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The association of families’ socioeconomic and demographic characteristics with parents’ perceived barriers to returning to youth sport following the COVID-19 pandemic

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ABSTRACT
Developmentally appropriate sport contexts have the potential to positively influence young people’s physiological, psychological, and social outcomes. However, little is known about how families returned to sport in the wake of COVID-19-related restrictions or how socioeconomic and demographic factors influenced parents’ perceptions of barriers to returning. A nationally representative sample (N = 6183) of American youth sport parents completed a questionnaire in which they provided demographic information and answered questions related to the barriers they perceived in returning to sport, such as the risk of their child getting sick. Structural equation modeling was used to examine the relationships among a range of socioeconomic and demographic factors and these barriers to returning. Results suggest that parents from racially minoritized and urban neighborhoods held higher levels of concern over health-related and practical barriers to returning. Findings highlight the importance of designing available, equitable, and appropriate youth sport contexts.

An estimated 36 million youth take part in organized sport every year in the United States (Sport & Fitness Industry Association, 2020). Childhood and adolescence represent periods of life where sport participation rates are typically at their highest (McKay et al., 2019) and well-designed youth sport contexts have the potential to foster positive physical and psychosocial health and well-being (Côté & Vierimaa, 2014; Eime et al., 2013; Fraser-Thomas et al., 2005). Specifically, optimizing participation contexts can improve short- and long-term physical outcomes such as cardiovascular fitness, weight control, muscular strength, and endurance (Fraser-Thomas et al., 2005). Importantly, increased physical activity has also been associated with a reduced likelihood of taking up smoking and developing diseases such as heart disease, stroke, diabetes, osteoporosis, and cancer. Concerning psychological outcomes, those who participate in regular physical activity have a greater likelihood of experiencing more enjoyment, increased self-esteem, greater levels of happiness and well-being, reduced stress, and lower depression (Fraser-Thomas et al., 2005). Socially, sport experiences provide opportunities to develop citizenship, positive peer relationships, leadership skills, cooperation, empathy, responsibility, and self-control (Eime et al., 2013; Fraser-Thomas et al., 2005).

When evaluating the potential of youth sport to positively influence the development of children and adolescents, it is important to understand the factors related to its design and delivery. It is these factors that foster more or less accessible, developmentally appropriate, and positive experiences for participants. Considering these factors has become particularly important in the wake of the COVID-19 pandemic. COVID-19 is an infectious disease caused by the pathogen known as “severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)” (CDC, 2020). The recent global pandemic led to drastic changes to everyday life around the world. Rapid transmission of the virus led to an unprecedented closure of schools and businesses, along with other domains of
modern life. Leisure time pursuits, such as travel, arts, and sport, were some of the more heavily impacted activities. Deemed as “non-essential”, many sporting events (training, competition, and even free play) were either postponed or cancelled during the initial stages of the pandemic (Grix et al., 2020). Indeed, McGuine et al. (2021) found that in the fall of 2020, 69% of high school athletes did not have access to interscholastic sport. Further, findings from a national survey of youth sport parents in the United States noted a 60.3% reduction in the number hours per week youth spent training and a 66.8% reduction in hours of competition during the pandemic (Dorsch & Blazo, 2021).

The decrease in hours of participation has the potential to impact young people’s athletic identity as researchers assert those with strong athletic identities may experience maladaptive emotions with abrupt decrease in sport participation (Edison et al., 2021). Athletic identity is the self-perception of an individual who identifies with the athlete role (Lamont-Mills & Christensen, 2006). Brewer et al. (1993) posited that athletic identity is influenced by interactions with coaches, family members, peers, and other key stakeholders within the sport system. Youth sport participants with strong athletic identities are more likely to have better health and physical development, higher self-esteem and perceived confidence, better social relationships, and increased sport participation rates (Brewer et al., 1993; Tasiemski et al., 2004). Researchers note that individuals with strong athletic identities who undergo abrupt career-ending events (e.g., injury) experience significant loss of identity (Sanders & Stevinson, 2017) and that this loss of identity can be associated with increased levels of anxiety and depression (Sanders & Stevinson, 2017). The abrupt pause in sport due to COVID-19 forced many older adolescent athletes to “retire” unexpectedly, potentially having similar effects on well-being. Similarly, COVID-19 decreased the social connectedness of teammates and competitors. Consequently, individuals’ athletic identities were infringed upon due to the lack of training and competition, and therefore less frequent interactions between athletes, peers, and coaches (Malina, 2009).

The cancellation of youth sport is thought to have impacted family functioning as well as the normative development of children and adolescence. Sanderson and Brown (2020) highlighted ways families were forced to adjust their daily routines, as sport once occupied a salient space in children’s and families’ public lives. At an intrapersonal level, the authors suggested that the cancellation of youth sport was a strong source of stress for many athletes, with some even potentially experiencing grief given the sudden loss of such an instrumental part of their identity. Graupensperger et al. (2020) found that prioritizing social connections to peers fostered the maintenance of identity during the pandemic. However, this proved to be difficult as physical distancing protocols reduced much opportunity for regular social contacts among peers and teammates. Although there is evidence that a lack of sport led to deleterious consequences for youth, emerging research also suggests that continued engagement in sport during the pandemic had the potential to lead to positive outcomes (McGuine et al., 2021). Specifically, those who continued to play sport experienced lower levels of anxiety and depression, as well as higher perceptions of quality of life (McGuine et al., 2021).

