

Geographies of run-commuting in the UK

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ABSTRACT

Drawing on the first academic research into run-commuting, this paper places running more firmly on the agenda within transport studies. Run-commuting is a rapidly growing mobile practice in which people run between work and home. Academically, very little is known about the practice, with scant research conducted into it. This paper begins to rectify this by critically exploring the geographies of run-commuting in the UK and the politics of mobility that emerge from this. Based on a survey of 287 UK run-commuters, this paper explores the broader trends and patterns within the locations, demographics and movements of run-commuters in the study. This reveals a highly socially-fractured practice with various privileges that enable and constraints that limit run-commuting possibilities. Run-commuting is racialised, gendered and classed with it being most popular with urban-dwelling middle-aged white men in highly paid professional jobs, social differentiations that punctuate much of the practice. This paper also shows the uniqueness of run-commuting as a mobile practice. Arguably more concerned with running than commuting, run-commuting is highly entwined with and affected by other practices of everyday life, notably the rhythms of work, home and exercise. Run-commuting research expands the scope of active travel and demonstrates the value of conversations between transport, mobility and sport studies in understanding such modes. It is also a practice that challenges many understandings held about transport, such as notions around motivation, speed, time, productivity and effort. Run-commuting is a productively provocative practice that opens up opportunities to think and do transport otherwise. This paper shows its worth to transport studies' agendas.

1. Running and transport

This paper places running more firmly on the agenda within transport studies, drawing on the first research into the emerging practice of run-commuting. Although absent from contemporary narratives, running has always been a means of transport. At its core, running involves getting to somewhere from somewhere else – it enables locational displacement – and this has proved an important service for humans throughout history (Gotaas, 2009). Yet contemporary understandings of running designate this form of movement as primarily about sport, fitness and health. These understandings are quite recent, emerging from the running boom of the 1970s (Latham, 2015; Tainio, 2012). Yet they are so pervasive that other manifestations are largely unaccounted for in analyses of contemporary running (Bridel et al., 2015; Scheerder et al., 2015). This paper challenges these understandings and begins to overcome such absences by presenting findings from the first large-scale research into running as transport.

Academic interest in understanding running as a social, cultural and mobile practice has been growing in recent years (Cook et al., 2016),

adding valuable insights from the social sciences, arts and humanities to those who have more traditionally studied running – sport, health and life sciences (Noakes, 2002). While Cidell's (2014, p. 571) observation that running appears to have “fallen through the cracks of mobility studies” is gradually being remedied (Edensor et al., 2018; Larsen, 2019; McGahern, 2019), its use as a transport mode is only just starting to be attended to (Anagnostopoulos, 2021). Despite interest the spatial dimensions of transport, movement of people and active travel, no work within transport geography has dealt with running yet. There are some occasional nods to running's use as a mode of transport (Fairnie et al., 2016; Millward et al., 2013; Schwanen and Mokhtarian, 2005a, 2005b; Song et al., 2013), however in such instances, running is usually classed as a subset of walking or alongside walking and cycling in a broader active travel category.

But running is a distinct form of mobility that warrants being understood as separate but analogous to other active modes. Running is a more effortful and intensely embodied (Larsen, 2019) form of movement. The immediate physicality and hard work of running (Bale, 2011), combined with its sporting and fitness meanings, makes it a cultural

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practice “open to a different set of issues” (Jensen, 2013, p. 104) than other active modes. Its use in commuting not only challenges traditional transport logics about minimising effort (Bahrami and Rigel, 2017) but blends together discretionary and non-discretionary travel in one journey. Although not unique in these regards (Larsen, 2018), their heightened prominence in run-commuting sets it apart. The distinctive movements, meanings and experiences of running (Cook et al., 2016) diversifies the reasons why people actively commute and can expand active travel’s appeal. Active travel has been cast and researched too narrowly within transport studies and there are a range of other practices that could be better attended to by expanding its remit. While some attention has been paid to skateboarding, scooting, and rollerblading within this context (Fang and Handy, 2019; Lorimer and Marshall, 2016; Stratford and Harwood, 2001), running has so far eluded sustained consideration. This paper makes initial strides to correct this by exploring the geographies of run-commuting in the UK.

