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Collective organisational publicness versus privateness in community sport: a national panel study of local authorities

PLEASE CITE THE PUBLISHED VERSION

<https://doi.org/10.1080/16184742.2020.1765403>

PUBLISHER

Taylor & Francis (Routledge)

VERSION

AM (Accepted Manuscript)

PUBLISHER STATEMENT

This is an Accepted Manuscript of an article published by Taylor & Francis in *European Sport Management Quarterly* on 18 May 2020, available online: <http://www.tandfonline.com/10.1080/16184742.2020.1765403>.

LICENCE

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REPOSITORY RECORD

Hodgkinson, Ian, Paul Hughes, and Vitor Leone. 2020. "Collective Organisational Publicness Versus privateness in Community Sport: A National Panel Study of Local Authorities". Loughborough University. <https://hdl.handle.net/2134/12236297.v1>.

Collective Organisational Publicness versus Privatness in Community Sport: A National Panel Study of Local Authorities

Abstract

Research Question: The role and merit of publicness versus privatness in community sport provision is hotly contested in the sport management field, but is there a relationship between ownership types in local authorities' community sport provision and sports participation levels?

Research Methods: The study combines secondary data on sports participation with objective data on ownership types in community sport provision among local authorities in England, between 2009-15. The panel model examines whether the mix of ownership types in community sport is associated with differences in reported sports participation levels.

Results and Findings: The study reveals higher collective organisational publicness in community sport is associated with lower sports participation levels among local populations. The opposite is true of higher collective privatness in local authorities' provision, where higher levels of sports participation are observed among local populations.

Implications: If local authorities are to influence sports participation levels among their populations, there is a need to better understand how community sport provision should be delivered. Informed by the findings, greater privatness in local authorities' community sport provision is associated with higher sports participation levels.

Keywords: community sport, collective organisational publicness, local authorities, sports participation, privatness.

Introduction

A dominant response of local government to the fiscal demands of delivering services, such as community sport, is to change service ownership by outsourcing provision to external agents. The merits of both publicness and privateness have subsequently been the subject of significant academic debate in the public management field more broadly (for an overview see Andrews et al., 2011) and in sport management more specifically (Liu et al., 2009; Wicker et al., 2009; Kumar et al., 2018). Championed under New Public Management (NPM), service externalisation to private and third sector providers was deemed an appropriate mechanism to both enhance service efficiencies and increase effectiveness of the ‘old’ public management (Hood, 1991). Consequently, the performance effects of publicness have been examined extensively at the organisational level across a variety of different public service contexts. However, the value of externalising service provision remains ambiguous (e.g. Andrews et al., 2011) with the role of publicness versus privateness still contested, particularly in community sport (Hodgkinson et al., 2017; Parnell et al., 2019; Wicker et al., 2009).

Increasing sports participation engagement by 2025 is a key public priority for local authorities in the UK (HM Government, 2015). Subsequently, local authorities “are the biggest public sector investor in sport and sports participation, spending over £1bn per year, excluding capital spend” (HM Government, 2015, pp. 12-13). Their provision of community sport facilities, predominantly in the form of swimming pools and leisure centres, plays a key role in offering sports participation opportunities to local communities (Harris & Houlihan, 2016; Liu et al., 2009). Through increasing devolution of decision-making, local authorities are empowered to decide who manages the delivery of their community sport provision, be that by local government themselves, nonprofit trusts, or private contractors. Given the centrality of local authority facilities to providing participation opportunities, the move

toward outsourcing facility management has fuelled debate about which form of ownership is most appropriate for community sport provision (Parnell et al., 2019).

To date, arguments for and against publicness versus privateness in service delivery have been grounded in emotions, opinions, assumptions, and normative biases (Anderson & Taggart 2016). The lack of clear empirical evidence contributes to the ambiguity surrounding the impacts of publicness and privateness, which is compounded by the lack of research focus on community sport (Harris & Houlihan, 2016). For instance, greater privateness has been associated with a diminished focus on social inclusion objectives, in turn there have been reports of reduced sports participation opportunities and levels (Harris & Houlihan, 2016; Parnell et al., 2019). In contrast, empirical observations suggest that private agents outperform publicly managed and nonprofit facilities on social inclusion metrics (Liu et al., 2009). Nevertheless, with austerity measures across local government driving service externalisation, there is a seemingly unintended negative impact on sports participation in the UK (Parnell et al., 2019). To provide much needed empirical validation and robustness to such claims, this study addresses the research question: Is there a relationship between ownership types in local authorities' community sport provision and sports participation levels among local populations?