The COVID-19 pandemic also led to a large amount of economic stress for families (Sanderson & Brown, 2020). A large number of jobs were lost during the initial months of the pandemic, causing many parents to seek additional and often non-traditional sources of income. This resulted in fewer opportunities for parents to support children’s sport-related and other extracurricular activities or transports. In April 2020, the unemployment rate in the United States peaked at 14.8%, thought to be the highest since the Great Depression and the highest on record since data collection began in 1948 (Congressional Research Service, 2021). This hidden consequence of the pandemic struck those individuals and families of lower socioeconomic status particularly hard. It is clear the pandemic amplified the systemic disadvantages that individuals and families faced prior to the pandemic, with minoritized families experiencing higher levels of peak unemployment in 2020 and a slower recovery since (Congressional Research Service, 2021). In addition to income as a lead indicator, there were also differences in pandemic-related unemployment as a function of education. Namely, adults in the United States with less than a high school diploma peaked at 21% unemployment, whereas those with a bachelor’s degree or higher peaked at 8.4%.

Socioeconomic status (SES) is defined as the “social standing or class of an individual or group. It is often measured as a combination of education, income, and occupation.” (APA, 2022, Socioeconomic Status). In the United States and other industrialized countries, SES is strongly associated with life and health-related outcomes (Braveman et al., 2011). Notably, individuals of lower SES are more likely to be frontline/essential workers and were therefore more likely to experience higher levels of exposure to the virus (Blau, Meyerhofer, & Koebe, 2020). In contrast, individuals of higher SES were more likely to work from home during the pandemic, with modern comforts such as stable internet, plentiful access to food, and comfortable living arrangements (Patel et al., 2020; Wanberg et al., 2020).

In sport, children from less educated and less affluent backgrounds have traditionally been less likely to have access to participation opportunities and the potential positive outcomes associated with them (Baxter-Jones & Maffulli, 2003). These access and outcome gaps have been exacerbated in recent years, as the financial support required from parents to allow their children to participate in sport has risen exponentially, particularly within the travel, club, and “elite” participation domain. Current literature suggests that parents spend between 3 and 12% of their gross annual income for one child to participate in sport (Dunn et al., 2016). Recent literature also suggests that children from higher-earning households engage in more weekly hours of sport participation when compared to those from lower-income households (Aspen Institute, 2019). This rise in families’ sport investment highlights the important role parents play as gatekeepers to their children’s sport opportunities, and how affluence is directly related to the opportunity to engage in, and benefit from, youth sport experiences (Fredricks & Eccles, 2004). In this light, Merkel (2013) suggests that living in lower SES neighborhoods contributes to inactivity among youth due to the limited access to adequate sport programming as well as the facilities and infrastructure to support it. Evidence also suggests that family structure may influence a youth’s likelihood of participating in sport (McMillan et al., 2016), specifically that children from ‘traditional’ families (i.e., dual parent homes) were more likely to participate in youth sport and that this relationship was mediated by perceived familial wealth.

In the realm of sport, there is little empirical research that highlights whether one’s race is associated with SES. While there is an over-representation of Black athletes in intercollegiate and professional sport leagues when compared to the broader United States population (Harper et al., 2013), there remain systemic barriers to youth sport participation for many minoritized groups (Kanters et al., 2012). This may be due, in part, to the relatively high financial commitment required for youth sport participation (see Dunn et al., 2016). Existing literature relating to barriers to sport participation highlights a number of practical and person-centered barriers (Somerset & Hoare, 2018). Specifically, three main practical barriers have been identified by sport stakeholders: (1) Time, this may be either the parent or child’s schedule or transport related, (2) Cost, in the form of accessibility of quality equipment or facilities in the local area, and (3) Location, which includes importance of transport in the area as well as space, suitability, and access (Somerset & Hoare, 2018). Furthermore, person-centered barriers have the potential to include sex- or race-based stereotypes, bad experiences in other sport contexts, and negative appraisal (Somerset & Hoare, 2018), as well as insurance status and race (Pandya, 2021). These patterns, and the potential for them to have an exclusionary role in families’ sport participation decision making, appear to have long been an issue in the United States (Seefeldt & Ewing, 1997; Kingsley & Spencer-Cavaliere, 2015). Recent work from the Aspen Institute (2019, 2021)
pandemic. It was hypothesized that multiple aspects of families' perceptions of barriers to returning to sport following the COVID-19 pandemic (Tai et al., 2020), specifically with regard to health care access and outcomes.