Little to nothing is known about run-commuting. Although it is not a new practice, its popularity has been growing rapidly in recent years as more people are choosing to run between work and home in different ways. The practice is gaining traction internationally, but particularly in the UK where London is often held as the epicentre of the run-commuting movement (Cervero, 2016). Commentators in the UK are calling for running to be taken seriously as an active travel mode (Alger, 2020). Yet our understandings of run-commuting are not keeping pace with its emergence. For transport geography, run-commuting is a significant and interesting practice. Not only can it contribute to (and extend) agendas around active travel but the boundary-blurring nature of run-commuting asks us to reflect on our understandings of transport practices.

Mostly motivated by difficulties in finding time to run (Cook, 2020a), run-commuting is arguably a practice far more concerned with sport, exercise, and managing everyday life than it is with transport. For many, the commuting element of run-commuting is merely pragmatic (Cook, 2020a). It is a derived demand. Yet in blurring the usual time-space separation of mobilities related to commuting/work and ones related to sport/exercise/leisure, run-commuting is also entangling motivations, rationales and desires related to both and challenging transport understanding in the process. The bifurcated, (often) slower, sweatier, more logically complex and corporeally difficult nature of running compared to other commuting modes queries, for example, how notions around travel time (Jain and Lyons, 2008), productivity (Lyons and Urry, 2005), and effort (Bahrami and Rigel, 2017) play out in this mobile practice, but equally how they may motivate/dissuade and sustain/terminate active travel practices more widely. Run-commuting poses many interesting questions about the way in which we live our lives, and how these spatially manifest in exercise and transport practices. It is a practice that certainly warrants further investigation.

This paper begins such endeavours by characterising the geographies of run-commuting in the UK. I use geographies here to evoke Cresswell’s (2006, p. 3) notion of the ‘brute facts’ of movements. One element of his production of mobilities mesotheory, the brute facts concern the essentials of getting from one place to another. They are the raw material for the production of mobilities; mappable and measurable material that offers insights into the material movements of a practice. In this paper, these brute facts manifest through a focus on the locations, demographics and movements of run-commuters. While they are analytically-separated in this paper, these are not just isolatable and descriptive movements. In line with mobilities thinking, these movements need to be understood through their coalescence with meanings and experiences in the production of mobility, and how these movements feed into the enablement, constraint and politics of mobility (Bissell, 2018; Cresswell, 2010). This paper discusses such politics, relating to the entwining of run-commuting with varied structures and rhythms of everyday life that affect the possibility of run-commuting differently for different people.

2. Materials and methods

With large gaps existing around even the most basic information regarding run-commuting, a survey was employed as part of a wider study to generate the broader contextual data that feeds into the production of run-commuting and help to understand the context of the practice. The Big Run Commuting Survey was an online survey that ran from 02 May 2016–31 January 2017 aimed at collecting responses from current, former and potential UK run-commuters (though this paper will only include current run-commuters). The survey was wide-ranging, seeking to understand the movements, motivations, demographics, and facilitations of run-commuting and how run-commuting sat with home, work and commuting lives. The survey included both quantitative and qualitative questions, being mostly fixed-response questions for standardised and easily-comparable data and some open-ended ones for unconstrained answers.

Run-commuters are an unknown population and therefore convenience sampling was used for the survey, appropriate given the impossibility of identifying the population or producing a representative sample (Etikan et al., 2016). This was primarily done through social media distribution and onward snowballing. Forming a far smaller component of the recruitment strategy, some London respondents were also recruited in person (around 50 in total), being handed business cards while they were run-commuting that contained links to the survey. While the recruitment and sampling strategies are likely to introduce bias (particularly a London-skew) and prevent the accuracy and reliability of the data being confirmed, these are still appropriate methods to use when lacking a sampling frame and opportunities to apply more rigorous sampling methods (Etikan et al., 2016). However, this survey is not intended to provide representative generalisations about run-commuting but rather a suggestive characterisation of it.

In total, 668 responses were collected, of which 424 (63%) were completed. Incomplete surveys were excluded as they lacked the demographic information to ensure respondents were UK-based. The 61 responses from other countries were also excluded, and the remaining responses filtered again by run-commuting status to leave 287 current UK run-commuters who completed the survey (79% of UK respondents). This is the working sample analysed and presented in this paper to provide indicative characterisations about the geographies of run-commuting in the UK. Analysis centred on summary and descriptive statistics (means, medians, modes, ranges) as well as cross-tabulation rather than inferential statistics due to the nonprobability nature of convenience sampling.

