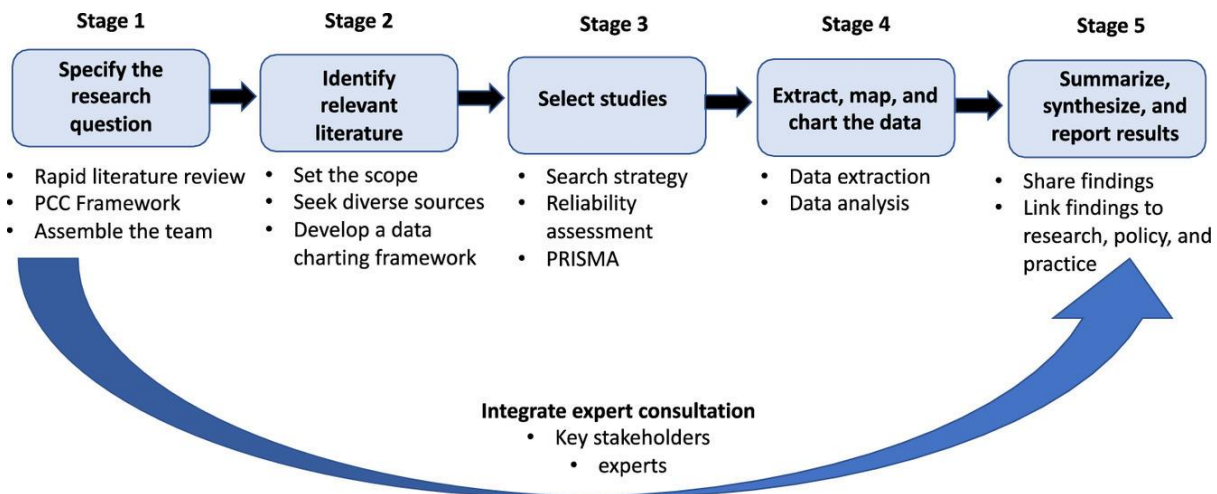


Figure 1: Enhancing A Team-Based Approach To Scoping Reviews (Westphalm et al., 2021)

Effectively, three levels of scoping were employed simultaneously in both reviews: (i) Academic library database search, (ii) Broad grey literature search, and (iii) Internal and organisational evidence search.

Stage 1: Identify Research Question

- RQ1: What were the impacts of the pandemic on youth sport in Canada?
- RQ2: What were the impacts of the pandemic on youth sport in Scotland?
- RQ3: What can we learn from comparing the body of evidence from these two contexts?

Stage 2: Identify Relevant Studies

Agreed terminology (Table 1) guided searches and allowed for development of additional related words in the database search keywords. Initial searches informed the working definitions.

Terminology	Definition Used
Youth	It was determined that one purpose of this review would be to determine <i>how</i> youth was being defined in the evidence base. However, the team agreed that the age of 25 would be an appropriate cut-off point for the purpose of having a basic criterion for the scoping search, while keeping the search inclusive per social science philosophy.
Sport	Recognising historical debates (Meier, 1981), this review defined sport broadly: “All types of physical activity that people do to keep healthy or for enjoyment” (Cambridge definition), which allowed for the search to encompass all literature related to physical activity, movement, and exercise.
Impacts of Covid	After initial searches, it was determined that the pathogenic medical and clinical definition of covid-19 impacts were less relevant for this search; rather, we determined that this review would be defining “impact” as any effect of the pandemic that was embedded in social sciences.

Table 1: Key Definitions

Stage 3: Study Selection

Study selection required that all academic database literature was uploaded to Covidence software. Here duplicates were removed, and every item was screened against inclusion criteria. All titles and abstracts were double screened. Any sources with disagreement required a conversation and final decision. All full texts studies were also double screened for further quality assurance and confidence. Sources where the full text was not available were eliminated.

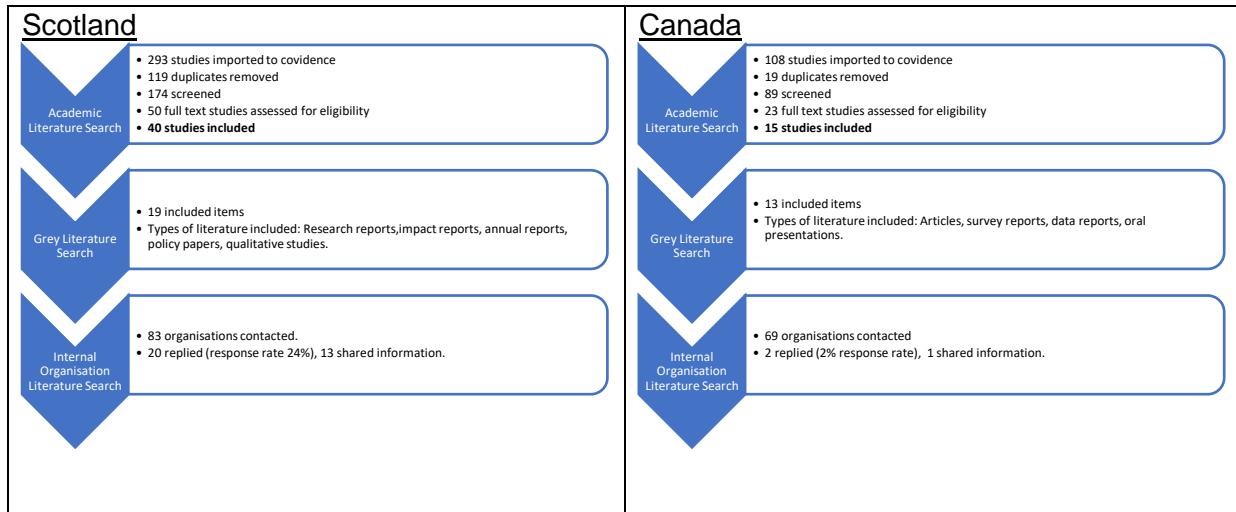
Grey literature and internal documents from organisations were evaluated for selection in the same way, but not in Covidence due to the nature of these documents not being peer-reviewed, their presentations being varied, and in the interest of being able to chart the peer-reviewed literature in its own right.

Inclusion criteria was determined and agreed by the team in both countries a priori as follows: (i) Articles published between 03/2020-03/2022, (ii) Articles published in peer-reviewed journals and grey literature/unpublished work, (iii) Research conducted in youth populations (Age 0-25) health or clinical (e.g. youth with cerebral palsy), (iv) Articles reporting on the effects of the covid-19 pandemic, lockdown on sport and physical activity that provide evidence on impacts, (v) Articles published in English, and (vi) Research designs including: empirical research studies (qualitative, cross-sectional or longitudinal designs, interventions or natural experiments with pre-post measures or comparison) and non-empirical research (systematic and non-systematic reviews, and methods or theory papers). Studies published before March 2020, not related to the relevant context of the review (Scotland/UK or Canada), study protocols, articles focusing on biomedical impacts, articles not focusing on sport, and articles not available in English or French were excluded.

Stage 4: Charting the Data

The extracted data for the parallel reviews were charted independently through thematic analysis. The research team in Canada organized and charted the data in alignment with the research question, while the team in Scotland did the same with their respective data.

RESULTS



Youth Sport During the Covid-19 Pandemic in Scotland

Sport is an integral part of the community which expedites youth personal development (Children and Young People's Commissioner Scotland, 2021). For many youth, sport's social value exceeds all other benefits (Scottish Government Health and Sport Committee, 2021). To date, the body of knowledge that has contributed to our understanding of youth sport during the Covid-19 pandemic in Scotland has tended to rely upon some or all the following themes: (i) accessibility; (ii) communication; (iii) coach/staffing/volunteer shortages; (iv) economics/finances; (v) mental health; (vi) participation; (vii) physical health; (viii) reprogramming; (ix) societal inequalities; (x) wellbeing (SportScotland, 2021c). The succeeding sub-sections outline the dominant themes which emerged from the literature of the governing bodies and organisations who responded with information:

- (i) Demographic differences
- (ii) Sport and Physical Activity Participation
- (iii) The Role of Schools in Physical Education and Sport
- (iv) Mental health
- (v) Online delivery
- (vi) Staffing Shortages
- (vi) Reprogramming

Demographic Differences

"The Scottish Government and UK Government responses to the coronavirus (COVID-19) global pandemic have had a significant impact on the sport sector's ability to operate and has highlighted further issues in relation to equality." (Allen et al., 2021)

While everyone was impacted by the pandemic in some capacity, the penultimate damage was to Scottish youth broader way of living (SportScotland, 2021c). Specific youth demographics had disproportionate effects, encountering intersectional diversity (SportScotland, 2021a). At the onset of the pandemic, Sport Scotland released a technical report highlighting youth and

vulnerable youth as a “hidden group” in terms of current policy, practice, and resource (Allen et al., 2021). These include youth who were directly impacted by Covid-19 and those indirectly affected through their families and social circles (CashBack, 2021). All demographics fell within the protected characteristics categories: age; care experienced young people; disability; ethnicity; poverty and low-income families; religion and belief; sex; alongside sexual orientation/gender reassignment (CashBack, 2021; SportScotland, 2021a; SportScotland, 2021c). Disabled youth (physically/mentally) were one of the hardest hit demographics due to their greater dependency on indoor spaces and overall support (general helpers, mobilisation¹⁰, transportation, etc.) (Scottish Student Sport, 2022c). Unlike the rest of the population who were advised by leading authorities and institutions to go for a run or walk, youth with disabilities could not (Scottish Student Sport, 2022c).

Although multiple issues (accessibility, affordability, deprivation, etc.) existed pre-pandemic, most if not all became heightened as a result of Covid-19. The fundamental and unilateral problem: protected characteristic group’s equitable access to sport (SportScotland, 2021c). For a certain period, government restrictions made outdoor sports a necessity across Scotland. Some families found it challenging to afford the necessary clothing required to enable their child to participate, either forcing many children to temporarily or permanently stop, or straining the household budget and potentially causing other lifestyle ramifications (Shetland Islands Council Sport and Leisure Service, 2022). Alternatively, research has discovered that Covid-19 reinforced outdated gender roles through resurfacing cultural feelings that sport is ‘not for girls’ which undone countless pre-pandemic programmes to get more girls into sport (Sport for Development Coalition, 2020). Essentially, the progress made pre-pandemic within the Scottish sports industry concerning the inequality gaps reduction has been reversed (Sport for Development Coalition, 2020).

Sport and PA Participation

Research published at the onset of the pandemic offers pre-lockdown context to the PA and sport behaviors of children across Scotland. Prior to the pandemic lockdown, there were no differences in Moderate-to-Vigorous PA (MVPA) levels between rural and urban youth aged 10-11 years old and there were no interactions of household income on PA outcomes in Scottish youth (McCrorie et al., 2020).

When lockdown started in Scotland, sport instantly stopped. This prompted changes to youth activity levels and types of activities they engaged in. Active Lives nation-wide surveys identified that between mid-March and mid-May team sport participation and swimming participation numbers fell by more than 50% (Sport England, 2020) and it is expected that these numbers were similarly reflected specifically in youth sport in Scotland as youth centers, leisure centres and gyms were all deemed non-essential across the whole of the UK (Gore et al., 2021).