Given present understanding, it appears that dimensions of family SES may be linked to the COVID-19-related opportunities and outcomes American youth experienced during the pandemic. Therefore, close examination of SES and race has the potential to be a fruitful research pathway. In pursuing this work, the integrated model of the youth sport system (Dorsch et al., 2022) provides an appropriate theoretical frame to highlight the importance of the numerous personal characteristics, persons, and contexts that influence athletes' experiences and outcomes in youth sport. Specifically, it can be inferred that parents behave differently depending on the communities and societies in which they exist. Different communities and societies have different values, interests, and opportunities, altering the way in which parents interact with their children and sport. Further, parents are considered co-participants in their children's youth sport experience and therefore have the potential to influence their athletes' participation through their provisions of support (e.g., providing opportunities for participation), while also being influenced by their children and the contexts in which they interact. This makes it extremely important to consider parents' perceptions of barriers related to their children's return to sport in a post-COVID-19 landscape. Systems thinking places the individual and their personal characteristics at the center (Dorsch et al., 2022) and accounts, importantly, for development across time.

The present study was designed to address this gap by examining families' socioeconomic and demographic factors in relation to parents' perceived barriers to returning to sport following the COVID-19 pandemic. It was hypothesized that multiple aspects of families' socioeconomic and demographic characteristics (i.e., parent and child age and sex; family income and neighborhood; parent race, relationship status, and employment status) would be significantly associated with parents' perceptions of health (e.g., getting sick if a child starts playing sports again) and practical barriers (e.g., difficulty fitting sports into the family's schedule again), as well as their levels of sport participation as their children returned following the COVID-19 pandemic.

1. Method

1.1. Participants

Participants (N = 6183) were parents of children competing in youth sport in the United States during the COVID-19 pandemic. Parents were defined as the biological, adoptive, or otherwise regular caregivers of a child. This included mothers and fathers as well as any other individual who served as the primary caregiver of a child or adolescent athlete. Data were collected between May 2020 and September 2021. The sample included 2738 self-identified females, 3430 self-identified males, and 15 who did not identify. Parents ranged in age from 18 to 89 years (M_age = 39.31, SD = 8.9). The nationally representative sample was 58.90% White, 18.11% Hispanic, Latino, or Spanish origin (Latinux), 13.38% Black or African American, 5.76% Asian, 1.99% Multiracial, 1.00% American Indian or Alaskan Native, 0.27% “other”, and 0.23% Native Hawaiian or Pacific Islander. Seventeen parents (0.27%) did not identify a specific race. The median gross household income was $69,000, in line with the national household average of $68,703 (United States Census Bureau, 2019). Children were reported to have a mean age of 12.21 years (SD = 3.22, range = 6 to 18) with 3386 males and 2789 females identified by parents. Eight parents did not report on their children's gender.

1.2. Procedure

An institutional review board approved study procedures prior to data collection. Parent respondents were recruited via a paid Qualtrics panel and through youth sport industry partners between June 2020 and August 2021. Participants were selected to participate based on socioeconomic and demographic characteristics (i.e., sex, race, income, state, size of community, etc.) to achieve a relatively representative sample of American youth sport parents. Respondents provided informed consent online, and then answered 13 socioeconomic and demographic questions about themselves, their oldest sport-participating child, and their family. Parents also responded to questions related to potential barriers to their children resuming participation in youth sport once their community of state lifted COVID-19-related restrictions.

1.3. Measures

Socioeconomic and demographic characteristics. Parents were asked about their age, the racial category they identify with, their household annual income across all earners, before taxes, the type of neighborhood they reside in (urban, suburban, or rural), as well as their relationship and employment status. Parents also indicated their children's sex and age.

Barriers to sport. Single study-designed items assessed parents' perceptions of a range of potential barriers to returning to sport post-pandemic. These included the fear of child illness “I am afraid of my child getting sick if he/she starts playing sports again”, the fear of parent illness “I am afraid of myself getting sick if my child starts playing sports again”, schedule conflicts “It will be difficult to fit sports into our schedule again”, transport difficulty “It will be too difficult to transport my child to play sports”, and their child losing interest in sport “My child is not interested in playing sports again”. All items were measured on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). In the present study, barrier variables were grouped into two factors (‘practical barriers’ and ‘health barriers’). A rationale for this decision is provided in the Data Analysis sub-section below.

Sport Participation. Parents reported how many hours per week their children were currently taking part in youth sport. This item asked parents to specifically report on their children’s hours spent in virtual training (e.g., watching film, online coaching), practice and training, games and competition, and pickup/free play. Responses across these categories were summed to represent the total number of hours per week in which youth were actively engaged in sport during the pandemic.

1.4. Data Analysis

Statistical analyses were conducted using R (R Core Team, 2021). Descriptive statistics were examined based on the recommendations of Tabachnick and Fidell (2018), using the psych package (Revelle, 2021). The structural equation models were fit using the lavaan package (Kaplan, 2012). We constructed a three-factor measurement model with latent variables “health barriers”, “practical barriers”, and “sport participation”. For comparison, we also fit a two-factor measurement model, comprised of “sport participation” and “barriers to sport” (see table 2 for final factor structure). We compared the two models using a likelihood ratio test, $\chi^2(1) = 3817.7, p < .001$.