Strava data has also been used in the analysis of this paper. Strava is the largest activity tracking app/platform in the world and their annual reports offer potentially valuable data for understanding the geographies of run-commuting. Although Strava data has been shown to reflect wider activity patterns (Jestico et al., 2016), caution is needed with this dataset. It may only represent Strava users rather than the wider population of runners/run-commuters; we do not know how run-commuters use Strava clearly enough to know what kinds of run-commutes the data represents, and there is a lack of clarity regarding how Strava identifies run-commutes in their reporting. Thus, the data from Strava needs to be considered suggestive rather than exact but is held in dialogue with the survey data throughout the rest of this paper to explore the locations, demographics, and movements of run-commuting, offering a broad characterisation of the practice in the UK. The underlying dataset and analysis for this work are available elsewhere (Cook, 2020a, 2020b, 2020c).

3. Locations: where is run-commuting happening?

The precise population of run-commuters in the UK is unknown but a rough estimation is possible to arrive at by suggestively piecing together data from a variety of sources. The specific calculations made are shown in the Supplementary Material but involve drawing together Strava

(2018) data to establish the percentage of UK runners on their platform who run-commute and then extrapolating that to the UK more broadly by inferring the number of runners in the UK from Sport England data (2018). The resulting midway estimate is only indicative but suggests a population of UK run-commuters around 241,000. While these figures place run-commuting as a more marginal active travel option in the UK, around 10% of cycling-for-transport rates (Cycling UK, 2019; Department for Transport, 2017a), it is one rapidly rising in popularity, with Strava (2018, 2017, 2016) reporting more than a doubling of run-commuters in the UK between 2016 and 2018.

However, run-commuting is not happening everywhere in the UK in equal measure. The positioning of London and its hinterland as the capital of run-commuting was mirrored in the geography of survey respondents' home locations in this study (Fig. 1). While the sampling biases may be affective here, this is also reported in analysis by Strava (2018, 2017) and correlates to wider movements in the emergence of run-commuting too (Cook, 2020a). Perhaps unsurprisingly, large, populous urban areas featured most heavily in the survey. As well as London, notable hotspots include Birmingham, Manchester, Leeds, Nottingham, Edinburgh, Belfast, Bristol and Cambridge. However, this geography does not just mirror that of the wider population. Some large urban areas are conspicuous in their relative absence in responses (such as Glasgow, Liverpool and Sheffield), while other places are represented more greatly than their population share would suggest, such as Cambridge and London. This implies that more is influencing the rates of run-commuting than purely population distribution. For example, higher active travel, public transport and congestion rates are found in Cambridge and London, and both offer uninterrupted running opportunities along linear paths (rivers and canals) all of which may be encouraging run-commuting (Cook, 2020a). If larger datasets were established, future work could explore further how the structure and physical environment of cities, their spatial, topographic, economic, residential and social layouts, as well as their transport systems and cultures impact on run-commuting rates.

Fig. 1 also identifies areas of low run-commuting rates within survey responses. While rural areas as a whole feature scarcely in the geography of survey-respondents, some places appear to be devoid of run-commuting. Much of Wales, Scotland, Northern Ireland, and patches of England, such as East Anglia, Cornwall, and northern England reported very little run-commuting in the survey beyond some urban hubs.

This suggests that urban areas are more conducive to run-commuting than rural areas, with infrastructural, topographical, spatial density and safety factors likely being important here, as they are in walking and cycling practices (Saelens et al., 2003).

However, zooming in on London (the only city with enough respondents to produce a heat map of) reveals a further uneven geography indicating that more must be at play than just the affordances of the physical environment. Fig. 2 shows that run-commuting survey respondents were clustered in parts of the city with greater affluence and young professional populations, with those living in more ethnically diverse, lower income areas less likely to have responded (Cheshire and Uberti, 2014; Dorling, 2013). The geography of run-commuters' home locations (Fig. 2) suggests that income level, age and ethnicity may all have bearing on the proclivity to run-commute.

The locations of survey-respondents' workplaces also provide some indications as to the conditions that give rise to run-commuting. Looking at the national picture (Fig. 1), the hotspots have become more tightly concentrated on city centres. This suggests that most survey respondents are run-commuting into city centres, where quaternary, tertiary and white-collar jobs are more likely to be found compared to blue-collar primary and secondary jobs which have larger space requirements (Tallon, 2013). Zooming in again to London (Fig. 2), respondents' workplaces are concentrated in areas with high proportions of finance, media and legal industries. Jobs in these industries can also command high wages, suggesting that affluence, industry type and/or workplace culture may also have an impact on run-commuting.

4. Demographics: who is run-commuting?

This section critically explores who run-commuters are, identifying the politics of run-commuting as they relate to various demographic factors, including running, employment, age, gender, income, education and ethnicity.