Youth were the hardest hit age group demographically; those aged 18-24 experienced the most significant participatory alterations with people going from predominantly active to largely underactive (Rowe, 2021). Of youth aged 18-24, when asked if they were doing more or less sitting than they were before the pandemic: 14% stated they were doing a lot or a little less; 15% said they were doing the same amount; 65% said they were doing a little or a lot more (Rowe, 2021). A broader survey of all youth regarding sports participation during the pandemic found similar results with 68% doing significantly less because of covid-19, 16% maintaining their activity levels and 16% increasing their involvement (StreetGames, 2020). Likewise, a study circling quantitative assessment of PA changes revealed that sports duration and intensity also decreased by around 30%, mainly due to lacking motivation and participatory opportunities

alongside government restrictions preventing sport from happening (Whitehead et al., 2020). These behavioural shifts and negative experiences led to 19% stating that lockdown damaged their willingness to participate and one-third of young people's sporting involvement becoming significantly altered or permanently (StreetGames, 2020). Whereas for those who continued playing, sport was a way to occupy spare time and help maintain social connections whilst reducing feelings of loneliness and isolation (Scottish Student Sport, 2022c). For others, the notion of restricted exercise acted as motivation (StreetGames, 2020).

With sport cancelled and youth options curtailed, Covid-19 shifted participation into different activities. Of the youth surveyed: 59% walked; 33% did home fitness (offline); 28% jogged; 26% did home fitness (online); 21% informally played; and 6% chose other means (StreetGames, 2020). With walking being the preferred choice, respondents suggested that these were not strenuous long walks, but rather short ones close to home to get out the house (StreetGames, 2020). Another popular activity was jogging/running whereby an initiative called 'The Daily Mile' which encouraged youth to run every day for fifteen-minutes was created to help improve the emotional, physical, and social wellbeing of youth nationwide (The Centre for Social Justice, 2020). Alternatively, rather than exercising individually, the pandemic enforced increased family connections created by educational institutions and workplaces closing with everyone predominantly housebound which led to families becoming active together within their own homes and outdoor bubbles (Sport for Development Coalition, 2020). Although, research discovered that many youth lacked the confidence and motivation to be regularly active at home and subsequently missed the associated benefits (Scottish Sports Futures, 2021). However, these activities were chosen via limited option, selected to fill excessive amounts of free time rather than them being the preferred choice or a sport youth enjoyed (Sport for Development Coalition, 2020; StreetGames, 2020).

With government restrictions enabling outdoor, non-contact activities over indoor, contact games, Covid-19 ultimately shifted youth sport participation and saw some sports experience growth in participation while their counterparts experiences loss. Sports like golf (+18%) and tennis (+10%) experienced strong growth during the pandemic (Scottish Golf, 2021; Tennis Scotland, 2021). For example, junior golf memberships rose from 15,501 (13,903 males/2,535 females)-19,582 (16,420 males/3,162 females) from 2019-2021 (Scottish Golf, 2022). Contrarily, basketball (-36%) and shinty (-22%) encountered drastic decreases (basketballscotland, 2021; Camanachd Association, 2021). For example, shinty's youth participants dropped from 1,825 (1,375 males/450 females)-1,423 (1056 males/357 females) from 2019-2021 (Camanachd Association, 2021). While these examples reflect a sample of sports, these fluctuations were common across all sports ranging from equestrian to rambling, whilst some sports were arbitrarily influenced. As seen with basketball, while club membership decreased, grassroots interest levels increased (basketballscotland, 2021). There was no common thread that was generalizable across certain types of sports. For instance, squash was expected to have one of the largest declines due to its indoor nature, yet it dropped by 9% (1564 (1050 male/514 female)-1427 (879 male/548 female) from 2019-2021 whilst shinty, an outdoor game, was twice as worse-off (Scottish Squash, 2021). The recurring answer: youth stopped playing sport either temporarily or altogether or joined a new sport which returned quicker such as golf, football or tennis. Moving forward, organisational goals concern ensuring that these newly populated sports retain new members and continue to grow without them rejoining former pastimes (Scottish Golf, 2022). For sports who lost participants, the aim is encouraging youth to return.

Upon sports restarting, many clubs, institutions and organisations anticipated a problematic return. While some individual sports experienced issues, others alongside overall youth sport saw some new trends emerge. In some sports systems such as the Scottish Student

Sport (2020c) environment, having lost sport during the pandemic, this motivated more students to return or join than ever before. For the first time, the 2021-2022 calendar sports year witnessed more females (19,136) than males (17,489) partaking (Scottish Student Sport, 2022a). This was due to college/university sports being predominantly peer-led which helped females feel more comfortable and welcome in sports ecosystem (Scottish Student Sport, 2022c). Likewise, youth disability sport noticed its largest recorded membership with 1,083 in 2021 compared to 261 in 2019 (Scottish Student Sport, 2022a). Activities which gained popularity during lockdown such as cross country running and cycling sustained impetus, growing in activity with more competitions introduced to facilitate increased demand (Scottish Student Sport, 2022a/b). Subsequently, student competitions have increased overall during 2021-2022 (Scottish Student Sport, 2022a). While the landscape appears positive, many groups expect slow drop-off rates from 2022-2023 onwards (Scottish Student Sport, 2022b). The biggest challenge post-pandemic is sustainability.

The Role of Schools in Physical Education and Sport

SportScotland's report from early 2020 during the pandemic onset found that Scotland's Active Schools sport and PA programs were clearly contributing to positive youth mental wellbeing, with over 80% of students reporting feeling increased happiness, confidence and feeling healthier as a result of their taking part (Allen et al., 2020). Prior to the pandemic, 10% of children in Scotland were at risk of obesity (Tisdall et al., 2020) and for many Scottish youth, the majority of their PA and sport delivery takes place in the school setting. COVID measures led to the severe disruption and reduction of youth PA promotion, with the emerging use of technologies for learning online consequently contributing to increased sedentary lifestyles and subsequent health risks (Bailey & Scheuer, 2022). A cross-cultural study on the impacts of school closures on PA and health used cross-sectional convenience samples and noted that while many youth (48%) (Watson et al., 2020) experienced drops in PA due to school closures, about 25% of children and young people in Scotland undertook more PA during the pandemic lockdown (Viner et al., 2021). Colucci-Gray (2022) considered the rights of children and argued that rights to education, including physical education were breached in some cases in Scotland, through denied right to participate. Further concerns have been raised that these harms brought on by missed school are severe and even more significant for vulnerable Scottish children (McCluskey et al., 2021; Tisdall et al., 2020).

Other researchers used the pandemic time to debate whether current school physical education curricula are "equitable, culturally relevant and inclusive" and to urge teachers to take action on changing practices (Gray et al., 2021). A Scottish Association of Teachers and Physical Education Journal report declared, "We need to teach how being active can help us all through not only this global pandemic but through the journey that is life. So, colleagues, continue to strive for excellence because our pupils deserve to live long and prosper." (Howells, 2021). Collectively, those studying the impacts of the pandemic on youth in schools agree that there is opportunity to critically evaluate approaches to physical education and consider new ways of incorporating the body, movement, and sport into other aspects of learning (e.g. Active Homework) moving forward from the pandemic, and to incorporate the voice of young people in decision making (Paige et al., 2022). One study made the strong case that the pandemic is an opportunity to consider including lifestyle sports that reflect today's youth interests into school curriculum as well as an opportunity to popularise 1212 new and emergent sports (Leeder, 2021).

Mental Health

Lockdown measures and the disruption of sport has had a detrimental psychological impact on youth and the wider determinants of children's mental health; in Scotland and England, containment policies caused more drastic mental health ramifications than the stressors

associated with the pandemic and virus itself (Serrano-Alarcon et al.,2022). The closure of sport venues and facilities resulted in children struggling with loneliness, loss of support, and loss of social relationships (MachLachlan et al., 2022). At least one-third of youth aged 8-24 experienced an increase in mental health distress (Youth Sport Trust, 2021). Cowie & Myers (2021) highlighted the urgent need throughout the UK for continuing to foster key protective factors of sense of mastery and positive self-esteem for children that are often developed and encouraged through sport and the arts.

The British Psychology Society reported that youth athletes' emotional responses differed and were susceptible to amplification depending on the psychological stage of development (schoolchild, puberty or adolescence) (Lafferty et al., 2020). For example, two-thirds of school children (aged 5-12) reported feeling lonely in 2020 when schools were closed which is a 50% increase compared to pre-pandemic levels (Sport for Development Coalition, 2020). 20% of young people in Scotland reported being moderately or extremely concerned about their own mental wellbeing. Adolescents were impacted most by disruptions because they were undergoing a key brain development period which necessitated sensitivity to social interactions alongside the need for peer interactions (Sport for Development Coalition, 2020). Of adolescents aged 18-24, regarding the extent to which change in participation in sport activity due to the Covid-19 restrictions impacted upon their mental health and happiness: 49% reported that the pandemic had a very or somewhat negative impact; 27% said it made no difference; and 24% stated that was somewhat or a very positive impact (Rowe, 2021). Overall research indicates that life satisfaction among all youth was down throughout the pandemic with youth the most at-risk demographic of developing long-term mental health problems (Sport for Development Coalition, 2020; Youth Sport Trust, 2021; Homes et al., 2021). Within competitive sport, it was recognized that the significant changes, suspension and uncertainty of future sport activities were increasing feelings of frustration, anxiety, and discomfort for parents, guardians and athletes alike across the UK (Butt et al., 2020).

While 18-24-year-olds were seemingly the most affected age group, there were mental health implications and risks across all social determinants and demographic characteristics. Young girls were more susceptible to mental health impacts than boys during the pandemic, with pre-pandemic figures revealing that one in four girls reported high levels of depressive symptoms, compared to one in ten boys (Sport for Development Coalition, 2020). The Black, Asian, and Minority Ethnic (BAME) community youth suffered disproportionately with BAME children's: suicidal thoughts increasing by 26.6% (18.1% increase for white youth); self-harm incidents increasing by 29.5% (24.9% increase for white youth); and depression increasing by 9.2% (16.2% decrease for white youth) (Youth Sport Trust, 2021). It is believed that the risk of dying from Covid-19 was responsible for the increases in mental health among the protected characteristics categories (Youth Sport Trust, 2021). Furthermore, 83% of young people with pre-existing mental health problems believe their mental health worsened during the pandemic (Youth Sport Trust, 2021). In rural communities, there is a more local focus on community support and resilience developed in community leisure centers and sport halls than in metropolitan areas. These facilities are the lifeblood of rural community life. It is thought that some of the social, mental health, and economic impacts of the pandemic may have been experienced more widely in these areas for young people (Curie et al., 2021).

As the pandemic progressed, youth began experiencing new emotions. Evidence documenting the impact of Covid-19 on youth sport has revealed an increase in feelings of abandonment, anxiety, confusion, depression, disappointment, isolation, loss and sadness (Lafferty et al., 2020; Rowe, 2021; Sport for Development Coalition, 2020). Of youth aged 8-24, boredom (51%), worry (28%) and feeling trapped (26%) were the top three emotions experienced

(Youth Sport Trust, 2021). Additionally, 41% reported being lonelier during the pandemic than pre-Covid-19, 38% said they were more worried about everything in general, 37% stated they felt sadder and 34% more stressed with 33% incurring trouble sleeping (Youth Sport Trust, 2021). In enduring these feelings, in many instances, they subsequently led to loss of motivation and self-efficacy alongside reduced self-esteem and self-confidence before escalating to panic attacks and more serious health concerns like self-harm (Lafferty et al., 2020; Rowe, 2021; Sport for Development Coalition, 2020). While these emotions have impacted each youth differently, many failed to recognise and understand their feelings due to their unfamiliarity (Rowe, 2021). With sport previously being their regular support channel, many opted not to seek out help for their mental health because they were either naïve to the process or intimidated by it (Lafferty et al., 2020; Sport for Development Coalition, 2020). Equally, most sport organisations were not equipped to respond to the demands of youth for mental health support (Sport for Development Coalition, 2020).