To this end, the study draws on the concept of collective organisational publicness, understood as the aggregate publicness of organizations within a policy environment (e.g. Miller & Moulton 2014), to capture the proportion of private contractors versus public and nonprofit managed facilities in local authority community sport provision. Informed by the public management and sport management fields, the study examines the effects of greater collective organisational publicness versus privateness in community sport on sports participation levels among local authority populations. Two contributions to the public management and sport management literatures are made: first, for public management the

study responds to a need to extend investigation of publicness to examine which configurations of ownership type deliver public outcomes (Sinclair & Whitford 2013). In turn, the highlighted lack of attention given to how to manage toward public outcomes considering the varying degrees of publicness in a policy environment is addressed (e.g. Miller & Moulton 2014; Hodgkinson et al., 2017). Second, the study addresses limitations of sport management investigations which have typically viewed infrastructure and participation issues in isolation temporally and spatially (Fahlén & Stenling, 2019). Responding to a call by Wicker et al. (2009), the constructed panel instead combines data for individuals' sports participation with objective data on community sport infrastructure at the local level, between 2009-15.

The article is structured as follows: first, UK community sport policy and governance are considered. Next, a review of the relationship between publicness, performance, and community sport leads to the development of the panel model. The research methods and analyses follow, and results are then presented. Finally, implications of collective organisational publicness versus privateness for community sport provision are discussed.

UK community sport: Policy and governance

New Labour was elected into office in 1997 heralding the end of the preceding Conservative administration's policy of Compulsory Competitive Tendering (CCT), and the birth of its replacement, the policy of Best Value (Stevens & Green, 2002). The Best Value regime removed the mandatory obligation on the part of local authorities to put the management of their services out to tender. Best Value was the key theme in New Labour's agenda for 'modernising' local government (Glennon et al., 2018) and refers to the duty to secure

continuous improvement in the economy and the efficiency and effectiveness with which local authorities exercised their function (Benson & Henderson, 2005).

Under Best Value, services could not be delivered directly by local authorities if other more efficient and effective means were available. For community sport, this created a three-sector-economy of provision. The effects of the 2008/09 financial crisis magnified the prevalence of service outsourcing, as economic logic and the response to austerity measures appeared to drive service externalisation (O'Brien, 2013; Parnell et al., 2019). The predominance of service externalisation continued under the Coalition government (2010-2015) with increasing decision-making autonomy afforded to local authorities under the policy discourse of 'localism' (e.g. Localism Act 2012). Localism deemphasises the role of the state by transferring greater power and, in turn, responsibility to local government in how services are delivered (Fenwick & Gibbon, 2016). The potential for variation in who manages community sport facilities between different local authorities is a consequence of policy prioritising mixed sector service delivery and a blurring of sectoral lines, as outlined in *Sporting Future* (HM Government, 2015).

Community sport is overseen by the Department for Digital, Culture, Media, and Sport (DCMS) and "characterized by a focus on participation, for a variety of outcomes and with often contradictory policies aimed at encouraging participation for instrumental ends" (O'Brien, 2013, p. 75). Residing alongside DCMS are non-departmental public bodies for sport, such as Sport England who has a remit to create a healthier and more active nation (Baker et al., 2017). The role of DCMS, then, is to "set the high level policy that guides how public money is invested rather than to make each and every funding decision...that is the role of UK Sport, Sport England, Public Health England (PHE) and others" (HM Government, 2015, p. 12). Within this inter-organisational network, local government are tasked with partnering schools, voluntary sport clubs, national governing bodies of sport,

county sport partnerships, health, and the private sector to increase sports participation and improve the delivery system (HM Government, 2015). All of which is consistent with the rhetoric of localism and service delegation. The unifying vision for all agents and actors involved across the sport delivery system is “to engage those who do sport less than the population as a whole” (HM Government 2015, p. 20). As O’Brien (2013) observes, then, local authority community sport remains characterised by a focus on increasing participation as a central performance goal, as it was under the preceding NPM-inspired regime of comprehensive performance assessment (Houlihan & Green, 2009).

Collective organisational publicness

Though “management models have frequently been criticised for not sufficiently explaining phenomena that can be observed in sport management” (Woratschek et al., 2014, p. 6), to the authors best knowledge, local authorities’ collective organisational publicness is yet to be considered in community sport delivery. In reviewing the concept of publicness from its origins in the public management literature, the relevance of the concept and its appropriateness for the sport management context is presented. Specifically, its suitability for capturing local authorities’ cross-sector community sport delivery, as opposed to focusing on sport organisations in isolation, is established consistent with the need for a more networked perspective in sport management (Parnell et al., 2019).

There has been much research to date that has focused on non-supply-side drivers of sports participation, such as the role of sports participation campaigns (Knox et al., 2013); cycle networks (Downward & Rasciute, 2015); sport volunteering (Dawson and Downward, 2013); socioeconomic status, gender and geography (Lee et al., 2009); physical education (Harris and Cale, 2012); after-school programmes (Brecher et al., 2010); among others (for

an extensive overview of participation drivers see Kumar et al., 2019). While this body of research has helped to inform our understanding about how sports participation might be increased, or not, there has been little attention given to the supply-side of community sport (Wicker et al., 2009). Specifically, there is a need to better determine the role of the supply-side of community sport for the improvement of sports participation strategies and consequently sports participation outcomes (Kumar et al., 2018). Fundamental to developing this knowledge is the role of publicness versus privateness in local authority community sport provision. UK sport policy stresses the “absolutely crucial role” local authorities play in delivering sport and sports participation opportunities (HM Government, 2015, p. 13), highlighting the centrality of community sport provision to policy discourse (Kumar et al., 2019).