Prior to creating the structural model, we created dummy codes for each categorical variable using the fastDummies package in R (Kaplan, 2020). The category with the largest membership was selected to serve as the reference category (parent sex = male; parent race = white; relationship status = married; employment = full-time, neighborhood type = urban; child sex = male). These referent groups were omitted from the regressions within the model, which allows them to be used as the reference. As a result, all parameter estimates presented are relative to the average for these referent groups.

Subsequent to deciding on an appropriate measurement model and
establishing referent groups, we fit a MIMIC model (Joreskog & Goldberger, 1975) to examine the association of socioeconomic and demographic variables with the latent outcomes of interest. The model can be seen in Fig. 1. The structural regression portion of the model utilized dummy coded variables to represent each category of parent age, sex, neighborhood type, relationship status, employment status (Kaplan, 2020). The model also included the continuous predictors of parent age and family income. To aid in model convergence, family income was scaled by a factor of .001 (income in thousands) to reduce the difference in scales. Child age and sex were statistically accounted for by including them as covariates in the model, this allowed us to examine parent perceptions when child age and sex are held constant. We tested study hypotheses by examining regression coefficients within the model and related significance tests. Model fit was assessed using RMSEA, SRMR, CFI, and TLI. (Bentler, 2007; Hu & Bentler, 1995; McDonald & Ho, 2002). RMSEA and SRMR values of less than 0.06 are indicative of good fit, while CFI and TLI values of more than 0.95 indicate good model fit.

2. Results

2.1. Descriptive statistics

Descriptive statistics are provided in Table 1. As shown in Table 1, children participated in, on average, 1.8 virtual hours, 2.8 pickup hours, 2.5 practice hours, and 1.9 competition hours per week. Parents reported mean scores on health-related barriers of 3.5 for child health and 3.3 for parent health. Practical barrier mean scores were 2.8 for scheduling conflicts, 2.3 for children’s lack of interest in sport, and 2.5 for transportation-related concerns.

2.2. Structural equation models

Comparing measurement models using the likelihood ratio test showed strong support for the proposed three-factor structure, \( \chi^2(2) = 3017.7, \ p < .001 \). Factor structure and item loadings can be found in Table 2. Fit indices offer evidence of good fit for the measurement model (RMSEA = 0.03, SRMR = 0.01 CFI = 0.98, and TLI = 0.97). Loadings and standard errors for the three-factor measurement model can be found in Table 2.

The MIMIC model yielded a number of significant findings, which are detailed in Table 3 as unstandardized betas. Fit indices offer evidence of good fit for the structural model (RMSEA = 0.03, CFI = 0.99, and TLI = 0.99). Concerning Health Barriers, the most salient findings involved race, employment status, and neighborhood type. Specifically, Asian (\( \beta = 0.27, \ p = .01 \)), Black (\( \beta = 0.22, \ p = .01 \)), and Latinx (\( \beta = 0.11, \ p = .01 \)).

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**Table 1**

Descriptive statistics of study variables.

| Variable       | Mean | SD   | Range |
|----------------|------|------|-------|
| Virtual Hours  | 1.8  | 3.75 | 0–40  |
| Pickup Hours   | 2.8  | 4.13 | 0–40  |
| Practice Hours | 2.5  | 4.21 | 0–40  |
| Competition Hours | 1.9 | 3.50 | 0–40  |
| Child Health - Barrier | 3.5 | 1.35 | 1–5  |
| Parent Health - Barrier | 3.3 | 1.32 | 1–5  |
| Schedule - Barrier | 2.8 | 1.34 | 1–5  |
| Interest - Barrier | 2.3 | 1.37 | 1–5  |
| Transport - Barrier | 2.5 | 1.36 | 1–5  |

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**Table 2**

Measurement model confirmatory factor analysis loadings and standard errors.

| Items                  | Estimate | SE  |
|------------------------|----------|-----|
| Health Barriers        |          |     |
| Parent Health          | 1.00     |     |
| Child Health           | 0.97     | 0.01|
| Sport Participation    |          |     |
| Virtual Hours          | 1.00     |     |
| Pick-up Hours          | 0.96     | 0.03|
| Practice Hours         | 1.32     | 0.04|
| Competition Hours      | 1.37     | 0.04|
| Practical Barriers     |          |     |
| Interest               | 1.00     |     |
| Schedule               | 0.99     | 0.01|
| Transport              | 1.08     | 0.01|
| CFI                    | 0.98     |     |
| TLI                    | 0.97     |     |
| RMSEA                  | 0.06     |     |
| SRMR                   | 0.03     |     |

Note: The first factor loading for each factor was fixed to 1.00 for identification purposes.

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**Table 3**

Note: The first factor loading for each factor was fixed to 1.00 for identification purposes.