In relation to sport, mental health increased for various reasons. Youth perspectives reiterated how mental health issues arose from suddenly losing a daily habit and dependency overnight (Youth Scotland, 2021). Mental health then worsened with ongoing sports postponement allied to the continuous period of uncertainty surrounding sports reinstatement (Sport for Development Coalition, 2020). This led to a consistent loss of structure and disruption to a daily routine which otherwise provided direction in youth lives (Lafferty et al., 2020). Many youth attached emotional components (economic, performance, recreational or social) to sport due to it playing a critical role in their life whereby the desired outcomes were unattainable (Lafferty et al., 2020). To these youth, sports cancellation represented a loss of identity and purpose which sparked a sense of loss, leading to a lack of drive and focus (Lafferty et al., 2020). Previously, sport was the hook that drove aspirations and personal development, but this alchemy was now gone (Lafferty et al., 2020). As shown by 83% of young people, the most common answer was that the pandemic made their mental health worse due to a lack of connection and support with 80% attributing it to prolonged social isolation via reduced social opportunities (Sport for Development Coalition, 2020). Regardless of the reasons as to why youth played sport, they all missed the social benefits.

The mental impact inflicted by Covid-19 changed Scotland's youth sport landscape. Reflected by youth aged 18-24, concerning motivation and enthusiasm about sport during the pandemic compared to pre-covid-19 restrictions: 32% divulged that they were feeling a little or a lot less motivated; 30% believed they were the same; and 30% revealed they were a little or a lot more motivated to partake (Rowe, 2021). With motivation being an important marker of wellbeing and positive mental health, these are quite substantial fluctuations (Rowe, 2021). What these figures represent are individual's sporting capital stock which either supports and motivates somebody to participate in sport and sustains that participation over time or prompts them to leave (Findlay-King, Reid and Nichols, 2020). Subsequently, the biggest motivational decreases reveal youth who were fringe members prior to the pandemic, whereas the other two percentages reflect youth who were committed to, enjoyed and regularly attended sport (Findlay-King, Reid and Nichols, 2020). Those with a high stock were perceived to be more adaptable and resilient to Covid-19s changes, happily transitioning to a new sport whereas those with lower stock were more susceptible to these negative ramifications and encountered more barriers (Findlay-King, Reid and Nichols, 2020).

In the absence of sport, youth surveyed by StreetGames reported missing: meeting up and socialising with friends (76%); taking part (66%); learning new skills (47%); fun atmosphere (29%); trying new things (26%); coaches/leaders (23%); and matches (21%) (StreetGames, 2020). Given that the most prominent answer was socialising, attention is drawn to sport as a

pillar of connectivity, with multiple children's voices echoing the importance of having "somewhere to go" or "someone to talk to" (StreetGames, 2020). Looking back: 27% of young people said that sport made them feel better during restrictions; 50% of youth intend to do more sport in the future; and 37% stated that they now see sport having a more important role in their lives than they did before lockdown (Youth Sport Trust, 2'21). With an even split across males and females, regarding the access to play regular sport post pandemic: 22% said that it was not at all or very important; 63% said it was fairly or very important; and 15% said they did not know (Rowe, 2021). The consensus among Scottish youth was that the pandemic was mentally hard to endure and process and that sport alongside its broader social environment became youths outlet with many eager to return (CashBack, 2021).

Online Delivery

With Covid-19 halting sport indefinitely, to ensure continued support to participants, the initial response saw all youth sport (amateur, community, college, recreational, school, and university) move online (Cashback, 2021; Youth Scotland, 2021). During lockdown, networking applications like Microsoft Teams and Zoom alongside social media platforms such as Instagram and Twitter became key mechanisms for connecting (Sport for Development Coalition, 2020). Virtual engagement (messaging or posting directly) was found to increase well-being and help maintain personal relationships with friends alongside positive role models (Sport for Development Coalition, 2020). However, passive uses of social media (such as scrolling through newsfeeds) negatively influenced wellbeing (Sport for Development Coalition, 2020). Through virtual delivery, this has heightened engagement whilst providing wider geographical reach, allowing organisations to bring youth together from countryside (Cashback, 2021).

Overall, sports organisations revealed that online operations have been successful with many willingly integrating hybrid delivery models which merge the virtual worlds most beneficial aspects with in-person sessions post-pandemic (CashBack for Communities, 2021). While online delivery was the best option during lockdown, its benefits contradicted itself, having multiple limitations. Certain activities are not conducive to online delivery and in some areas online delivery was leading to digital exclusion; for these reasons, some organisations chose to delay sport delivery altogether until lockdown restrictions lifted (Tyrell et al., 2021)

Online delivery decreased sport engagement effectiveness compared to in-person sessions, with many youth reluctant to immerse themselves (Scottish Student Sport, 2022c). As coaches relayed, the virtual world made subtle check-ins harder and pick-up cues regarding at-risk youth wellbeing going unnoticed, meaning some vulnerable youth went without support (Sport for Development Coalition, 2020). To help youth from disadvantaged backgrounds overcome online participatory barriers, organisations like the Dundee Community Trust in conjunction with Dundee Football Club launched a digital and social inclusion programme called 'Dundee Together' (Scottish Professional Football League Trust, 2021). This supplied families and youth with low-income streams with technology which enabled online participation in sports initiatives (Scottish Professional Football League Trust, 2021). Despite such initiatives, another issue with online delivery was when youth sporting accessibility became limited during the holiday periods due to club and educational sports systems temporarily ceasing operations. In response, some youth endured behavioural alterations as means of expressing distress in ways which adults perceived as problematic and negative such as increased anti-social behaviour and crime (Children and Young People's Commissioner Scotland, 2021; Sport for Development Coalition, 2020).

With older youth athletes and athletes of a higher level, the technology limitations and benefits may have differed in Scotland. One study of university student dancers from six different countries, one of which was Scotland, found that online sport delivery and learning efficacy may be predicted by the athletes' perfectionism, time management skills (Baab, 2020). Another study of online tennis coaching in Scotland comprising twenty-three youth players and nine coaches found that online learning and delivery enhanced communication with parents and players as well as offered improvements in areas such as preparation and motivation techniques (Glen et al., 2020).

Staffing Shortages

With Covid-19 creating an environment which was a catalyst for natural turnover, many clubs, governing bodies and organisations experienced shortages of coaches and volunteers (Findlay-King, Reid and Nichols, 2020). A prime example is Scottish Squash. In 2019, Squash had 36 coaches (27 level one and 9 level two) yet by 2021 they obtained 29 (18 level ones and 11 level twos) (Scottish Squash, 2021). This reflects similar behaviours to participants whereby less-dedicated coaches sought alternative positions or stopped altogether while more-committed coaches persevered, seeking progression. As one of the largest sporting employers in Scotland, who comprise the largest volunteer base, Community Leisure Scotland likewise experienced a significant decrease in staff. 18-24 youth coaches were most affected with many made redundant or resigning during Scotland's furlough period to enter non-sporting jobs which still operated (Community Leisure UK, 2020).

One recurring subtheme of staffing shortages was mental health. Coaches and volunteers who actively support youth through sport experienced a high prevalence of mental illness, with those coaches in grassroots settings in the UK experiencing the largest burden of mental illness; Smith et al. (2020) flagged a resource gap and asked the question "who is looking after the people looking after the people?". The most common denominator reported by staff which separated coaches and volunteers from participants was burnout (Findlay-King, Reid and Nichols, 2020). Many were found to be voluntarily overworking. This impacted youth sports delivery for two overarching reasons: many staff members were forced to stop leading to the overall number of coaches and volunteers decreasing; and for those who persevered whilst suffering mental health found that it made their ability to provide positive sporting experiences more difficult as they had to manage their own emotions alongside others (The British Horse Society Scotland, 2022). In the latter scenario, a staff member suffering mental health had the potential to transfer negative feelings to participants (Findlay-King, Reid and Nichols, 2020).

Losing countless coaches and volunteers decreased overall youth sport provisions. One sport hit particularly hard above all others was swimming whereby demand exceeded supply meaning that competitions and lessons for youth were consequently postponed more so than other activities (Community Leisure UK, 2020). While Covid-19 made sports programming harder, coaches are a key component to youth sport not only to provide participatory opportunities, but because of the level of guidance and support they offer youth (Findlay-King, Reid and Nichols, 2020). In response, many authorities, clubs, and organisations such as Edinburgh Leisure began hiring both qualified and non-qualified staff, offering to pay for training whilst taking people from sports training schemes (Community Leisure UK, 2020). The most efficient method was upskilling older youth sports athletes (16-25) from volunteers to employees to fulfil the increasing participants and sessions (Community Leisure UK, 2020).

Tangentially, the pandemic heightened awareness of gender inequalities in the Scottish sport landscape. The lack of female coaches and role models for girls in youth and amateur sport

was declared a barrier to participation and growth of teenage girls and young girls in sport, with the ratio of female to male coaches in Scotland 3:10. During the pandemic, there was an observed decline in female sport coaches at the elite levels (Brown et al., 2021). Dennehy (2020) recognized the pause of sport in Scotland as a crucial opportunity to champion gender equity in sport to ensure it is more accessible to children and all, while Renfree et al. (2022) propose education programming to give youth and Gen Z the tools to create sustainable change around equalities in sport.

Reprogramming

In-person sports cessation sparked widespread operational and business insecurity. In the first six months of the pandemic, where roughly 25% of sports organisations were uncertain if they would survive the pandemic (Sported, 2021). The future of community leisure centers remains at risk as many have yet to return to profitable operations. Furthermore, the rise in use of parks, public spaces, and cycling routes has also led public funding investments to be redirected to maintaining and improving these spaces (Gore et al., 2021; Edinburgh Leisure, 2022). Experts urge youth sport organisations to adapt to and consumer behaviors and changing trends of PA interests towards non-organised sport, such as the case of rise in Skateboarding in Scotland (Teare & Taks, 2021). Contrastingly, Kelly et al. (2022) argue that UK sports clubs may be at lower risk of dissolving and of national youth sport dropout (compared to other western world counterparts) because they are often funded as registered charities or by private organisations (e.g. premier league) which can offer stability. Kelly et al. call on stakeholders to be wary of further exacerbating inequalities that exist in youth sport as they think about reprogramming and future strategy. However, in Scotland specifically, a case study of local football club Bonnyrigg Rose suggests that additional support for community football clubs is necessitated beyond these basic supports. This case study showed that the sports club played an integral community role beyond the field that was highlighted when the community depended on them for resilience support and to drive vital initiatives during the pandemic (McNiven & Harris, 2021).

The biggest challenge and main priority remained maintaining youth wellbeing (Sported, 2021). As outlined above, the initial response moved sport online. The second saw youth sport restructure, offering new programming and provisions to keep youth engaged and supported (Sported, 2021). To discover the main issues arising alongside what youth needed before tailoring responses accordingly, youth sport organisations worked on the ground-level (Sported, 2021). Guiding these changes were youth themselves who were given a voice to help shape interventions to suit them best (Scottish Sport Futures, 2021). For example, youth sports entities found that young people preferred using Facebook Messenger and WhatsApp rather than Microsoft Teams or Zoom, so practitioners remodeled to suffice requests (CashBack, 2021; Scottish Professional Football League Trust, 2021). Youth sport became a constant process of adaptation and implementation whereby clubs and organisations not only changed deliver models quickly but rewrote safeguarding policies and theories of change whilst putting together new information and resources (Sport for Development Coalition, 2020; SportScotland, 2021b).