Publicness is a central research topic to the discipline of public administration (Andrews et al., 2011) and can be examined from a multidimensional perspective of ownership, funding, and control (Bozeman 1987). Most extant research on publicness has focused on ownership (Andrews et al., 2011) examining organisational behaviour and performance differences between private and public organisations (e.g. Bozeman & Bretschneider, 1994; Rainey & Bozeman, 2000) and between public and nonprofit organisations (e.g. Moulton & Eckerd, 2012) in public service delivery. Such emphasis on ownership types and performance outcomes has been mirrored in the sport management context (e.g., Hodgkinson et al., 2017; Hodgkinson and Hughes, 2014, 2018; Liu et al., 2009). In contrast, going beyond ownership Bostock et al. (2019) examine the influence of publicness on national governing bodies of sport’ responses to funding cuts by tapping the conceptual dimensions of funding and control. While this body of research adopts the organisation as the unit of analysis, Moulton and Bozeman (2011) and Miller and Moulton

(2014) extend this debate to the policy environment to more accurately capture how public outcomes can be realised.

Abstracting the publicness construct from the organisational level to the policy environment, Miller and Moulton (2014, p. 554) focus on the multilevel effects of publicness, examining both “the collective organizational publicness of organizations interacting in the policy environment and the relative public priority of the policy issue”. Aggregating to the level of the local authority is an important extension of the publicness concept because it acknowledges intra-organisational, cross-sector delivery as opposed to individual sport organisations functioning in silo (Hodgkinson et al., 2017). As observed by Liu et al. (2009), local sport facilities, whether managed by government, nonprofit, or private contractors, form a collective portfolio of local authority provision, and it is this portfolio that will shape local government performance. However, there is variation in local authorities’ adoption of outsourcing practices, as evidenced by community sport contracting behaviour among local authorities in England (e.g. Alonso et al., 2016). Abstracting to the policy environment, therefore, captures both the institutional context of externalisation and the variable decision practices of local authorities in who manages their community sport facilities (e.g. Fahlén and Stenling, 2019).

More generally, community sport is characterised by high environmental publicness, given the legislative emphasis on the public priority of increasing sports participation nationally (Bostock et al., 2019). Despite the high publicness of the community sport environment, however, the impact of the collective publicness of local authorities’ provision on realising this public priority is lacking. While the consequences of mixed service ownership portfolios for sports participation levels remain unknown, observations in the sport management literature suggest that there may be negative implications under increasing levels of privateness; as Harris and Houlihan (2016, p. 451) note,

The full implications of these cuts to local authority budgets are currently unknown but given sport's discretionary status, the marginal position of local authorities in relation to community sport, and the need to find significant financial savings, they are unlikely to be positive.

Increasing national sports participation levels has become a critical performance issue for contemporary public administrations across developed economies. For instance, numerous public administrations from the UK, Australia, and the US all set targets in the early 2000s to reduce the prevalence of inactivity among the citizenry. Yet, it has largely been neglected as a performance outcome of local authorities (cf. Houlihan & Green, 2009).

Rather, the performance outcomes of publicness have typically been classified as efficiency, effectiveness, and/or equity, but with few comparative studies in the same industry and/or over the same time period (Andrews et al., 2011). The limited measures of performance adopted have inhibited conclusions drawn about performance effects of publicness (Andersen et al., 2016). Moreover, most studies adopt cross-sectional research designs that do not uncover causal effects of publicness over time (Miller & Moulton 2014) and typically comprise of small sample sizes, which may have biased the levels of significance reported (Andrews et al., 2011). Performance narrowly conceived has held the study of publicness back by neglecting the identity of other distinctive performance outcomes pertinent to individual service domains. It is this recognition of 'context' that is essential to move the publicness versus privateness debate forward, and in turn, advance sport management theory and practice and the provision of community sport.

Collective organisational publicness versus privateness in community sport

Recent sport management studies have investigated the implications of the three-sector-economy for sport provision (e.g. Hallmann et al., 2015). However, the mixed-sector delivery of state-owned facilities, or in other words local authorities' community sport provision

portfolios, has received less attention (e.g., Kumar et al., 2018). This is despite the centrality of local authorities' community sport provision to sport policy and its outcomes. Regarding collective organisational publicness of community sport, a higher proportion of direct local authority and nonprofit managed facilities constitutes higher publicness. This is because these facilities are more 'public' in the sense of their ownership, the higher influence of political authority in their functioning and the relatively higher degree of public subsidy received when compared against private managed facilities. On the other hand, the higher the proportion of community sport facilities managed by private agents the higher the degree of collective organisational privateness. This is because of their ownership type, weaker political authority, and greater control over their own functioning, as well as receiving much lower public funding relative to local authority-directly managed facilities and nonprofit facilities. For an overview of these different ownership types and associated characteristics see Hodgkinson and Hughes (2018).