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**Fig. 1.** Proposed Structural Regression Model – simplified version, estimates will be made for each category within multicategory variables.
Table 3

| Health Barriers | Sex | Estimate | SE  | P   |
|-----------------|-----|----------|-----|-----|
| Race            | American Indian or Alaskan | –0.05 | 0.18 | 0.77 |
| Asian           | 0.27 | 0.08 | 0.01 |
| Black or African American | 0.22 | 0.06 | 0.01 |
| Latinx          | 0.11 | 0.05 | 0.03 |
| Multiracial     | –0.02 | 0.13 | 0.88 |
| Relationship    | Single, Never Married | 0.05 | 0.06 | 0.43 |
| Status          | Living with Partner | –0.05 | 0.07 | 0.44 |
| Widowed         | –0.21 | 0.15 | 0.17 |
| Divorced        | –0.16 | 0.08 | 0.03 |
| Separated       | –0.12 | 0.13 | 0.38 |
| Employment      | Part-Time | –0.14 | 0.07 | 0.04 |
| Status          | Self-Employed | –0.21 | 0.08 | 0.01 |
| Out of Work - COVID | 0.02 | 0.08 | 0.84 |
| Out of Work - Non-COVID | –0.09 | 0.16 | 0.57 |
| Homemaker       | 0.01 | 0.07 | 0.84 |
| Student         | 0.20 | 0.17 | 0.24 |
| Retired         | –0.05 | 0.14 | 0.71 |
| Unable to Work  | 0.26 | 0.11 | 0.03 |
| Neighborhood    | Suburban | –0.28 | 0.04 | 0.01 |
| Type            | Rural    | –0.33 | 0.06 | 0.01 |
| Child Sex       | Female   | –0.04 | 0.04 | 0.27 |
| Parent Age      | 0.01 | 0.00 | 0.01 |
| Family Income   | 0.00 | 0.00 | 0.53 |
| Child Age       | –0.02 | 0.01 | 0.01 |
| Participation   | Sex      | –1.39 | 0.20 | 0.01 |
| Race            | American Indian or Alaskan | –0.60 | 0.88 | 0.50 |
| Asian           | –1.75 | 0.38 | 0.01 |
| Black or African American | 0.04 | 0.27 | 0.88 |
| Latinx          | –1.18 | 0.24 | 0.01 |
| Multiracial     | –1.22 | 0.62 | 0.05 |
| Relationship    | Single, Never Married | –1.22 | 0.28 | 0.01 |
| Status          | Living with Partner | –0.88 | 0.31 | 0.01 |
| Widowed         | –0.53 | 0.73 | 0.47 |
| Divorced        | –1.28 | 0.36 | 0.01 |
| Separated       | –1.80 | 0.64 | 0.01 |
| Employment      | Part-Time | –0.62 | 0.33 | 0.06 |
| Status          | Self-Employed | –2.26 | 0.39 | 0.01 |
| Out of Work - COVID | –3.06 | 0.40 | 0.01 |
| Out of Work - Non-COVID | –2.57 | 0.74 | 0.01 |
| Homemaker       | –2.38 | 0.32 | 0.01 |
| Student         | –1.79 | 0.83 | 0.03 |
| Retired         | –1.26 | 0.67 | 0.06 |
| Unable to Work  | –1.42 | 0.54 | 0.01 |
| Neighborhood    | Suburban | –1.62 | 0.19 | 0.01 |
| Type            | Rural    | –1.98 | 0.27 | 0.01 |
| Child Sex       | Female   | –0.16 | 0.18 | 0.37 |
| Parent Age      | –0.10 | 0.01 | 0.00 |
| Family Income   | 0.00 | 0.00 | 0.02 |
| Child Age       | 0.09 | 0.03 | 0.01 |
| Practical Barriers | Sex  | –0.16 | 0.04 | 0.00 |
| Race            | American Indian or Alaskan | –0.01 | 0.18 | 0.98 |
| Asian           | 0.06 | 0.08 | 0.44 |
| Black or African American | –0.10 | 0.06 | 0.07 |
| Latinx          | –0.14 | 0.05 | 0.00 |
| Multiracial     | –0.19 | 0.13 | 0.13 |
| Relationship    | Single, Never Married | –0.02 | 0.06 | 0.79 |
| Status          | Living with Partner | –0.19 | 0.06 | 0.00 |
| Widowed         | 0.22 | 0.15 | 0.15 |
| Divorced        | –0.13 | 0.07 | 0.07 |
| Separated       | –0.09 | 0.13 | 0.52 |
| Employment      | Part-Time | –0.02 | 0.07 | 0.72 |

Table 3 (continued)

| Self-Employed | –0.26 | 0.08 | 0.00 |
| Out of Work - COVID | –0.36 | 0.08 | 0.00 |
| Out of Work - Non-COVID | –0.22 | 0.15 | 0.16 |
| Homemaker       | –0.13 | 0.06 | 0.04 |
| Student         | 0.04 | 0.17 | 0.81 |
| Retired         | –0.28 | 0.14 | 0.04 |
| Unable to Work  | 0.12 | 0.11 | 0.30 |
| Neighborhood    | Suburban | –0.33 | 0.04 | 0.00 |
| Type            | Rural    | –0.35 | 0.06 | 0.00 |
| Child Sex       | Female   | 0.09 | 0.04 | 0.02 |
| Parent Age      | 0.00 | 0.00 | 0.07 |
| Family Income   | 0.00 | 0.00 | 0.10 |
| Child Age       | –0.02 | 0.01 | 0.00 |