What the pandemic forced was an exploration of alternative and creative solutions so youth could enjoy their rights to sporting activities (Children and Young People's Commissioner Scotland, 2021). This led to the adaptation and implementation of new sports-related content which although in existence pre-Covid-19 became expedited and heightened via the pandemic. Governing bodies such as basketballscotland introduced fitness challenges, individual skill drills, psychology sessions, and yoga with the focus surrounding mindfulness and wellbeing, aiming to help address rising mental and physical health issues (basketballscotland, 2022). Whereas clubs and organisations established additional safety nets and helplines to support participants' welfare

through one-to-one socially distant walk and talks, regular online check-ins, telephone calls whilst dispersing 'wellbeing packs' (Sport for Development Coalition, 2020). As seen with Scottish Sport Futures Youth Advisory Panel who distributed 150 wellbeing packs, these contained sports equipment and other resources to encourage young people to stay active, develop physical skills, and look after themselves during lockdown (Scottish Sports Futures, 2021). Youth were also offered extended opportunities to join online sports courses and could train as ambassadors, coaches, officials, and referees (CashBack, 2021; Scottish Sports Futures, 2021).

In seeking to create new opportunities, the pandemic catalysed a substantial increase in joint up working to address prevalent issues. With mental health rapidly rising, many organisations took extra steps towards resolutions by partnering with the Scottish Association for Mental Health (SAMH) to deliver online wellbeing sessions (Scottish Sport Futures, 2021). Similarly¹⁸, with a need for social cohesion amidst increased societal and political divisions coinciding with social isolation caused by pandemic measures, pushes were made to highlight the use of sports and cultural activities to maintain social connections; this was supported by findings presented that those who volunteered, for example coaching at a youth sport club, during the early days of the pandemic were able to have higher levels of optimism and deepened sense of local community (Abrams et al., 2021). To continue youth development, organisations seized the opportunity to deepen training elements by widening accreditations and skill pathways through working with educational authorities (Colleges, Education Scotland, and the Scottish Qualification Authority) among other subject related agencies to maximise outcomes (CashBack, 2021; Scottish Sport Futures, 2021). For example, Scottish Sports Futures established a new module called 'Mental Health and Wellbeing in Sport and PA' whilst SportScotland offered multiple educational courses and e-learning options (Scottish Sports Futures, 2021; SportScotland, 2021b). Due to these new developmental pathways, some youth relayed that lockdown benefitted them because it enabled their development to progress more holistically whilst allowing them to stay productive and motivated (Youth Scotland, 2021). Through the direct support and continued opportunities that sports organisations provided, this enhanced their presence and reputation whilst affording the ability to strengthen relationships with young people and local communities (CashBack, 2021). Given the partnerships effectiveness, many youth sport organisations plan to continue and expand these collaborations post-pandemic (Cashback, 2021).

As Scotland emerged from the pandemic, sports onus changed. Pre-pandemic, many institutions' and organisations' intent were increasing participation (Scottish Student Sport, 2022a). While not everyone's motivations, because of Covid-19, more people are recognising sports positive capabilities, especially for youth and are employing it as a tool to help improve youth lives (Scottish Student Sport, 2022c). More organisations are now emphasizing and prioritizing inclusivity and wellbeing whilst also striving to target the most deprived and marginalized communities (Scottish Student Sport, 2022a). Following the significant increase in female players (2,680-6,173) from 2019-2021, Scottish Rugby introduced a strategy which focuses on 'Wellbeing, Women, and Winning' with the central component being the development of the girls' youth system (Scottish Rugby, 2022). Throughout Scotland, there is also a greater emphasis on creating more social and recreational sporting opportunities for those who cannot or do not desire to commit to an organisation or team, moving back to the 'pay per play' system (Scottish Student Sport, 2022b/c). Overall, there are two clear outcomes: the heightened need to be more deliberate and intentional in youth sports delivery to generate positive outcomes; but also, the increased desire to help those most in need.

Concluding Remarks

Based on the literature collated on youth sport during the Covid-19 pandemic in Scotland, the findings reveal a series of outcomes which reflect positive and negative scenarios. The restrictions imposed rendered immediate and significant impacts on almost every aspect of youth lives from mental and physical to social and developmental. Furthermore, the pandemic has also radically affected the capacity and infrastructure capable of supporting youth participation (Rowe, 2021). Whilst Covid-19 presented new challenges which forced drastic changes to Scotland's sporting landscape, it also magnified and worsened pre-existing inequalities and issues, especially societies socio-economic gap. The penultimate being mental health which has necessitated requirements for greater support mechanisms for youth alongside an 'open door policy' (CashBack, 2021). Overall, the pandemic has given youth a space to reassess their lives, considering sports role and value to them to them. For conveners, practitioners, policy makers and stakeholders involved in youth sport, Covid-19 has highlighted a drastic need for change to the Scottish system, especially around that of youth wellbeing but also the coaches who enable participation. One way to address these issues is through recognizing sports benefits to youth before redesigning the approach to how sport is delivered to youth.

Youth Sport During the Covid-19 Pandemic in Canada

Sport in Canada allows youth to experience social and physical benefits. In most circumstances youth value, the relationships made in sport over the results on the field. During the pandemic some youth were able to experience the physical benefits of sport, but almost all youth lost access to the social benefit. To date, the body of knowledge that has contributed to our understanding of youth sport during the COVID-19 pandemic has relied upon some or all of the following themes: (i) Intersectional Inequality; income, race, rural and urban divide (ii) Organisational inequality; sport prioritisation, and organisation's ability to draw critical resources (iii) Changes in sport performance and sport delivery. The succeeding sections and subsections will outline the dominant themes of intersectional inequality, organisational inequality, and changes in youth sport performance and deliverance. Intersectional inequalities in Canada were exacerbated during the pandemic and made visible through the participation of youth sport. The literature proposed that the two dominant factors of youth participation in sport during the pandemic were economic standing, and geographical location (MLSE, 2021).

Affordability

Participation metrics were directly impacted by household income. The Canadian 24-h Movement Guidelines for Children and Youth (5–17 years) recommended a minimum of 60 min of moderate-to-vigorous PA per day, along with screen time and sleep guidelines (Guerrero et al., 2020). Adherence to the movement guidelines was lowest amongst children whose parents reported "low perceived capability to support their child's sleep," with only 8.0% meeting this recommendation (Guerrero et al., 2020). When annual household income increased from ≤ CAD 99,999 adherence to sleep jumped 14.1%, in turn, increasing children's adherence to the set movement guidelines adhering to sleep recommendations (Guerrero et al., 2020). Youth across all income brackets reported affordability as a key issue to returning to sport post pandemic. Youth from high income households reported a participation rate in sport over the past two years of 86.9% in comparison to youth from middle class households reporting 69.6% and low-income households reporting only 57.74% (MLSE, 2020). Participation rates based on household income levels show that high income households continued to play at a high rate during the pandemic. As high-income households did not lose out as much on participation, their concerns were associated with access to quality coaches and an appropriate level of competition. Those from lower income households were more concerned with the health and safety of competition during

the pandemic (MLSE, 2020). Access to quality coaches and competition did not change youth participation rate in sport for high income households. Concerns about health and safety completely stopped youth from participating in sport to begin with as shown by the participation percentage of medium and low-income households. Across Canada, people were advised to “stay home” during the pandemic, leading to very limited economic activities and travel (Mitra et al., 2020). The nature of the pandemic itself put further stress on Canadian households, especially of lower income levels. Changes in isolation requirements, work from home orders, income loss or fear thereof, sickness and overcrowding in homes are all more common for families already experiencing disadvantage (Bambra et al. 2020). Increased cost of living in urban Canadian centres paired with lack of usable space further impacted youth sport participation during the pandemic.

Rural-Urban

The current literature shows a significant difference in youth sport participation between rural and urban centres of living. Rural children had more safe space for play during the pandemic and were able to continue safe methods of play without the economic cost of participating in an organised league or recreational facility. Urban youth are more reliant on the use of sport facilities and sport organisations to facilitate play, both of which were completely closed or highly restricted during periods of the pandemic. For example, “65% of Black youth in the GTA identified affordability as a top priority to support their participation, compared to 47% of Black youth from outside of the GTA (MLSE, 2020).” Black youth from the GTA were also almost 40% more likely to identify affordable sport opportunities as a key aspect of building back better relative to Black youth from outside of the GTA (MLSE, 2020). Canadian recommendations to continue sport during the pandemic was to participate from home. This was not possible for youth living in crowded areas as the threat of the coronavirus itself was greater for those living in more crowded spaces (Alexander & Shareck, 2021). During lockdowns and closures, the limitation of sport facilities to play helped curb the spread of the virus in a large number of communities where there were alternative safe spaces of play. Youth in urban settings that did not have access to alternative safe spaces of play were at a higher risk of becoming sick and have lasting negative impacts on their movement behaviours (Szpunar et al., 2021). Parents with backyards and alternative playing areas reported these spaces to be crucial in the promotion of their children’s movement (Szpunar et al., 2021). Access to outdoor play areas differed vastly across Canada during the pandemic. The city of Oakville completely banned access to municipal parks, while Toronto was the last major city in the country to implement road closures to facilitate safe outdoor activity (de Lannoy et al., 2020). Meanwhile Ottawa limited park use to “walkthrough only” purposes, essentially banning play from these spaces, and heavily ticketed those who deviated from that rule (Ottawa Citizen, 2020a, de Lannoy et al., 2020). Vancouver, by comparison, was one of the first places in the country to institute measures to promote safe access to the outdoors by banning car access to Stanley Park (de Lannoy et al., 2020, City of Vancouver, 2020). Further conversation about the rural/urban divide of youth sport participation is sure to follow, especially as recent evidence suggests that transmission of COVID-19 is low outdoors compared with indoors (Morawska & Milton, 2020). In order to deal with closures of sport facilities, Canadian youth sport deliverance evolved to accommodate.

Sport Deliverance Change

The pandemic changed the way sport was delivered to youth in Canada. This change in deliverance also led to change in the perceived sport performance of youth. With social distancing and indoor/outdoor recreational facilities largely closed across the country, sport programming was done predominantly online (Szpunar et al., 2021). The Canadian government in tandem with

health authorities pushed forth at home and outside exercise programs that could be conducted in a hygienic manner (Szpunar et al., 2021). Given the health measures in place, there were not a lot of alternative options besides online delivery for the Canadian government to put forth. Unfortunately, the current literature does not view Canada's response favourably as it neglects a large portion of households. Firstly, families were not necessarily prepared or equipped for certain activities. Secondly, online deliverance placed the responsibility of learning on parents at a time in which other concerns were at the forefront such as, income loss, and sickness (Alexander & Shareck, 2021). Online deliverance also limited Canadian youth that lived in colder climates to indoor sport, which may have been difficult or not possible given access to space or crowding in the home (Shepherd et al., 2021). Furthermore, youth that participated in purely indoor spaces during the winter months (swimming, volleyball, soccer) could not continue training sport specific features and were left playing different sports or reducing PA (Shepherd et al., 2021). Recommendations to online deliverance in the future include; using exercises that require little to no equipment, raising awareness of online resources like Nike Run Club and participACTION, and providing online mental health programs to help with the isolating side effects with limited social interaction (Shepherd et al., 2021). The change to online deliverance led to a change in Canadian youth sport performance.