A central motivation of sport policy is to ensure access for all and, subsequently, understanding the barriers to participation is considered a critical consideration in the form provision should take (HM Government, 2015). Reducing physical inactivity levels has been central to justifying the traditional subsidy of community sport facilities across Europe (Vandermeerschena & Scheerder, 2017). Yet, the decision to outsource service delivery has revolved around motivations for increased efficiency and effectiveness of public services, and thus there appears to be a paradox in the objectives of local authority community sport provision: social versus commercial. Consequently, and in times of austerity, there is an assumption that under service externalisation the public priority of increasing participation levels becomes secondary to the service priority of generating revenue (Hodgkinson & Hughes, 2018).

Driving the publicness versus privateness debate is the argument that the dependency of different ownership types on their environment is not a single, undifferentiated dependency, but a complex set of dependencies that exist in the inter-organisational network (Hatch & Cunliffe, 2012). Since private ownership does not receive the same financial security provided by local government as direct public ownership, this ownership type must cover service costs using revenue generated from their facility offering. Therefore, private providers of local authorities' sports facilities will likely seek increased financial return by investing in facilities, increasing the value offering, and raising price of entry to target higher income groups only. A pattern mirrored by the substantial growth in private sector new build investment, which has served to raise users' expectations of what sports provision should comprise (Audit Commission, 2006).

On the other hand, nonprofit charitable status is often awarded on the grounds of community benefit and as such nonprofit facilities must improve the conditions of life for persons who "by reasons of their youth, age, infirmity or disablement, poverty or social and economic circumstances are recreationally deprived" (MacVicar & Ogden, 2001, p. 126). In contrast to private ownership, then, the service mission of nonprofit ownership should lead to a focus on access to all in their community sport delivery; consistent with the expectations of direct public ownership and the justification for the greater public subsidy such facilities receive. In other words, private ownership may strive for revenue generation from higher-income groups, while inhouse public ownership and non-profit ownership types are likely to prioritise the widening of participation. Nonetheless, the picture is not so black and white, as even nonprofit ownership has struggled with the lack of public funding driving this ownership type toward the pursuit of revenue for survival (Audit Commission, 2006).

Superficially at least, widening sports participation is likely dependent on the mix of ownership types in local authorities' community sport provision. Such a normative

assumption underpinned the ‘welfare state’ ideology that promoted direct public service delivery for equal access to all (Hodgkinson & Hughes, 2018). Hence, at the aggregated level, local authorities sport participation levels are suggested to diminish under increasing service externalisation (Harris & Houlihan, 2016; Parnell et al., 2019). It is thus proposed that the greater the degree of collective privateness in local authority community sport provision, the lower the sports participation levels among local authority populations.

Methods

A panel model is developed to test the relationship between the collective publicness versus privateness of community sport provision and sports participation levels among local authorities. The unit of analysis is local authorities in England that operate either as unitary authorities (one-tier system), or as county and district councils (two tier system). Unitary authorities and district councils are responsible for the provision of community sport and have a high degree of autonomy in deciding who manages facilities. Panel data is examined across 2009-2015 for 319 unitary authorities and district councils who provide community sport facilities.

To build the data panel, secondary data were gathered from two sources. First, data on the ownership type of community sport facilities within each local authority in England was sourced from a commercial leisure intelligence firm. Second, data on sports participation levels among local authorities, local authority income from sport and leisure services and local authority spend on sport and leisure facilities was sourced from Public Sector Audit Appointments Limited. This is an independent company that collates data supplied by local authorities about the costs, performance and activity of local authorities to generate Value for Money Profiles, which serve to benchmark local authorities’ performance.

Measures

Collective organisational publicness: Three predominant ownership types are available to local authorities in their delivery of community sport facilities in England. These comprise in-house by the local authority (*public*), by a third sector trust (*nonprofit*), or by a private operator (*private*) (Liu et al., 2009). Measured using objective secondary data on facility ownership types for each local authority (cf. Hallmann et al., 2015; Wicker et al., 2009), collective organisational publicness is calculated as $private/(public+nonprofit+private)$. The ratio is an adapted version of Miller and Moulton's (2014, p. 554) conceptualisation of collective organisational publicness "as the aggregate publicness of organizations within a policy environment". The objective classification of ownership type informs the ratio calculation consistent with national facility mapping by Sport England, a non-departmental public body under DCMS. This measure thus supports Wicker et al.'s (2012, p. 53) assertion that "the presence of sport infrastructure should not be measured subjectively".