4.1. Running

Run-commuters tend to be runners. All run-commuters in this study had a running practice beyond the commute that also pre-dated their run-commuting practice. Run-commuters are generally frequent and/or serious runners with respondents most commonly reporting running two

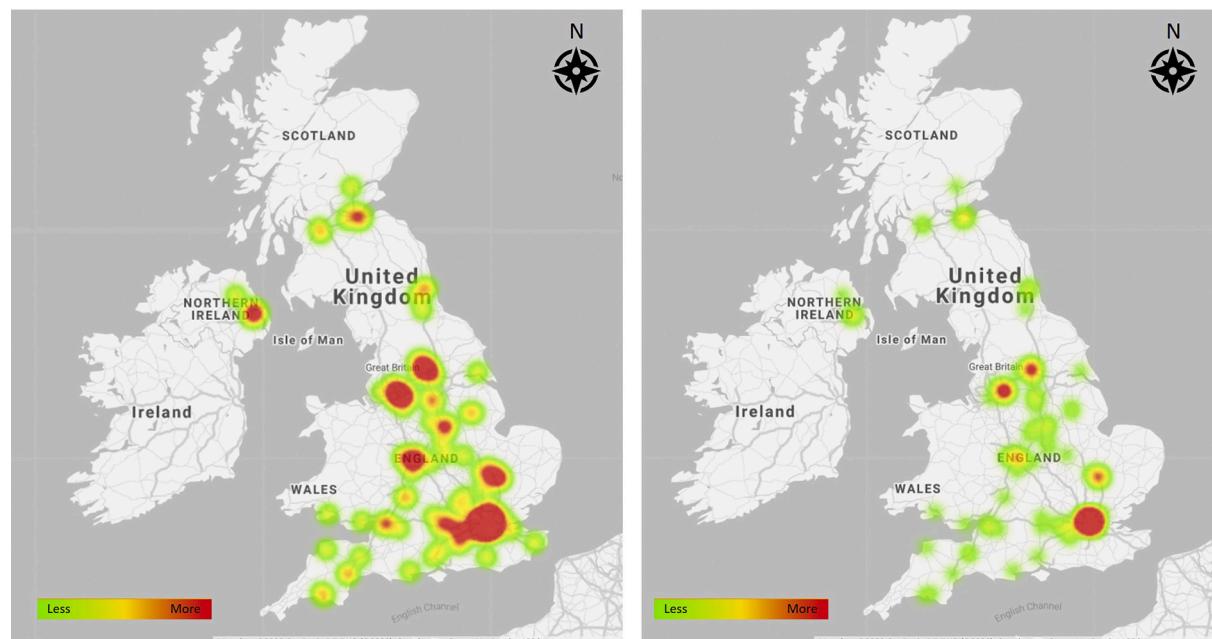


Fig. 1. Home (L) and work (R) locations of UK run-commuting respondents.

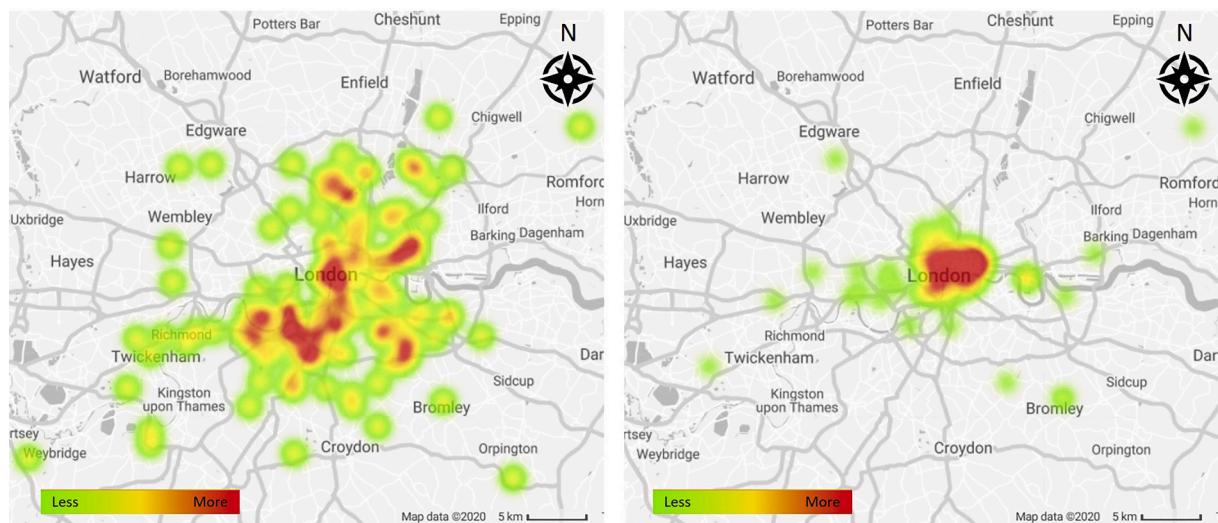


Fig. 2. Home (L) and work (R) locations of London run-commuting respondents.