Sport Performance

Changes in youth sport performance have been a secondary concern in the literature surrounding youth sport participation during the pandemic. A significant amount of work has been done specifically on the participation of sport, as opposed to the quality of sport being played. Changes in sport performance or perceived changes in sport performance were present in Canada during the pandemic. In Calgary, Alberta, high school students reported decreased amount and intensity of play during the pandemic (Shepherd et al., 2021). Closures of safe spaces of play, meant that youth were less likely to engage in PA and are predicted to suffer from obesity (Abraham et al., 2010), p. 65). Youth, who had access to outdoor spaces, referenced using them often to maintain their performance (Szpunar et al., 2021). Youth who had access to safe spaces of play were able to continue or increase physical performance (Alexander & Shareck, 2021). A change to online deliverance was required to keep case numbers down. This decision had unintended consequences in both youth sport participation and performance. Youth with less access to outdoor space, equipment, or facilities reported that they had worse athletic performance during the pandemic. As place of play began to open up and deliverance started to change to in-person, children reported better performance, some reporting back to pre-Covid levels (Shepherd et al., 2021). While much has been discussed about the inequalities of youth sport during the pandemic at an individual level, there were also inequalities existing between organisations.

Sport Itself

The presumed popularity and national interest in a particular sport itself lead to unequal organisational funding during the pandemic. Canada's national hockey association named 'Hockey Canada' was recently revealed to have received \$14 million dollars in federal funds over the past 2 years. This included \$3.4 million in emergency COVID-19 subsidies. "Hockey Canada received \$5.65 million in Sports Canada operating grants in fiscal 2021, as well as \$2.45 million under the Canada emergency wage subsidy (CEWS) and a further \$197,000 in the Canada emergency rent subsidy, both pandemic relief programs. That total of \$8.3 million represents 13.4 percent of the organisation's \$61.9 million in annual revenue. (CBC, 2022). During this same time period many volunteer-run organisations did not even qualify for Canada's Emergency Wage Subsidy and Business Credit Availability Program (CCES, 2022). Many of these community level

sport organisations reported that even amounts of emergency funding under \$20,000 would allow them to operate and deal with challenges during the pandemic (CCES, 2022). One Canadian survey showed that local sport organisations from 56 sports and all provinces and territories in June 2020 documented that 99% of organisations' operations were affected by COVID-19 and 74% had to temporarily close. (Sport for Life, 2020). As opposed to sports like hockey (wealthy, predominantly white, male dominated), little access to high level sports and general access to fields and gyms were available to youth. "Little to no basketball courts other than high school gyms (which are difficult to book) or safe grass fields for soccer and other sports were accessible (MLSE, 2021)." Youth have voiced concern to include all sports in building back better post pandemic. In Waterloo, Ontario swimmers and hockey players were able to return to sport, while youth basketball players not in organised leagues were unable to book the gym (MLSE, 2021). Sports like basketball in Canada have a high participation rate during the school year so when schools closed, many basketball players who did not play in separate organisations were left without the resources or facility to continue playing. Sports like hockey are almost exclusively organisational based sport (exception of rare hockey academies) were prioritised in Canada, while the future of community and school sport is uncertain. Jumpstart reported that 80% of community sport organisations are worried about obtaining government funding needed to stay afloat, 85% are somewhat or very concerned about obtaining financial support from non-government sources, 52% now say it will take until at least 2024 to reach their pre-COVID state, and 33% expressed concern about the permanent closure of their organisational (Jumpstart, 2022). Without help from government funding, organisational success was determined by the youth sporting organisations able to draw critical resources (Doherty, 2020).

Conclusion

Canadian youth sport during the pandemic highlighted inequalities in individuals and the organisations that they represent. Intersectional inequalities surrounding income level, race, and geographical location highlighted existing issues of inclusivity and affordability within sport. Closure of indoor and outdoor spaces impacted urban and low-income youth harder than their peers. Online delivery of sport served to fill this inequality gap. While online sport delivery was one of the only methods of delivery during the pandemic, it has left a lasting negative impact on some Canadian youth. It put the responsibility of coaching, programming, and supervision on the parents. A lot of households had bigger responsibilities and concerns other than sport during the pandemic such as job loss and contracting COVID-19. Furthermore, lack of indoor space made a large amount of online exercise suggestions hard to do, while outdoor spaces like parks and fields were also closed in areas across Canada. Some youth reported a drop in sport performance, feeling generally out of shape, and feeling mentally exhausted from the lack of peer-to-peer communication occurring in sport (Shepherd et al., 2021). Online sport delivery also caused stress on existing youth sport organisations. Without the influx of membership fees many youth and community sport organisations have been left on the brink of closure (Jumpstart & CCES, 2022). Lack of membership was compounded by the fact that some of these organisations did not receive any government funding (CCES, 2022). Simultaneously, federal sport organisations like Hockey Canada were receiving millions in recovery benefits, showing preferential treatment of certain sports over others (CBC, 2022). Youth sport in Canada exposed a system of inequality and inefficiency. Low income and urban centred youth had a harder time with online methods of delivery. The organisations that they played in were underfunded with many organisations completely shutting down. Government funding went predominantly to large scale, income generating organisations like Hockey Canada, again ignoring low income and urban centred youth. These youth participated less in sport and have since reported that they will continue to play sport (MLSE, 2021). While the pandemic certainly forced innovation in Canadian youth sport, it also highlighted areas which need to be addressed to Build Back Better.

DISCUSSION

The sections below represent the key findings from this review. There are a series of differences and similarities which can be drawn and that can be used to help each nation learn from one another with implications for the broader world.

Canada-Scotland Comparison

Differences

- The affordability of sport for youths return to participation post-Covid-19 restrictions easing in Scotland is unknown, but what is known is that it was a factor which stopped low-income households from participating during. However, what is known is that some clubs across Scotland froze membership fees or made participation cheaper/free during covid-19 to help reduce costs whilst maintaining participation rates
- Youth sport in Scotland has not been discussed in terms of rural versus urban but rather youth sport is reviewed through a national lens
- Youth sport in Scotland has also not surveyed the impact upon specific demographics, for example to see how Scotland's BAME communities were affected, whereas Canada has adopted a broader scope
- A difference can be seen in the quantity of research conducted in both countries with Scotland appearing to undertake more
- In both countries, there was recognition of the negative physical and mental health outcomes of reduced sporting opportunities during covid-19, yet Scotland appears to have put greater emphasis on monitoring and tracking youths physical and mental health rates more so than Canada in which given the detrimental impact as shown by the Scottish statistics, Canada should likewise follow suit and give these domains greater focus
- Based on the available literature, Canada had a greater focus on the negative impact of Covid-19 upon youth sport from a performance perspective whereas Scotland generally put elite youth sport to one side and focused more on maintaining sport for youths due to the benefits it provided from more of a participative, recreational and social perspective ... in difficult times like Covid-19, countries should focus on the overall welfare of youth before their athletic ability and performance levels
- What Scotland can learn from 'The Sport Itself' section is while these funding disparities exist in Scotland, there was a severe lack of research into the financial differences between sporting organisations and to what extent Scottish organisations suffered as a result of the pandemic
- While in Canada, the online delivery of sport was seen to be a negative and have negative consequences, in Scotland, it was considered to be the best opportunity and choice under the circumstances with many of its benefits and innovations to be upheld and maintained after in-person sport returned
- Major differences between Canada and Scotland could be regional differences towards Covid mandates. Canada dictated return to play policies differently amongst each province. This altered sport and play participation rates across the country.
- More intense winters in Canada meant even less availability to outdoor parks
- Lots of outdoor spaces in Canada were shutdown whereas in Scotland outdoor spaces were encouraged and the preferred counter option

Similarities

- The analysis shows an increased volume in research around the themes of online delivery, alongside barriers and facilitators to participation in sport.
- Based on comparisons of Canada and Scotland's academic literature, neither nation's academic research reflected what was happening on the ground. Only the grey literature revealed the first-hand contexts.
- What the evidence shows is that Covid-19 pushed sport into a negative direction while it was anticipated that sport would return in a worse manner than which it entered. Yet the desire for opportunities to play sport reflected youth's desperation to return to 'normality'.
- A recurring theme was the feeling of uncertainty over the future of youth sport in both countries, but also their existence of their club.
- Like Canada, access to facilities and sport differed across the country due to different restrictions in different areas
- Online delivery theme resonates in both countries, both countries pushed for home and outdoor participation ... innovation in both countries was a necessity to enable youth sport
- The conditions and restrictions upon specific sports forced youths to take up new sports which in many instances, the previous sport has struggled to get these members back
- Like Canada, Scottish households were left to assume responsibility for being active at home by the state, many people who did not obtain or could afford equipment whereby youth sport clubs and organisations had to intervene by being creative and showing families how to stay active with workouts with items from the home albeit this served duplicity because it help clubs stayed engaged with members whilst people stayed somewhat active as possible under the circumstances
- What youths in both countries missed most about the loss of sport was the social aspects
- Both countries experienced a decrease in sports participation, but the higher percentage of both nations' youth reported that they would either return after or continue to play throughout
- In Canada, it is common for youth sport program costs to be borne by participants' families in a pay-to-play model. This increasingly privatized and professionalized structure means that family income was already a primary driver of access to youth sport (Solomon, 2020b). This is the same in Scotland in which the Covid-19 restrictions put greater pressure on families, creating further income disparities

Canada-Scotland Implications

The findings from Canada and Scotland have implications which connect to the broader world. The main observation and major theme are that whilst Covid-19 posed challenges, it did not create new problems. It took issues which already existed, and, in some cases, sport was already addressing and either made them worse or set back their progress. Areas such as 'Woman and Girls in Sport' which were significantly driven, had a universal focus and were making progressive strides pre-Covid-19 were, circumstantially dependent, either stagnated or knocked back. Another reflects the prevailing inequality divide between societies' richest and poorest members whereby the rich have been getting richer and the poor getting poorer. Others entail factors like physical and mental health which already had a growing awareness and support but sport until Covid-19 struck did not have the same level of impetus and emphasis upon addressing such issues. Whilst some efforts were made pre-Covid-19, the pandemic forced either an overall or greater response from sport. Sport was prompted to adapt and evolve for the benefit of its participants or else risk operational insecurity itself.

Despite Covid-19 threatening the very existence of aspects of youth sport, it has awakened society to realise sports value, the role that it plays in people's lives and how it is delivered. The pandemic has given people the space to reassess the prominence of sport in their lives and identify what is important to them whilst it has also highlighted where there is need for change. Given that the restrictions brought in to tackle Covid-19 had an immediate and significant impact on youths' cognitive, physical, mental wellbeing, the most apparent surrounds mental health. Such observations highlight the injustices and inefficiencies of the current youth sports systems. Covid-19 has forced innovations that bolster operations during and post-Covid-19. For example, the increased provisions and prioritisations of mental health can only serve to strengthen the overall sporting community and improve operations through addressing an area which has long constrained sports capabilities and lacked acknowledgement of its severity. Much work in these areas remains to be done with many elements of the youth sport system requiring upgrading and improving in order to Build Back Better.