Local authorities' sports participation: Sports participation level is measured as the percentage of adults (aged 16 and over) within each local authority participating in at least 30 minutes of sport of at least moderate intensity on at least 12 days out of the last 4 weeks. This is equivalent to 30 minutes on 3 or more days a week. It does not include recreational walking or infrequent recreational cycling but does include cycling if done at least once a week at moderate intensity and for at least 30 minutes. It also includes more intense/strenuous walking activities such as power walking, hill trekking, cliff walking and gorge walking. This data is sourced from the value for money profiles.

Control variables: The panel model controls for service investment on the basis that “when existing facilities have been replaced by new ones, the number of people using them can go up by up to 400%” (HM Government 2015, 59). Local authority’s investment is measured in the value for money profiles as the total expenditure (£000s) on sports and recreation facilities including golf courses, with gross domestic product deflators applied to allow for real term comparisons over time. Local authority service income is also controlled for on the premise that the pursuit of income may run in conflict with the policy objective to increase sports participation. Value for money profiles capture service income as the total income over total spend on sport and leisure. It is the total income from community centres and public halls, foreshore, sports development and community recreation, sports and recreation facilities including golf courses and open spaces divided by their total spend on the same. We also include two major macro variables gathered from the UK Office of National Statistics (ONS). The first variable is the gross disposable household income per local authority and the second is the size of population per local authority.¹ Two additional ratios of ownership mix are also calculated and included as controls: $public/(nonprofit+public+private)$ and $nonprofit/(public+private+nonprofit)$ in recognition that not every local authority will comprise all three ownership types in their collective service ownership. In order to avoid multicollinearity, when estimating the panel one of the ratios is assumed to be the benchmark and omitted from the regression.

Data analysis

¹ The ONS defines gross disposable household income as the amount of money that that all of the individuals in the household sector have available for spending or saving after income distribution measures (for example, taxes, social contributions and benefits) have taken effect. Population estimates refer to the usually resident population. This can mean that estimates of population do not necessarily coincide with the number of people to be found in an area at a particular time of the day or year.

In order to test the model, panel data regression analysis is applied for the 2009-2015 period covering 319 unitary authorities and district councils in England². The number of cross-sections is far greater than the periods under analyses conferring our data set a ‘short and wide’ panel data set type. Using panel data sets of this kind allows the study to account for unobserved individual differences, or heterogeneity. The panel is also what is labelled an unbalanced panel, that is, data on all local authorities is not equally available for the full time period. The regression analysis is implemented by running six models based on equation (1) below, the choice of models is based on the type of collective ownership local authorities deliver community sport facilities in England. As described on previous section collective organisational publicness is calculated as $Private / (Public+Nonprofit+Private)$, additionally $Public / (Public+Nonprofit+Private)$ and $Nonprofit / (Public+Nonprofit+Private)$ in recognition that not every local authority will comprise all three ownership types in their collective service ownership. In order to avoid multicollinearity, when estimating the panel one of the ratios is assumed to be the benchmark and omitted from the regression this will generate 3 models). Three extra models are also considered by using just one of each ownership ratio.

The basic model where i indexes observation units that are followed over time periods t . is represented by the following equation:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + (v_i + \varepsilon_{it}) \quad (1)$$

Where

Y_{it} = Percentage of adults aged 16 and over engaged in sports activities (PARTICIPATION);

² There are 343 local authorities in England classified as metropolitan districts, London boroughs and the City of London, unitary authorities plus Isles of Scilly, county councils and district councils (www.gov.co.uk)

X_{kit} = Control variables: spend on sports development and community recreation (per head) (SPEND); spend on sports and recreation facilities (£000s) (SPENDRF); spend on sports and recreation facilities including golf courses (per head) (SPENDRFGC); gross disposable household income (GROSSDISINC) (£ million); population (POPULATION) (persons); collective organisational publicness versus privateness (PRIVATE) and the two additional ownership ratios (PUBLICN and NONPROF).

In this model, the β parameters are not subscripted by i or t , and this implies they are the same for every unit and every time period. This is not as restrictive as it might appear because variation in parameters over time or with some characteristics of the units can be reintroduced by including in the x 's interactions with time dummies or with unit dummies. The α s are termed individual effects. They may be treated as intercept terms that vary across units.

Three main estimation methods could be used to estimate six models obtained from equation 1: a simple pooled OLS regression, a fixed effect model (FE), or a random effect model (RE). In order to select the most appropriate approach the intercept in equation (1) will be allowed to be different among the cross-section units, in our case the local authorities. The rationale for this is to reflect the heterogeneity in the cross-section units. As explained by Kennedy (2013), in any cross-section heterogeneity is present, meaning that cases are all different from one another but omitting these differences can cause bias estimation, however, the ability to address this omitted variable problem in the main attribute of panel data.