Covariances
| Health Barriers - Participation | 0.19 | 0.12 | 0.11 |
| Health Barriers - Practical    | 1.19 | 0.03 | 0.00 |
| Barriers                       | 1.00 | 0.06 | 0.00 |

Variances
| Health Barriers | 1.75 | 0.46 | 0.00 |
| Participation    | 31.21 | 0.24 | 0.00 |
| Practical Barriers | 1.65 | 0.03 | 0.00 |
| Parent Health     | 0.28 | 0.02 | 0.00 |
| Child Health      | 0.41 | 0.02 | 0.00 |
| Virtual Hours     | 60.57 | 0.20 | 0.00 |
| Pick-up Hours     | 80.48 | 0.26 | 0.00 |
| Practice Hours    | 72.03 | 0.23 | 0.00 |
| Competition Hours | 51.03 | 0.16 | 0.00 |
| Interest          | 0.85 | 0.02 | 0.00 |
| Schedule          | 0.61 | 0.02 | 0.00 |
| Transport         | 0.44 | 0.02 | 0.00 |

Note: Significant relationships indicated in bold.

$p = 0.03$ parents were more likely to report higher levels of health-related barriers than white parents. While those with divorced parents reported lower levels of concern compared to married couples ($\beta = -0.16, p < 0.03$), as were parents in part-time ($\beta = -0.14, p = 0.04$) or self-employment ($\beta = -0.21, p = 0.01$) when compared to full-time working parents. On the contrary, those unable to work reported higher levels of concern regarding health-related barriers ($\beta = 0.26, p = 0.03$). Finally, those living in suburban or rural neighborhoods reported lower levels of concern when compared to those living in urban neighborhoods ($\beta = -0.28, p < 0.001; \beta = -0.33, p = 0.01$). Parent age was also a significant predictor, but its small effect size is unlikely to be of practical value ($\beta = 0.01, p = 0.01$).

Significant relationships were also identified between the socioeconomic and demographic variables of interest and Practical Barriers. Female parents reported lower levels of perceived practical barriers ($\beta = -0.16, p < 0.001$), as did parents that identified as Latinx when compared to White parents ($\beta = -0.14, p < 0.01$), and those living with a partner compared to married couples ($\beta = -0.19, p < 0.01$). Self-employed parents ($\beta = -0.26, p < 0.001$), those out of work because of COVID-19 ($\beta = -0.36, p < 0.001$), homemakers ($\beta = -0.13, p = 0.04$), and retired parents ($\beta = -0.28, p = 0.04$) all reported lower levels of perceived practical barriers compared to those in full-time employment. Finally, those living in suburban or rural neighborhoods reported lower levels of perceived practical barriers compared to those living in urban neighborhoods.

There were several significant relationships between socioeconomic and demographic variables and sport participation. Firstly, female parents reported less participation (less time spent in the sport context) than male parents ($\beta = -1.39, p = 0.01$). On a similar note, Asian ($\beta = -1.75, p = 0.01$), Latinx ($\beta = -1.18, p = 0.01$), and Multiracial parents ($\beta = -1.22$, $p = 0.01$).
and sport participation as their children returned to sport following the COVID-19 pandemic. We tested these hypotheses using a MIMIC model returning to sport following the COVID-19 pandemic. We hypothesized associations between the presence of neighborhood parks and recreational and demographic factors in relation to parents’ perceptions of barriers and sport participation as their children returned to sport following the COVID-19 pandemic. We tested these hypotheses using a MIMIC model with the results presented in Tables 2 and 3.

Regarding perceived Health Barriers, findings suggest that individuals who identified as a member of a minoritized group were more likely to report higher levels of concern when considering their children’s return to youth sport following the pandemic. Furthermore, individuals living in an urban neighborhood also reported higher levels of concern when compared to those residing in a suburban or rural area, even after for controlling for family income. A plausible explanation for this is that Black and Latinx families are more likely to reside in structurally vulnerable neighborhoods (Berkowitz et al., 2020). Previous literature notes that families who reside in these neighborhoods often have less access to safe parks and recreational facilities (Basch, 2011; Spengler, 2012). This is important because research highlights strong associations between the presence of neighborhood parks and recreational facilities and youth’s physical activity (Roemmich et al., 2006). However, systematic barriers such as recreational budgets often plague these neighborhoods from having safe and well-run recreational facilities for children and adolescents.

Emerging epidemiological data suggest that there was a higher concentration of COVID-19 cases and related deaths in low-SES than high-SES neighborhoods (Tai et al., 2020). Research highlights disparity in access to affordable and proximal health care infrastructure and suggests that individuals from low-SES neighborhoods see higher mortality rates when infected (Townsend, Kyle, & Stanford, 2020). Indeed, the CDC (2020) noted that as of December 2020, individuals who identified as Black or Latinx had a 2.8 times higher mortality rate when compared to White individuals. Overall, findings from the present study suggest that membership in a minoritized racial group was associated with higher levels of health-related concerns when children’s return to youth sport in the wake of the COVID-19 pandemic, net of income status.