CONCLUSION

This paper has critically and comparatively synthesized what is known about youth sport in Canada and Scotland during Covid-19. In doing so, we have identified a series of differences and similarities alongside learning outcomes for both nations as well as the world. What the analysis shows is how Covid-19 has changed the nature of youth sport. The findings highlight recovery and sustainability as the most pressing challenges facing youth sport alongside 25 categorisation and intersectionality's in the area of research. Covid-19 has also highlighted an increased need for more one-to-one support through the implementation of an "open door policy" which offers additional support to young people.

A strength of this literature review resides in the inclusion of relevant published and non-published research ranging from scholarly books and journal articles to organisational 25 documents and reports. Another unique feature was the option for the inclusion of sources written in other languages, specifically French, given that areas of Canada are predominantly French speaking. While this paper sought to identify and include every relevant body of knowledge, we acknowledge that our review does not potentially cover the full range of sources due to accessibility and availability issues alongside the failure of various institutions and organisations to opt into the study. Further limitations of this review of literature link to the aforementioned point in that it does not fully capture all the necessary components more broadly. Likewise, the literary search process and associated inclusion criteria are unlikely to have generated every existing source. However, the review does encapsulate the field which provides inductive insight.

The evidence presented in this review calls for the reinvention and renewal of youth sport. Based on the evidence, countries and governments should embrace a philosophy which embeds sport at the centre of public policy rather than keeping it on the periphery. As the data has shown, due to negative impacts revealed and worsened by Covid-19, societies and states cannot afford not to invest in youth sport. With this proposal, there are three policy recommendations. Firstly, more safety nets need to be implemented to safeguard the possibility of adverse effects which can happen when worse case scenarios such as global pandemics occur. Secondly, consistent and sustainable mechanisms need to be implemented to support youths' wellbeing, especially around issues concerning mental health. Thirdly, educational programmes must be introduced to help educate the enablers and facilitators of youth sport as part of the building back better process so to effectively and productively improve the system by 25 the lessons acquired from Covid-19. What this infrastructure builds are momentum for positive change.

While policy recommendations are crucial to the improvement, growth and recovery of youth sport, there are also multiple suggestions about how the landscape can progress itself. What this report has shown is that to move forward, like during Covid-19, sport must sit back and survey the field alongside its participants to gather insights and respond accordingly. In instances like Covid-19, but also for the future of youth sport, it is best to adopt a hybrid approach to resolutions and programming whereby stakeholders collate information from both bottom-up and top-down actors. This dual strategy serves duplicity because it can capably meet the needs of society and youth but also the objectives of funders and governments which thus allows these domains to align and develop unilaterally. Within research, there are three gaps that require attention in future research: experiential dimensions of Covid-19 and youth sport; the shortage of innovative methodologies in investigating youth sport and Covid-19; research ethics in relation to studying youth sport and Covid-19.

References

- Skinner, J. and Smith, A.C. (2021). Introduction: Sport and COVID-19: Impacts and Challenges for the Future (Volume 1), *European sport management quarterly*, 21(3), 323-332.
- Whitley, M.A., Smith, A.L., Dorsch, T.E., Bowers, M.T. and Centeio, E.E. (2021). Reenvisioning Postpandemic Youth Sport to meet Young People's Mental, Emotional, and Social Needs. *Translational Journal of the American College of Sports Medicine*, 6(4), 1-7.
- Zago, M., Lovecchio, N. and Galli, M. (2022). Players at Home: Physical Activity and Quality of Life in 12–17 Years-old Football (soccer) Players during the Covid-19 Lockdown. *International Journal of Sports Science & Coaching*, 17(3), 626-636.
- Abraham A., Sommerhalder K., Abel T. (2010) Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health*, 55, 59–69.
- Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International journal of social research methodology*, 8(1), 19-32.
- Bates, S., Greene, D. and O'Quinn, L. (2021). Virtual Sport-based Positive Youth Development during the COVID-19 Pandemic, *Child and Adolescent Social Work Journal*, 38(4), 437-448.
- Boris, G. and Stéphane, T. (2020). Health for Performance: a necessary paradigm shift for youth athletes. *Sport and Exercise Medicine Switzerland*, 68(2), 1-10.
- Centre for Sport and Human Rights. (2021). Children, Sport and Covid-19. [online] (cited on 5 June 2022). Available from: <https://sporthumanrights.org/library/special-podcast-series-children-sport-and-covid-19/>
- Dorsch, T.E., Blazo, J.A., Arthur-Banning, S.G., Anderson-Butcher, D., Jayanthi, N., Hardiman, A., Farrey, T., Solomon, J. and Lerner, J.B. (2021). National Trends in Youth Sport during the COVID-19 Pandemic: Understanding American Parents' Perceptions and Perspectives, *Journal of Sport Behavior*, 44(3), 303-320.
- Drummond, M., Elliott, S., Drummond, C. and Prichard, I. (2020). Youth Sport and COVID-19: A Potential Generation Lost, *Emerald Open Research*, 2(27), 27-39.
- Elliott, S., Drummond, M.J., Prichard, I., Eime, R., Drummond, C. and Mason, R. (2021). Understanding the Impact of COVID-19 on Youth Sport in Australia and Consequences for Future Participation and Retention, *BMC Public Health*, 21(1), 1-16.
- FIFA. (2021). Covid-19 Relief Plan. Report 2021. [online] (cited on 5 June 2022). Available from: <https://digitalhub.fifa.com/m/56e6bdd18074a930/original/FIFA-COVID-19-Relief-Plan-Report-2021.pdf>
- Fitzgerald, H.T., Rubin, S.T., Fitzgerald, D.A. and Rubin, B.K. (2021). Covid-19 and the Impact on Young Athletes, *Paediatric Respiratory Reviews*, 39, 9-15.
- International Olympic Committee. (2020). Annual Report 2020: Credibility, Sustainability, Youth. Available from:

https://stillmed.olympics.com/media/Documents/International-Olympic-Committee/Annual-report/IOC-Annual-Report-2020.pdf?_ga=2.131865487.1471498353.1654461599-296016022.1654461599

International Olympic Committee. (2021). Annual Report 2021: Faster, Higher, Stronger – Together. Available from:

https://stillmed.olympics.com/media/Documents/International-Olympic-Committee/Annual-report/IOC-Annual-Report-2021.pdf?_ga=2.26927037.1471498353.1654461599-296016022.1654461599

Jumpstart. (2022). 2022 Jumpstart State of Sport Report. Available from https://www.edmontonsport.com/pdfs/jumpstart_report_2022_summary.pdf

Kelly, A.L., Erickson, K., Pierce, S. and Turnnidge, J., 2020. Youth Sport and COVID-19: Contextual, Methodological, and Practical Considerations, *Frontiers in Sports and Active Living*, 140-144.

Kelly, A.L., Erickson, K. and Turnnidge, J. (2022). Youth sport in the Time of COVID-19: Considerations for Researchers and Practitioners, *Managing Sport and Leisure*, 27(1-2), 62-72.
Louise de Lannoy, L., Rhodes, R. E., Moore, S. A., Faulkner, G., & Tremblay, M. S. (2020, October 14). Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak – *Canadian journal of public health*. SpringerLink.

Levac, D.; Colquhoun, H.; O'Brien, K.K. Scoping studies: Advancing the methodology. *Implement. Sci.* 2010, 5, 69.

Mahood, Q., Van Eerd, D., & Irvin, E. (2014). Searching for grey literature for systematic reviews: challenges and benefits. *Research synthesis methods*, 5(3), 221-234.

Meier, K. V. (1981). On the inadequacies of sociological definitions of sport. *International Review of Sport Sociology*, 16(2), 79-102.

MLSE (2021). CHANGE THE GAME RESEARCH. MLSE Foundation (2021). Change the game research a study focused on youth sport access, engagement, and equity factors in the wake of the pandemic. MLSE Foundation. Available from:

<https://www.scirp.org/reference/referencespapers.aspx?referenceid=3111320>

O’Kane, S.M., Lahart, I.M., Gallagher, A.M., Carlin, A., Faulkner, M., Jago, R. and Murphy, M.H. (2021). Changes in PA, Sleep, Mental Health, and Social Media use during COVID-19 Lockdown among Adolescent Girls: A Mixed-methods Study, *Journal of PA and Health*, 18(6), 677-685.

Organization for Economic Co-Operation and Development. (2020). Youth and Covid-19: Response, Recovery and Resilience. Available from:

https://read.oecd-ilibrary.org/view/?ref=134_134356-ud5kox3q26&title=Youth-and-COVID-19-Response-Recovery-and-Resilience

Razai, M. S., Oakeshott, P., Kankam, H., Galea, S., & Stokes-Lampard, H. (2020). Mitigating the psychological effects of social isolation during the covid-19 pandemic. *Bmj*, 369

Pedersen, P. M., Ruihley, B. J. and Li, B. (2021). *Sport and the Pandemic* (New York: Routledge).

Pierce, D., Stas, J., Feller, K., & Knox, W. (2020). COVID-19: Return to Youth Sports: Preparing Sports Venues and Events for the Return of Youth Sports, *Sports Innovation Journal*, 1, 62–80.

Pollard, C. A., Morran, M. P., & Nestor-Kalinoski, A. L. (2020). The COVID-19 pandemic: a global health crisis. *Physiological genomics*.

Pons, J., Ramis, Y., Alcaraz, S., Jordana, A., Borrueco, M. and Torregrossa, M. (2020). Where did all the Sport go? Negative Impact of COVID-19 Lockdown on Life-Spheres and m Mental Health of Spanish Young Athletes, *Frontiers in Psychology*, 11, 3498-3507.

Post, E.G., Rivera, M.J., Doss, D. and Eberman, L.E. (2022). Parent Decision-Making Regarding Youth Sport Participation during the COVID-19 Pandemic. *Journal of Community Health*, 1-10.

Sanderson, J. and Brown, K. (2020). COVID-19 and Youth Sports: Psychological, Developmental, and Economic Impacts, *International Journal of Sport Communication*, 13(3), 313-323.

Schwab, K. and Malleret, T. (2020). *Covid-19: The Great Reset*. Geneva: Forum Publishing.

Shepherd, H. A., Evans, T., Gupta, S., McDonough, M. H., Doyle-Baker, P., Belton, K. L., Karmali, S., Pawer, S., Hadly, G., Pike, I., Adams, S. A., Babul, S., Yeates, K. O., Kopala-Sibley, D. C., Schneider, K. J., Cowle, S., Fuselli, P., Emery, C. A., & Black, A. M. (2021, March 29). The impact of covid-19 on high school student-athlete experiences with PA, mental health, and Social Connection. *International journal of environmental research and public health*. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8036482/>

Stockwell, S., Trott, M., Tully, M., Shin, J., Barnett, Y., Butler, L., ... & Smith, L. (2021). Changes in PA and sedentary behaviours from before to during the COVID-19 pandemic lockdown: a systematic review. *BMJ open sport & exercise medicine*, 7(1), e000960.

Szpunar, M., Vanderloo, L. M., Bruijns, B. A., Truelove, S., Burke, S. M., Gilliland, J., Irwin, J. D., & Tucker, P. (2021, December 13). Children and pare'ts' perspectives of the impact of the COVID-19 pandemic on Ontario Child'en's PA, play, and sport behaviou-s - BMC public health. BioMed Central. Available from <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-12344-w>

Tacon, R. (2021). *Social capital and sport organisations*. Routledge.

Thakur, V., & Jain, A. (2020). COVID 2019-suicides: A global psychological pandemic. *Brain, behavior, and immunity*, 88, 952.