The hypothesis behind the omitted variable problem helps to differentiate between the three approaches. If the joint power of the unmeasured omitted variables that give rise to different intercepts is not correlated with the included explanatory variables, omitting them will not result in any bias in the OLS estimation, and bundling the omission into the error term will allow an efficient estimation via generalised least squares (GLS); collectively

making the random effect model the appropriate choice. On the other hand, if the collectively influence of these omitted unmeasured variables is correlated with the included independent variables, omitting them causes OLS bias and in this case, they should be included to avoid this bias. The fixed effects estimator does this by including a dummy for each cross-sectional unit allowing each individual to have a different intercept. In other words, including all these dummy variables will mitigate the likely OLS bias. In the case of equal intercepts neither RE nor FE should be chosen, and in such a scenario the pooled OLS regression would be selected.

As there are no theoretical background to make assumptions to support the preference for a an OLS pooled regression, a FE and a RE model we will apply few steps in order to statistically choose the correct specification method.

The first step is to check whether an OLS pooled regression would be the appropriate choice in relation to FE and RE models. The likelihood F-ratio test is applied to find out whether a simple pooled regression is the correct choice over the FE model, the rejection of the null hypothesis of no fixed effects implies the non-appropriateness of a pooled regression. Next we check whether or not the variance of the intercept of the component error term is equal to zero by applying the Breusch and Pagan (1979) Lagrangian multiplier test, a variance different from zero will suggest that the random effect model is more appropriate than OLS pooled regression. Finally, to choose between a FE or RE model a test developed by Hausman (1978) is applied to assess the independence of the error term and the explanatory variables, rejection of the null hypothesis of independence would suggest the use of the fixed effect model³. In this study we adopted $p < 0.05$ in order to accept/reject the null as recommended by Baltagi (2013) and Wooldridge (2018).

³ A detailed explanation of differences between FE and RE models can be found in the works of Baltagi (2013) and Wooldridge (2018). In summary, the likelihood ratio tests whether a pooled regression is the correct estimation model in relation to a fixed effects model (rejecting the null hypothesis implies inappropriateness of a pooled regression). Breusch and Pagan Lagrange Multiplier tests whether a pooled regression is the correct

Table 2 reports the test results. The likelihood F-ratio test for all six models indicates that the intercepts are not all equal to zero and the FE model is the correct choice over a simple OLS pooled regression. The Breusch and Pagan Lagrange Multiplier test for the reported six models also suggests the preference for the RE model in relation to a simple pooled regression. As both the F-ratio and Lagrange multiplier tests respectively rejected a simple pooled regression model in favour of a FE or RE model the final step is to assess the appropriateness of a FE or RE model via the Hausman Test.

To reiterate the Hausman test check for the independence between the error term and the explanatory variables, or if the random effects estimator is unbiased. If the null hypothesis of unbiasedness is not rejected the RE model is statistically the correct choice over the FE model. For five of the six models (models 1,2,3,4, and 6 all have p-values >0.10) we accept the random effects estimator unbiased null hypothesis implying the RE model to be the correct statistical choice. Model 5 in principle rejects the independence between error term and the explanatory variables ($*p<0.10$). Nevertheless, following Baltagi (2013) and Wooldridge (2018), they suggest for statistical p-values between 5% and 10% the likelihood of an inconclusive area to decide between RE and FE and recommend a stronger significance $p<0.5$ value cut-off point to decide between a RE or FE model. If we follow this suggestion based on the Hausman Test p-value for model 5 ($p=0.081$) we can accept the random effects estimator unbiased null hypothesis and estimate model 5 as a RE model.

Table 1 shows the descriptive statistics for the regression variables. On average, 35.86% of adults in all 319 local authorities participate in an equivalence of 30 minutes on 3 or more days a week.

estimation model in relation to a random effects model (rejecting the null hypothesis implies inappropriateness of a pooled regression). Finally, the Hausman test assists in choosing between a fixed or random effects model (rejecting the null hypothesis suggests that the random effects model should be used.

[Table 1 near here]

Results

The panel regression results suggest that higher collective organisational privateness (PRIVATE in models 1 and 5) has a significant positive impact on sports participation levels among these authorities (5% significance level). In consideration of the control ratios, when local authorities provision is centred on nonprofit delivery (trusts) the impact is significant and negative at the 5% level (NONPROF in models 2 and 6). When delivery is dominated by direct local authority provision (PUBLICN) a negative relationship is found with sports participation, but this is not statistically significant. The regression results are presented in table 2.

[Table 2 near here]

Multicollinearity is assessed using the variance inflation factor (VIF) for all 6 models reported in table 2; the mean value of the VIF results suggest that multicollinearity is not present in the analysis⁴. Models 1 through 6 also indicate that spend on sports development and community recreation per head (SPEND) increases adult participation (1% significance level). The two macro variables: gross disposable household income (GROSSDISINC) and population (POPULATION) hold differing effects, the former positively influences sports participation level, while the latter is associated with reducing levels of sports participation (models 1 through 6). Nevertheless, the influence of the two control variables is minimal as the coefficient values are very small.

⁴VIF values for each individual variable also corroborate the hypothesis of non-multicollinearity and are available on request.