days or more a week beyond the commute. UK runners on Strava upload an average of 0.62 runs per week (Strava, 2018), suggesting that run-commuters are more serious in their running practices. This makes a lot of sense. Running infrequently is unlikely to present the same time pressures and infringements on other areas of life that motivate and catalyse run-commuting. This is further evidenced by running club membership, which just over 50% of run-commuters in this study held. Running clubs are structured and often paid-for organisations in which people train and compete together regularly. Membership generally indicates a greater commitment to running that manifests in increased running levels and proves very influential to the social worlds of runners (Shipway et al., 2013). The rate of club membership within the run-commuting population is very high. More widely, of those who run at least once a month, only 5% are members of a running club (Sport England, 2012). This ten-fold increase in club membership evident in run-commuting is likely to impact not only the time-pressure motivating run-commuting but play a part in the diffusion of run-commuting awareness and participation. Simply, being part of a running club makes you more likely to know other run-commuters and therefore, potentially more likely to consider run-commuting. There are forms of social capital involved in running club membership and communities (Larsen and Bærenholdt, 2019; Wiltshire and Stevenson, 2018) that here are being exchanged to mobilise and normalise run-commuting as a resource (after Bourdieu, 1986; Putnam, 1993). In this way, running clubs may be nodes within the rise of run-commuting, acting as hotbeds to proliferate the cognizance and need for run-commuting.

4.2. Employment

The vast majority (over 90%) of survey respondents were in full-time employment, higher than the UK-wide figure of 73.72% of the labour market (Office for National Statistics, 2019a). This suggests there are some enabling characteristics of full-time working which encourage run-commuting. Here, both positive and negative forms of enablement may be in play. Full-time working may provide various benefits and facilities to run-commuters to help facilitate their practice but also contribute to the time-poor nature of practitioners, which creates the need to run-commute in the first place. This tension, that work can provide solutions for run-commuting while simultaneously contributing to conditions that necessitate it, is an important one in the practice.

The industry respondents worked in also appears to have a bearing on run-commuting rates. Respondents were spread unevenly across industries, with a couple of key areas emerging: teaching and education; and accounting, banking and finance, making up around a quarter of all

responses. Other prominent industries include health and social care; IT and information services; marketing, advertising and PR; and the public sector. Stereotypically, many of these sectors would be the city-centre based industries anticipated from Figs. 1 and 2. However, the significance of teaching and education, and health and social care here, which are not so heavily tied to city-centre locations, suggests more than just location is important to the trends presented. For example, these are generally higher-paying, professional industries, associated with the middle and upper classes who have an increased propensity for running (discussed below). Likewise, these industries may provide a range of physical facilities (such as storage, shower and changing facilities) or workplace cultures, practices, and environments (flexible hours, casual dress) that enable run-commuting. What seems notable here is the generally office-based and sedentary nature of these industries. Responses from those working in more physically inclined jobs, such as the armed forces, environment or agriculture industries, were rare in the survey. Sedentariness at work often creates the need/desire for physical activity outside of the workplace and feeds into running participation (Shipway and Holloway, 2010), something not necessarily found in blue-collar work.

4.3. Age and gender

Gender and age are also significant in run-commuting trends, presenting some of the key politics of this practice. In an absolute sense, more respondents were male (62.46%) than female (37.64%). This may be expected, as gender significantly affects active-commuting rates due to trip-chaining and the share of other on-commute and domestic duties falling disproportionately on women (Emond et al., 2009; Hanson, 2010; Schwanen, 2007; Turner and Grieco, 2000). That said, the gender ratio of run-commuting respondents was more equal than may have been expected given the gender imbalances in the UK workforce (The World Bank, 2018), rates of commuting (Department for Transport, 2017a), and running rates more widely (Sport England, 2018). The survey findings demonstrate greater gender parity in comparison to cycle-commuting where only 25.9% of UK cycle-commuters are women (Office for National Statistics, 2018). Safety could be a significant factor here as running to work may perceivably carry less risks than cycling to work in the carriageway (Aldred et al., 2016; Chataway et al., 2014; Heinen et al., 2011b). This indicates that run-commuting may be an active commuting mode with greater cross-gender appeal.