Tricco AC, Lillie E, Zarin W' O'Brien K, Colquhoun H, Kastner M, et al. A scoping 424 review on the conduct and reporting of scoping reviews. *BMC Med Res Methodol*. 425 2016;16:15.

The Commonwealth. (2020). The Implications of COVID -19 for Community Sport and Sport for Development. Available from: https://production-new-commonwealth-files.s3.eu-west-2.amazonaws.com/migrated/inline/D17145_Sport_Covid_Series_PaperOne_V5.pdf

UNICEF. (2020). How are Sport for Development Organizations keeping children healthy during Covid-19? Available from:

<https://blogs.unicef.org/evidence-for-action/search/youth+sport+covid-19>

United Nations. (2017). Sport and the Sustainable Development Goals: An Overview Outlining the Contribution of Sport to the SDGs. [online] (cited on 6 June 2022). Available from: https://www.un.org/sport/sites/www.un.org.sport/files/ckfiles/files/Sport_for_SDGs_finalversion9.pdf

United Nations Department of Economic and Social Affairs. (2020a). An Overview of the Sport-Related Impacts of the Covid-19 Pandemic on Children. [online] (cited on 5 June 2022). Available from: <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/07/An-Overview-of-the-Sport-Related-Impacts-of-the-COVID-19-Pandemic-on-Children.pdf>

United Nations Department of Economic and Social Affairs. (2020b). The Impact of Covid-19 on Sport, PA and Well-being and its Effects on Social Development. Available from: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/05/PB_73.pdf

Vincent, H. K., Patel, S., & Zaremski, J. L. (2022). Impact of COVID on sports injury patterns, changes in mental well-being, and strategies to prepare for future pandemics in sport. *Current sports medicine reports*, 21(6), 196-204.

Watson, A. and Koontz, J.S. (2021). Youth Sports in the Wake of COVID-19: A Call for Change, *British Journal of Sports Medicine*, 55(14), 764-764.

Watson, A.M., Haraldsdottir, K., Biese, K.M., Goodavish, L., Stevens, B. and McGuine, T.A. (2021). COVID-19 in US Youth Soccer Athletes during Summer 2020, *Journal of Athletic Training*, 56(6), 542-547.

Westphaln, K. K., Regoeczi, W., Masotya, M., Vazquez-Westphaln, B., Lounsbury, K., McDavid, L., ... & Ronis, S. D. (2021). From Arksey and O'Malley and Beyond: customizations to enhance a team-based, mixed approach to scoping review methodology. *MethodsX* 2021; 8: 101375.

Whitley, M. A., Smith, A. L., Dorsch, T. E., Bowers, M. T., & Centeio, E. E. (2021). Reenvisioning postpandemic youth sport to meet Young People's mental, emotional, and social needs. *Translational Journal of the American College of Sports Medicine*, 6(4), 1–7.

World Economic Forum. (2021). Even Before Covid, Most Children were not doing Enough Exercise. Available from: <https://www.weforum.org/agenda/2021/01/covid-19-kids-exercise/>

World Health Organization. (2021). 2021 PA Factsheets for the European Union Member States in the WHO European Region. Available from: <https://apps.who.int/iris/bitstream/handle/10665/345335/WHO-EURO-2021-3409-43168-60449-eng.pdf>

Wunsch, K., Kienberger, K., & Niessner, C. (2022). Changes in physical activity patterns due to the COVID-19 pandemic: A systematic review and meta-analysis. *International journal of environmental research and public health*, 19(4), 2250.

References (Canada section)

Abraham A., Sommerhalder K., Abel T. (2010) Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. *International Journal of Public Health*, 55, 59–69.

Alexander, S. A., & Shareck, M. (2021, December 23). Widening the gap? unintended consequences of health promotion measures for young people during COVID-19 lockdown. *Health promotion international*. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7928856/>

Bambra C., Riordan R., Ford J., Matthews F. (2020) The COVID-19 pandemic and health inequalities. *Journal of Epidemiology and Community Health*, jech-2020-214401. 10.1136/jech-2020-214401.

CBC/Radio Canada. (2022, June 20). Documents reveal hockey canada received \$14M in federal funds over the past 2 years | CBC News. *CBCnews*. Available from <https://www.cbc.ca/news/canada/hockey-canada-federal-funding-1.6493025>

CCES. (2022). Power of sport: The true sport report 2022 - CCES.CA. Retrieved June 23, 2022, from <https://cces.ca/sites/default/files/content/docs/pdf/cces-true-sport-report-2022-acc-eng.pdf>
Doherty, A. (2020). Return to community sport: Leaning on evidence in turbulent times. Taylor & Francis. Available from <https://www.tandfonline.com/doi/full/10.1080/23750472.2020.1794940>

Guerrero, M. D., Vanderloo, L. M., Rhodes, R. E., Faulkner, G., Moore, S. A., & Tremblay, M. S. (2020, June 7). Canadian children's and youths adherence to the 24-H movement guidelines during the COVID-19 pandemic: A decision tree analysis. *Journal of Sport and Health Science*. Available from <https://www.sciencedirect.com/science/article/pii/S2095254620300715>

Jumpstart. (2022). 2022 Jumpstart State of Sport Report. Available from https://www.edmontonsport.com/pdfs/jumpstart_report_2022_summary.pdf

Kelly, A. L., Erickson, K., Pierce, S., & Turnnidge, J. (1AD, January 1). Youth Sport and covid-19: Contextual, methodological, and practical considerations. *Frontiers*. Available from <https://www.frontiersin.org/articles/10.3389/fspor.2020.584252/full>

Louise de Lannoy, L., Rhodes, R. E., Moore, S. A., Faulkner, G., & Tremblay, M. S. (2020, October 14). Regional differences in access to the outdoors and outdoor play of Canadian children and youth during the COVID-19 outbreak - *canadian journal of public health*. SpringerLink. Available from <https://link.springer.com/article/10.17269/s41997-020-00412-4>

Mitra, R., Moore, S. A., Gillespie, M., Faulkner, G., Vanderloo, L. M., Chulak-Bozzer, T., Rhodes, R. E., Brussoni, M., & Tremblay, M. S. (2020, September). Healthy movement behaviours in children and youth during the COVID-19 pandemic: Exploring the role of the neighbourhood environment. *Health & place*. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7455528/>

MLSE (2021). CHANGE THE GAME RESEARCH. MLSE Foundation (2021). change the game research a study focused on youth sport access, engagement, and equity factors in the wake of the pandemic. MLSE Foundation. Available from <https://www.scirp.org/reference/referencespapers.aspx?referenceid=3111320>

Morawska, L., & Milton, D. K. (2020). It is time to address airborne transmission of COVID-19. *Clinical Infectious Diseases : An Official Publication of the Infectious Diseases Society of America*. <https://doi.org/10.1093/cid/ciaa939>.

Power of sport: The true sport report 2022 - CCES.CA. (n.d.). Available from <https://cces.ca/sites/default/files/content/docs/pdf/cces-true-sport-report-2022-acc-eng.pdf>

Shepherd, H. A., Evans, T., Gupta, S., McDonough, M. H., Doyle-Baker, P., Belton, K. L., Karmali, S., Pauer, S., Hadly, G., Pike, I., Adams, S. A., Babul, S., Yeates, K. O., Kopala-Sibley, D. C., Schneider, K. J., Cowle, S., Fuselli, P., Emery, C. A., & Black, A. M. (2021, March 29). The impact of covid-19 on high school student-athlete experiences with PA, mental health, and Social Connection. *International journal of environmental research and public health*. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8036482/>

Sport for Life. (2020). Impacts of COVID-19 on Local Sports Organizations. Nationwide Survey Results. <https://sportforlife.ca/wp-content/uploads/2020/06/National-Report-Impactsof-COVID-19-on-Local-Sports-Organizations1.pdf>

Szpunar, M., Vanderloo, L. M., Bruijns, B. A., Truelove, S., Burke, S. M., Gilliland, J., Irwin, J. D., & Tucker, P. (2021, December 13). Children and parents' perspectives of the impact of the COVID-19 pandemic on Ontario Children's PA, play, and sport behaviours - BMC public health. *BioMed Central*. Available from <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-12344-w>

References (Scotland section)

Abrams, D., Broadwood, J., Lalot, F., Davies Hayon, K., & Dixon, A. (2021). Beyond Us and Them-Societal Cohesion in Britain Through Eighteen Months of COVID-19.

Allen, J., Posstlethwaite, V., Whigham, S., Overton, T., & Mackintosh, C. (2021). Equality and Sport Research 2020: Technical Report for Sport Scotland.

Baab, K. (2020). *An Investigation into the Relationships Between Perfectionism and Self-Efficacy for Learning During Online Dance Classes* (Doctoral dissertation, Trinity Laban Conservatoire of Music and Dance (United Kingdom)(8884)).

Bailey, R., & Scheuer, C. (2022). The COVID-19 pandemic as a fortuitous disruptor in physical education: the case of active homework. *AIMS Public Health*, 9(2), 423.

Basketballscotland. (2021). Annual Report 2020/2021. [online] (cited on 9 June 2022). Available from:

https://sportlomo-userupload.s3.amazonaws.com/uploaded/galleries/11047_uploaded/0c47f42fc134929bbfcd09ade77671912adc8251.pdf

Basketballscotland. (2022). Club and Officials Guidance. [online] (cited on 9 June 2022). Available from:

<http://basketballscotland.co.uk/covid-19/>

Boris, G., & Stéphane, T. (2020). Health for Performance: a necessary paradigm shift for youth athletes. *Schweizerische Zeitschrift für Sportmedizin & Sporttraumatologie*, 68(2).

The British Horse Society Scotland. (2022). *Evidence around the Impact to the Workforce (Coaches, Volunteers, Officials) following COVID*. Stirling: The British Horse Society Scotland.

Brown, R., Murray, P., Doran, F. B., Templeton, J., & Mack, J. (2021). Women in Leadership in Scottish Sport.

Butt, J., Laffert, M., Breslin, G., Lowry, R., Britton, D., Barker, J., & Eubank, M. R. (2020). Supporting Youth Athletes during Covid-19: Guidance for parents and guardians.

Camanachd Association. (2021). 2021 Annual Report. [online] (cited on 10 June 2022). Available from:
<https://shinty.com/wp-content/uploads/2021/11/2021-Annual-Report-Version-2-1.pdf>

Casey, T., & McKendrick, J. H. (2022). Playing through crisis: lessons from COVID-19 on play as a fundamental right of the child. *The International Journal of Human Rights*, 1-20.

CashBack for Communities. (2021). 2020-2021 Impact Report. [online] (cited on 9 June 2022). Available from:
https://www.canva.com/design/DAEzQJDfWz4/16nq7HWb0jPUqQ5YUDcTZw/view?utm_content=DAEzQJDfWz4&utm_campaign=designshare&utm_medium=link&utm_source=publishsharelink#12

Children and Young People's Commissioner Scotland. (2021). Independent Children's Rights Impact Assessment on the Response to Covid-19 in Scotland. [online] (cited on 9 June 2022). Available from:
<https://dera.ioe.ac.uk/36161/1/independent-cria.pdf>

Colucci-Gray, L. (2022). Reviewing the impact of COVID-19 on children's rights to, in and through education. *The International Journal of Human Rights*, 1-17.