Discussion

In the UK, the crucial challenge facing local authorities is to ensure an appropriate ownership mix in their community sport provision to increase sports participation, given the legislative emphasis on this public priority. Nevertheless, with austerity measures that have emphasised localism and delegation prioritising more instrumental outcomes in service delivery (Lindsey, 2014), reduced publicness of community sport provision may be damaging local authorities' efforts to meet this goal. The roles of collective organisational publicness versus privateness are therefore central and warrant investigation.

The study findings suggest that for local authorities' community sport provision, the higher the level of collective organisational publicness the lower the level of sports participation among local populations. However, the opposite is true of collective organizational privateness and sports participation level. The variation in effect between publicness and privateness in community sport and sports participation is explained, in part, by Miller and Moulton (2014, p. 556) who contend that "the collective publicness of organizations operating in a shared policy environment may shape organizational behaviour through institutional isomorphism and/or competitive pressures to conform or *differentiate*" (emphasis added). They observe that mimicry occurs when public service outcomes are not directly linked to economic loss, such that private providers will resemble their public peers. For community sport providers, increasing sports participation *is* aligned to their economic survival. Specifically, providers are dependent on market income rather than public funding, albeit it to lesser and greater degrees, thus provision is directly linked to economic gain or loss. Given that private providers receive the least amount of public funding relative to direct local authority managed and nonprofit facilities, they need to differentiate their value proposition for greater competitiveness (Hodgkinson & Hughes, 2014). Increasing the

number of users through service differentiation, and in turn increasing levels of sports participation, subsequently leads to economic gains for private providers. Simultaneously, the public priority of increasing sports participation levels among local populations is realised.

In community sport, organisational pressures to increase service profitability versus the public policy priority to increase sports participation levels within local authorities are, therefore, not deemed to be mutually exclusive. In the debate of the merits of publicness versus privateness, it should not be assumed that service externalisation and instrumentally driven community sport provision will necessarily conflict with the achievement of public outcomes. Rather there appears to be convergence here between practices essential for economic sustainability, such as revenue generation, and the public outcome of increasing sports participation. This finding contradicts the normative bias in the publicness literature that public administrations are better equipped to deliver public outcomes (Bozeman & Johnson, 2015). More specifically, to the sport management field the study provides empirical evidence that challenges the normative assumptions and biases that have seemingly driven negative inferences about the role of privateness in community sport. Specifically, table 2 presents a positive relationship between collective organisational privateness and sports participation level (models 1 and 5).

That said, the findings should not be interpreted as privateness being better than publicness for community sport i.e. it is not an either/or debate. Rather, cross-sector portfolios of provision are pivotal and within these portfolios, provision should be more private than public. Given austerity measures have significantly reduced public funding of community sport (Parnell et al., 2019), the findings reveal how sport management interventions may maximise local authorities' return on this reduced central government investment and meet sport policy targets for increased sports participation.

Management implications

Increasing sports participation levels across local authority populations is a public priority in UK sport policy discourse. This is in part due to the hugely draining effect that physical inactivity is having on the cost of healthcare in the UK. However, and until now, the collective publicness versus privateness of local authorities' community sport provision has not featured in the discussion of what management solutions might mitigate inequity in levels of sports participation among local populations (cf. Liu et al., 2009).

While UK sport policy emphasises the role of the inter-organisational, cross-sector delivery system as crucial to increasing sports participation levels among local authorities, the findings shed a whole new light on this sport policy narrative. While local authorities are using cross-sector portfolios of service delivery, this policy prescription alone is insufficient for increasing sports participation levels among local populations. Rather, there exists an optimal mix of collective publicness and privateness in local authorities' community sport delivery. Specifically, lower collective organisational publicness and, thus, higher collective organisational privateness in local authorities' community sport appears to be the means by which local authorities can contribute to increasing sports participation at the local level. That is not to say that community sport facilities should not be provided by local authorities' directly, as some publicness is an important feature of the service mix described. These collective actions by local authorities can improve rates of sports participation.

Limitations and future research

The findings need to be considered relative to the study's limitations. First, the study does not control for additional multi-level contextual characteristics of delivery (such as facility features) that might carry implications for citizens' sports participation beyond ownership mix. Second, there is a need to recognise that local authority portfolios of community sport

provision exist alongside commercial private sector sport propositions. Investigating the interactions between these two distinct forms of service was beyond the scope of this study and is recognised as a limitation. Finally, the study adopts a similar unit of analysis to past independent reviews of local authorities' community sport provision. Specifically, The Audit Commission in association with Sport England undertook a study in 2005/6 to examine how local authorities in England managed their sports facilities. As done here, the focus was on public sector indoor sports centres and swimming pools, generally excluding outdoor recreational facilities (parks, playgrounds, pitches and golf courses), community centres, private sector facilities, and school facilities. Drilling down further into how different service providers operate their facilities and programme their services would be beneficial and build on recent research that has taken an exploratory look at similar issues (Kumar et al., 2018).