When addressing participation in youth sport during the COVID-19 pandemic, we also found significant differences in the amount of time spent in the youth sport setting between different races, relationship and employment statuses, and neighborhood type. First, male parents reported higher levels of sport participation, as did White parents when compared to Asian, Latinx, and Multiracial parents, but there was no significant difference between White and Black parents. Married parents also reported higher levels of sport participation, as did those parents who reported being employed full-time, likely due to the increased financial resources from this intersection. Finally, those living in urban neighborhoods reported higher levels of sport participation.

These findings can be interpreted by considering them through an integrated lens of the youth sport system (Dorsch et al., 2022). Dorsch and colleagues suggest that the environmental subsystem influences the opportunities, infrastructure, access, and support for individuals to participate in sport. In the present study, results suggest that those living in urban areas are likely to have greater access to sport facilities, and thus opportunities, as a result of living in this type of environment where opportunities for participation may be more likely. This is directly supported by both theory and empirical research within the “community” level of the environmental subsystem of Dorsch and colleagues’ (2022) integrated model of the youth sport system. This work highlights the importance of initiatives, access, and infrastructure (O’Reilly et al., 2013). It may also be the case that at the “Society” level, there are relationships between local policy, resources, and values, that influence parent’s perceptions of barriers when returning to youth sport (Stritzmatter & Skille, 2016; Tomik et al., 2012). Regarding race and participation, the function of youth sport and identity may play a salient role in explaining the difference between racial groups. This is a more nuanced finding to explicite when we consider the innumerable bidirectional relationships between the athlete and parents in the family subsystem with the community and society levels of the environmental subsystem.

The present study examines both practical and person-centered barriers (Somerset & Hoare, 2018). Data indicate that different person-centered attributes such as parent sex, race, and marital status, influenced individual’s perceptions of health related and practical barriers. This aligns with existing literature regarding barriers to youth sport participation. Particularly the findings of Pandya (2021), who highlighted how certain individuals not only face a more difficult entry into sport, but also face disparities in the care received when injured. Given the health-related concerns parents had during the COVID-19 pandemic, the present findings appear to support the notion that race and SES have a significant influence on individuals’ experiences in youth sport (Pandya, 2021). However, the present study also demonstrates that these disparities continued throughout an international pandemic. The presence of a crisis on the scale of COVID-19 did not appear to place all individuals on a level playing field when considering their experiences of barriers to return to sport. Rather, the disparities that had been observed in society prior to Spring 2020 were likely exacerbated during the pandemic. This highlights the urgent need to reassess structural policy and youth sport opportunities (see Pandya, 2021; Somerset & Hoare, 2018), which have long been identified as needs of the American youth sport system (Seefeldt & Ewing, 1997).

Given the abrupt loss of sport opportunities in the wake of the pandemic, it is important to consider the influence of COVID-19-related restrictions on individual’s identities. Extant literature notes that Black youth are encouraged more than other minoritized groups to participate in sport (Harris, 1994). Therefore, the sport may be more salient to Black youth in particular Black males’ – identity (Messner & Play, 1992). Meanwhile, parents of White athletes from higher SES groups are more likely to invest in sport than parents from other racial groups. Potential explanations for this include the prevalence of sport specialization as a means to increase the chances of obtaining a college athletic scholarship (Brooks et al., 2018).

The final factor, Practical Barriers, also saw some significant differences between socioeconomic and demographic characteristics. Most differences were found between those in full-time employment and those in other employment categories. Parents employed on a full-time basis reported higher levels of practical barriers when compared to self-employed parents, those out of work due to COVID-19, homemakers, and retired parents. This makes practical sense in that those working full-time jobs may have more difficulties in scheduling and transport than those in more flexible positions, leading them to perceive more barriers. As illustrated by these findings, there remains significant support for the notion that socioeconomic and demographic factors had a significant impact on parents’ perceptions surrounding youth sport and the COVID-19 pandemic.

Beyond the present results, there are several practical reasons to
examine how and why the socioeconomic and demographic subcomponents of SES may shape sport participation experiences and outcomes among youth in minoritized groups. First, research indicates that Black and Latinx families tend to have more negative experiences concerning health, financial, and food security than White families (Berkowitz et al., 2020). Additionally, Black, Latinx, and Native American families are more likely to live in structurally vulnerable neighborhoods (Berkowitz et al., 2020). Importantly, these vulnerable neighborhoods may lack the necessary funding, support, and infrastructure to offer well-designed and safe sport experiences. This may result in fewer opportunities to play unorganized and free play sport in developmentally appropriate environments (Fraser-Thomas et al., 2005; Holt et al., 2009). Of note, structurally vulnerable neighborhoods had a higher concentration of COVID-19 cases and deaths during the peak of the pandemic (Verma et al., 2021). Existing literature suggests that some urban areas have an overrepresentation of sport facilities despite having a lower per capita youth population (O’Reilly et al., 2015), while American suburbs boast higher quality facilities in fewer number. 