Community Leisure UK. (2020). Community Leisure UK Covid-19 Impact Report - August 2020. [online] (cited on 9 June 2022). Available from: <https://communityleisureuk.org/wp-content/uploads/2020/08/CLUK-Covid-19-Impact-Report.pdf>

Cowie, H., & Myers, C. A. (2021). The impact of the COVID-19 pandemic on the mental health and well-being of children and young people. *Children & Society*, 35(1), 62-74.

Currie, Mags, Rob McMorran, Jonathan Hopkins, Annie J. McKee, Jayne Glass, Ruth Wilson, J. E. Meador et al. "Understanding the response to Covid-19-Exploring options for a resilient social and economic recovery in Scotland's rural and island communities." (2021).

Dennehy, J. (2020). Gender Diversity in Sport and its impact on governance infrastructure, practice and participation in Scotland.

Glen, J., Gordon, J., & Lavalley, D. (2020). Investigating coaching behaviors during the COVID-19 pandemic: a case study within a case study. *Case Studies in Sport and Exercise Psychology*, 4(1), 125-133.

- Gore, A., Bimpson, E., Dobson, J., & Parkes, S. (2021). Local government responses to the COVID-19 pandemic in the UK: a thematic review.
- Gray, S., Sandford, R., Stirrup, J., Aldous, D., Hardley, S., Carse, N. R., ... & Bryant, A. S. (2021). A comparative analysis of discourses shaping physical education provision within and across the UK. *European Physical Education Review*, 1356336X211059440.
- Grix, J., Brannagan, P. M., Grimes, H., & Neville, R. (2021). The impact of Covid-19 on sport. *International journal of sport policy and politics*, 13(1), 1-12.
- Holmes, K., Lockstone-Binney, L., Smith, K. A., & Shipway, R. (Eds.). (2021). *The Routledge Handbook of Volunteering in Events, Sport and Tourism*. Routledge.
- Howells, K. (2021). The things we think and do not say-the future of physical education and sport. *Scottish Association of Teachers of Physical Education Journal*, 10, 7.
- Kamyuka, D., Carlin, L., McPherson, G., & Misener, L. (2020). Access to physical activity and sport and the effects of isolation and cordon sanitaire during COVID-19 for people with disabilities in Scotland and Canada. *Frontiers in sports and active living*, 2, 594501.
- Kelly, A. L., Erickson, K., & Turnidge, J. (2022). Youth sport in the time of COVID-19: Considerations for researchers and practitioners. *Managing Sport and Leisure*, 27(1-2), 62-72.
- Lafferty, M., Breslin, G., Britton, D., Butt, J., Lowry, R., Morris, R., Barker, J., Slater, M. and Eubank, M. (2020). Supporting Youth Athletes During Covid-19. [online] (cited on 10 June 2022). Available from: https://pure.ulster.ac.uk/ws/files/79862518/Supporting_youth_athletes_during_Covid_19_Advice_for_Parents_and_Guardians_Lafferty_et_al_2020.pdf
- Leeder, T. M., & Beaumont, L. C. (2021). Lifestyle Sports and Physical Education Teachers' Professional Development in the United Kingdom: A Qualitative Survey Analysis. *Education Sciences*, 11(10), 642.
- MacLachlan, A., McMellon, C., & Inchley, J. (2022). Public mental health during the COVID-19 pandemic: impacts on children's rights. *The International Journal of Human Rights*, 1-20.
- McCluskey, G., Fry, D., Hamilton, S., King, A., Laurie, M., McAra, L., & Stewart, T. M. (2021). School closures, exam cancellations and isolation: the impact of Covid-19 on young people's mental health. *Emotional and Behavioural Difficulties*, 26(1), 46-59.
- McCrorie, P., Mitchell, R., Macdonald, L., Jones, A., Coombes, E., Schipperijn, J., & Ellaway, A. (2020). The relationship between living in urban and rural areas of Scotland and children's physical activity and sedentary levels: A country-wide cross-sectional analysis. *BMC Public Health*, 20(1), 1-11.
- McNiven, A., & Harris, J. (2021). Can community football clubs in Scotland develop the local partnership support they need?. *Managing Sport and Leisure*, 26(5), 346-361.
- McArdle, D., DeMartini, A., Kim, S., & Connaughton, D. (2021). 'It isn't my area.' Coaches' awareness of concussion protocols in Scottish youth football. *Scottish Affairs*, 30(1), 53-73.

Razai, M. S., Oakeshott, P., Kankam, H., Galea, S., & Stokes-Lampard, H. (2020). Mitigating the psychological effects of social isolation during the covid-19 pandemic. *Bmj*, 369.

Renfree, G., Burgess, B., & Jones, V. (2022). Educating Generation Z about issues relating to Gender Equality in the governance and leadership of sport in the UK. In *Gender Equity in UK Sport Leadership and Governance*. Emerald Publishing Limited.

Rowe, N. (2021). Rebound, Regress or Reinvent? The Disruptive Impact of Covid-19 on Sport, Exercise and PA in Scotland. [online] (cited on 9 June 2022). Available from: <https://oss.scot/covid-impact-research/>

Scottish Golf. (2021). Annual Review 2020. [online] (cited on 9 June 2022). Available from: <https://ocs-sport.ams3.cdn.digitaloceanspaces.com/sq/2021/03/ScottishGolf2020AnnualReview.pdf>

Scottish Golf. (2022). Annual Review 2021. [online] (cited on 9 June 2022). Available from: <https://ocs-sport.ams3.cdn.digitaloceanspaces.com/sq/2022/03/Scottish-Golf-Annual-Report-2021-1.pdf>

Scottish Government Health and Sport Committee. (2021). Health and Sport Committee (Individuals and Sporting Organisations). [online] (cited on 9 June 2022). Available from <https://archive2021.parliament.scot/parliamentarybusiness/report.aspx?r=13048&mode=pdf>

Scottish Professional Football League Trust. (2021). Covid-19 Impact Report. [online] (cited on 10 June 2022). Available from: <https://spfltrust.org.uk/spfl-trust-launches-covid-19-impact-report/>

Scottish Rugby. (2022). Women & Girls' Strategy 22-26. [online] (cited on 16 June 2022). Available from: https://s3-eu-west-1.amazonaws.com/sru-files/docs/1655309634_SR22_womengirls_strategy_summary_v6_3.pdf

Scottish Sports Futures. (2021). Our Response 2020-2021. [online] (cited on 9 June 2022). Available from: <https://ssf.org.uk/wp-content/uploads/2021/09/SSF-Annual-Report-2021-Full-Version-Interactive.pdf>

Scottish Squash. (2021). Scottish Squash Annual Report 2020-2021. [online] (cited on 9 June 2022). Available from: <https://www.scottishsquash.org/wp-content/uploads/2021/08/Paper-004.-Scottish-Squash-Annual-Report-2021.pdf>

Scottish Student Sport. (2022a). *Club Membership Audit 2021/2022*. Edinburgh: Scottish Student Sport.

Scottish Student Sport. (2022b). *Club Membership Data 2016/2017-2021/2022*. Edinburgh: Scottish Student Sport.

Scottish Student Sport. (2022c). *Survey Results: What do you Think the Best Thing about Student Sport is?* Edinburgh: Scottish Student Sport.

Serrano-Alarcón, M., Kentikelenis, A., Mckee, M., & Stuckler, D. (2022). Impact of COVID-19

lockdowns on mental health: Evidence from a quasi-natural experiment in England and Scotland. *Health economics*, 31(2), 284-296.

Shetland Islands Council Sport & Leisure Service. (2022). Annual Report 2021. [online] (cited on 9 June 2022). Available from: <https://www.shetland.gov.uk/downloads/file/5928/annual-report-2021>

Smith, A., Haycock, D., Jones, J., Greenough, K., Wilcock, R., & Braid, I. (2020). Exploring mental health and illness in the UK sports coaching workforce. *International Journal of Environmental Research and Public Health*, 17(24), 9332.

Sport England (2020). Active Lives Adult Survey mid-March to mid-May 2020. Coronavirus (Covid-19) report. London: Sport England.

SportScotland. (2021a). Active Schools EQIA. [online] (cited on 9 June 2022). Available from: <https://sportscotland.org.uk/media/6925/active-schools-eqia-2021-final-july-2021.pdf>

SportScotland. (2021b). Playing Our Part 2021. [online] (cited on 9 June 2022). Available from: <https://sportscotland.org.uk/about-us/playing-our-part-2021/>

SportScotland. (2021c). Summary of Covid-19 Impact. [online] (cited on 9 June 2022). Available from: <https://sportscotland.org.uk/media/6455/equality-impact-of-covid-evidence-summary.pdf>

Sport for Development Coalition. (2020). Impact of Covid-19 on the Sport for Development Sector. [online] (cited on 10 June 2022). Available from: <https://sportfordevelopmentcoalition.org/sites/default/files/user/Impact%20of%20Covid%2019%20on%20the%20Sport%20for%20Development%20Sector.pdf>

Spoted. (2021). Spoted's Impact April 2020-March 2021. [online] (cited on 10 June 2022). Available from: <https://spoted.org.uk/wp-content/uploads/2021/08/IMPACT-REPORT-final.pdf>

StreetGames. (2020). Youth Voice Research: Covid19 and Lockdown. [online] (cited on 10 June 2022). Available from: <https://network.streetgames.org/sites/default/files/Youth%20Voice%20Research.pdf>

Tacon, R. (2021). *Social capital and sport organisations*. Routledge.

Teare, G., & Taks, M. (2021). Exploring the impact of the COVID-19 pandemic on youth sport and physical activity participation trends. *Sustainability*, 13(4), 1744.

Tennis Scotland. (2021). 2020 Annual Report. [online] (cited on 10 June 2022). Available from: <https://www.lta.org.uk/4ac9c0/siteassets/in-your-area/tennis-scotland/file/tennis-scotland-annual-report-2020.pdf>

The Centre for Social Justice. (2020). A Level Playing Field: Equalising Access to Sport and Exercise for Young People After Covid-19. [online] (cited on 10 June 2022). Available from: https://www.centreforsocialjustice.org.uk/wp-content/uploads/2020/12/CSJ-Sports_Policy_Paper-FINAL.pdf

Tisdall, E. K. M., Powell, M. A., Reid, K., Kong, G., & Adamson, B. (2020). Independent children's rights impact assessment on the response to COVID-19 in Scotland.

Tyrrell, N., Broadwood, J., & Hayon, K. D. (2021). Together, we can achieve unity.

Viner, R., Russell, S., Saulle, R., Croker, H., Stansfeld, C., Packer, J., ... & Minozzi, S. (2021). Impacts of school closures on physical and mental health of children and young people: a systematic review. *MedRxiv*.

Watson, M., Sarica, S., Parkinson, J., Mitchell, R., & Wason, D. (2020). COVID-19 Early Years Resilience and Impact Survey (CEYRIS).

Whitehead, R., Martin, L., Shearer, E., and Greci, S. (2020). *Rapid International Evidence Review: Impact of the COVID-19 Disease Control Measures on PA and dietary Behaviors and Weight*. Edinburgh: Public Health Scotland.

Youth Sport Trust. (2021). The Impact of Covid-19 Restrictions on Children and Young People. [online] (cited on 10 June 2022). Available from:
<https://www.youthporttrust.org/media/m2jew2xe/school-sport-in-uncertain-times.pdf>

Youth Scotland. (2021). 2020/2021 Impact Report. [online] (cited on 10 June 2022). Available from:
<https://www.youthcotland.org.uk/media/2157/youth-scotland-impact-report-2020-21.pdf>