For future sport management research there is a clear need for stronger acknowledgement of intersectoral alliances and the forms that these might take in community sport provision (e.g. Wicker et al., 2009). How sport organisations from across sectors can create a collective platform for value co-creation among local populations is a worthy avenue to pursue, consistent with the observations of Woratschek et al. (2014) and Kumar et al. (2018). Moreover, given the contextual variation between service infrastructures in different countries, more research is needed to uncover nuances between different sport infrastructures and the respective impacts on public outcomes. Specifically, the prioritisation of different stakeholders in service provision may vary between different ownership types, which might in turn influence the effectiveness of different ownership types in meeting social public outcomes. Whether community sport engagement among specific target groups within the adult population is impacted by different ownership types is an important avenue for future research.

Conclusion

UK sport policy has charged local authorities with increasing sports participation and improving health, wellbeing, and social capital among local populations (Kumar et al., 2018). Yet, the actual form and role of local authorities' community sport provision has been overlooked. This knowledge gap leads to the study's research question: Is there a relationship between ownership types in local authorities' community sport provision and sports participation levels among local populations?

Investigating the proportion of different ownership types (public, nonprofit, and private) within local authorities' community sport provision between 2009-15, the panel model reveals that greater collective organisational privateness in provision is positively related to sports participation levels among local authorities. Consequently, assuming the means to generate wider sports participation is through direct public funding appears to be a flawed assumption that has driven European sport policymaking and community sport provision. Rather, the findings reveal local authorities with more collectively private portfolios of community sport provision report higher sports participation levels.

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Table 1. Descriptive statistics: **panel regression variables**

Variable	Descriptor	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
PARTICIPATION	Percentage of adults participating in regular, moderate intensity sport.	0.358575	0.357	0.511	0.209	0.044426	2224
INCOMEPER	Income from culture and sport sales, fees, and charges as a percentage of culture and sport income.	0.175854	0.1757	0.5398	0.0527	0.010873	2224
GROSSDISINC	Gross disposable household income per local authority.	2960.65	2326.5	15620	553	1924.893	2224
POPULATION	The size of population per local authority.	167796.7	131685	1112950	34396	114161.3	2224
PRIVATE	Collective organisational publicness calculated as a ratio: Private / (Public+Nonprofit+Private)	0.195019	0	1	0	0.331568	2224
NONPROF	Collective organisational publicness calculated as a ratio: Nonprofit / (Public+Nonprofit+Private)	0.400992	0.2	1	0	0.424724	2224
PUBLICN	Collective organisational publicness calculated as a ratio: Public / (Public+Nonprofit+Private)	0.382856	0.2	1	0	0.411136	2224
SPEND	Spend on sports development and community recreation (per head).	4.318125	2.88	45.19	-0.65	4.842485	2224
SPENDRF	Spend on sports and recreation facilities (£000s).	9007.566	11496.5	12611	1379	4544.198	2224
SPENDRFGC	Spend on sports and recreation facilities including golf courses (per head).	17.22494	12.425	103.77	-1.31	14.37749	2224

Table 2. Panel regression random effects model results for sports participation

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	0.334408***	0.341984***	0.336225***	0.337743***	0.334887***	0.340205***
PRIVATE	0.00845**		0.006698		0.008063**	
<i>Controls</i>						
PUBLICN	0.001924	-0.004929		-0.000133		
NONPROF		-0.007183**	-0.001821			0.005282*
SPEND	0.000495***	0.000494***	0.000495***	0.000509***	0.000502***	0.000485**
SPENDRF	0.000000433	0.000000437	0.000000434	0.000000431	0.000000428	0.000000447
SPENDRFGC	0.0000123	0.000113	0.000124	0.000128	0.000148*	0.0000689
INCOMEPER	0.028542	0.028254	0.028567	0.027358	0.028763	0.027440
GROSSDISINC	0.000011***	0.0000111***	0.000011***	0.0000106***	0.0000109***	0.0000111***
POPULATION	-0.00000143***	-0.000000145***	-0.000000144***	-0.000000141***	-0.000000143***	-0.000000146***
<i>Model Statistics</i>						
R-Squared	0.118	0.116	0.118	0.108	0.118	0.111
Likelihood Ratio F-Test	10.08(0.000)	10.11(0.000)	10.08(0.000)	10.26(0.000)	10.08(0.000)	10.20(0.000)
Breusch and Pagan Lagrange Multiplier Test	2095.32(0.000)	2102.06(0.000)	2095.35(0.000)	2134.00(0.000)	2095.38(0.000)	2125.80(0.000)
Hausman Test	11.66(0.112)	11.66(0.113)	811.26(0.128)	8.76(0.187)	11.24(0.081)	8.51(0.203)
Chi-square Statistic)						
Mean VIF	1.72	1.87	1.78	1.77	1.56	1.61

Notes: ***p<0.01, **p<0.05, * p<0.10.

The values in brackets for the likelihood, Breusch and Pagan and Hausman tests are the probabilities values.