Even if the necessary funding, support, and infrastructure are in place to provide equitable opportunities, it does not guarantee that youth or their parents would have different perceptions related to returning to organized sport due to heightened concerns of health-related barriers. This speaks to the intersectionality of health barriers and practical barriers, and the “double jeopardy” that may have limited rates of return-to-play in structurally vulnerable neighborhoods following the COVID-19 pandemic. In short, findings from the present research appear to be consistent with the broader COVID-19 literature in that racial minorities in structurally vulnerable neighborhoods have been disproportionately impacted by the pandemic (Berkowitz et al., 2020; CDC, 2020; Tai et al., 2020).

3.1. Practical implications

Findings from the present study highlight the importance of actively working with minoritized groups in urban neighborhoods, where health related barriers and concerns seemed to be highest, to more effectively define a “new normal” in youth sport as society emerges from the COVID-19 pandemic. This process would be enhanced by re-evaluating federal, state, and local policy to create safe and developmentally appropriate spaces for children to participate, irrespective of their socioeconomic and demographic backgrounds. The benefits from participating in such environments are vast (Fraser-Thomas et al., 2005; Hills et al., 2015; Eime et al., 2013). It is therefore incumbent upon research-practitioners to design and deliver on the promise of “Sport for All” (see Wicker et al., 2009) by affording all children the opportunity to experience the benefits that sport and physical activity have to offer.

3.2. Limitations and future directions

Despite the many strengths of this research, there are inherent limitations to consider. First, the present study was cross-sectional and is therefore useful for identifying statistical associations among variables and potential pathways of influence. Future literature should be designed to examine how stakeholder perceptions change over time, as such an approach would allow scholars to establish a developmental sequence of events while minimizing recall bias in participant responses (Caruana et al., 2015). In survey-based research, it is also important to consider the sources of information. In the present study, we utilized parents’ self-report measures of perceived barriers to returning to sport. This limitation is captured in a quote from the social anthropologist Margaret Mead, who said, “What people say, what people do, and what people say they do, are entirely different things” (Ewing, 2011, p. 80). Future work could therefore measure parent and child perceptions in an effort to capture a more holistic understanding of the family subsystem in youth sport. Alternatively, observational or behavior-based research could be utilized to better understand the objective manifestations of athletes’, parents’, and families’ health-related concerns. A second limitation of this study lies in the fact that results can only be considered within the context in which they were collected (i.e., youth sport parents in the United States). Although the sample of youth sport parents was drawn from all 50 states and the District of Columbia and is considered “representative” based on the socioeconomic and demographic composition of the sample, there are unique aspects of the larger population that could be considered. As highlighted by Dorsch et al. (2022) conceptualization of the youth sport system, factors related to the individual, family, team, organization, community, and society influence and are influenced by every athlete’s youth sport experience. Therefore, although the present results offer a sharper understanding of the socioeconomic and demographic factors that shape sport experiences and outcomes in the United States, they are not generalizable to an international audience. To be clear, every society around the world was impacted by the COVID-19 pandemic; however, it would behove future scholars to document the similarities and differences in the ways these societies, their constituent individuals, and youth sport contexts reacted to, and were impacted by, the onset of COVID-19. Furthermore, barriers may be perceived in different ways, or new barriers may be present in other settings. Future research could be designed to examine these barriers in other geographical regions, while potentially including new barriers such as financial stress. There are a variety of potential barriers that could have been explored in the present study. The barrier items that were included were specifically designed for this study in partnership and consultation with the funding agency, per their internal knowledge priorities. Moving forward qualitative work may be a useful tool for researchers to adopt in order to better understand why some families walked away from sport during the pandemic. This would also aid in the understanding of how the absence of sport had an influence on youth’s identities (Sanders & Stevinson, 2017). A final (de)limitation relates to the choice not to apply an intersectoral lens to this research. Intersectoral theoretical approaches have not been widely used in sport (Dagkas, 2016) and it has been relatively uncommon for such an approach to be adopted in quantitative research (Dill & Zambrana, 2009). In large part, this is due to the relative complexity of the models required to capture the constellation of variables that comprise one’s social identity. While the present study measured a number of key components of SES, further research should be designed to explore potential systemic differences and inequalities among groups. Theoretically informed work in this area holds the potential to influence policy and legislation that might positively affect those most vulnerable to the permanent (e.g., structures and systems) and temporary (e.g., the COVID-19 pandemic) factors that have the potential to affect youth sport participation in the United States. 

4. Conclusion

Youth sport is a relatively ubiquitous activity among youth in the United States. Sport has the potential to offer a range of positive developmental outcomes when it is designed and delivered toward the end users: children and adolescents. However, the recent COVID-19 pandemic caused unforeseen hardships for individuals, families, and communities, leaving many parents to make decisions about when, whether, and in what capacity their children would return to youth sport once COVID-19-related restrictions were lifted. The present study examined a range of socioeconomic and demographic factors with regard to this decision. Salient findings suggest that identifying as a minority and living in an urban neighborhood were related to the perception of health-related barriers in sport. Further, those who lived in urban neighborhoods and had higher family incomes reported higher levels of practical barriers to returning to sport. Theoretically informed intersectoral research is needed to expand these findings and to identify areas of implementation for new policy and practice.
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