Age also appears to play an important role in run-commuting rates. Run-commuting rates of respondents rose quite quickly from the late 20s, peaking in the late 30s and rapidly dropping off from the late 40s.

This suggests that run-commuters in general are older than runners more widely. The 2018 Active People Survey ([Sport England, 2018](#)), shows that 46.1% of runners are aged 16–34 whereas only 41.28% are aged between 35 and 54. This latter age group represents the largest group of run-commuters in the survey (55.95%), whereas only 39.86% are aged between 18 and 34. There appears to be factors that initially enable run-commuting as people get older, for these to decrease rapidly after the age of 50. The need and desire to run-commute often derives from a shortage of time in which to run in daily life ([Cook, 2020a](#)) and there are many factors that could increase time-pressure as people enter their late twenties, thirties and into their forties. Career development and progression can increase work demands during this time-period as can increasing family commitments and parenthood, which most commonly occur during this age range. The drop-off in run-commuting post-50 could be a result of decreasing time demands from these factors (such as children becoming independent) as well as a decreasing need/desire to run. These factors suggest that run-commuting is entwined with the rhythms of people's work, home and exercise lives over their life course.

These factors are not necessarily common between all run-commuters, however, and there is an interesting intersection between age and gender in run-commuting rates. Female run-commuters in the survey tended to be younger than male-run-commuters, the modal age category for each being 25–29 and 40–44 respectively ([Fig. 3](#)). Having children could be crucial in this pattern. The average age of a mother at time of birth in the UK is 30.4 years old and a father is 33.3 years old ([Office for National Statistics, 2017](#)). The modal age categories for each gender suggests that women are more likely to run-commute before children and men after children. Therefore, the time constraints that enable run-commuting are not necessarily the same. This is supported by analysing the number of children/dependants survey respondents had. Just over 50% of male respondents had children whereas just over 20% of female respondents did. These findings suggest that having children may be an enabler for male run-commuters but a constraint for female run-commuters, highlighting the gendered impacts family-responsibilities have on mobility, commuting and exercise opportunities ([Holdsworth, 2013](#); [Ronkainen et al., 2018a](#)), as well as how the practices of home life and parenthood are entwined within run-commuting practices.

4.4. Income, education and ethnicity

Income appears to be another important factor in run-commuting rates. The modal average household income in the UK is £32,000 - £47,999 ([Office for National Statistics, 2019b](#)), whereas the modal average household income for run-commuters in this study was £70,000 - £99,999, with almost half of respondents having this or higher ([Fig. 4](#)). Income having an impact on run-commuting rates may seem a little peculiar, as in theory, run-commuting could be a cheap transport option for many, free at the point of access. However, running in general is more popular with higher-income earners ([Sport England, 2018](#)) and tied to middle- and upper-class identities ([Abbas, 2004](#); [Ronkainen et al., 2018b](#)). [Caudwell \(2015, p. 102\)](#) observes that: 'many aspects of running are contingent on class privilege and the embodiment of this privilege', a politics seen in the demographics of run-commuters in this study.

Two other striking demographic traits of run-commuters are their educational level and ethnicity. Run-commuters in this study were overwhelmingly made up of people with university-level education. Over 90% were qualified to at least degree-level, with around 40% having postgraduate education. This seems to be strikingly high but is likely related to both the high presence of higher income jobs, which these qualifications may be necessary for, and the middle-class symbolism of running, which going to university also contributes to. Furthermore, run-commuting is a highly racialised practice, one which is overwhelmingly white. Over 95% of survey respondents were white, a whiteness not as apparent in running more widely where participation rates show greater diversity ([Sport England, 2018](#)). Therefore, other factors must be at play that serve to make run-commuting a more viable option for white people than others. While income may have influence here, white households tend to have higher incomes ([Department for Work and Pensions, 2020](#)), as well as different practices of domestic labour ([Kan and Laurie, 2018](#)), it is nowhere near the ethnic divide seen within run-commuting rates. These patterns are, therefore, likely to result from a more complex set of cultural and social factors that affect different people's proclivity for run-commuting, as they similarly do for cycling ([Goodman and Aldred, 2018](#)). Sadly, as this research did not focus on non-run-commuters, this is not an aspect that could be explored further, despite it being an important factor of run-commuting and in its politics.

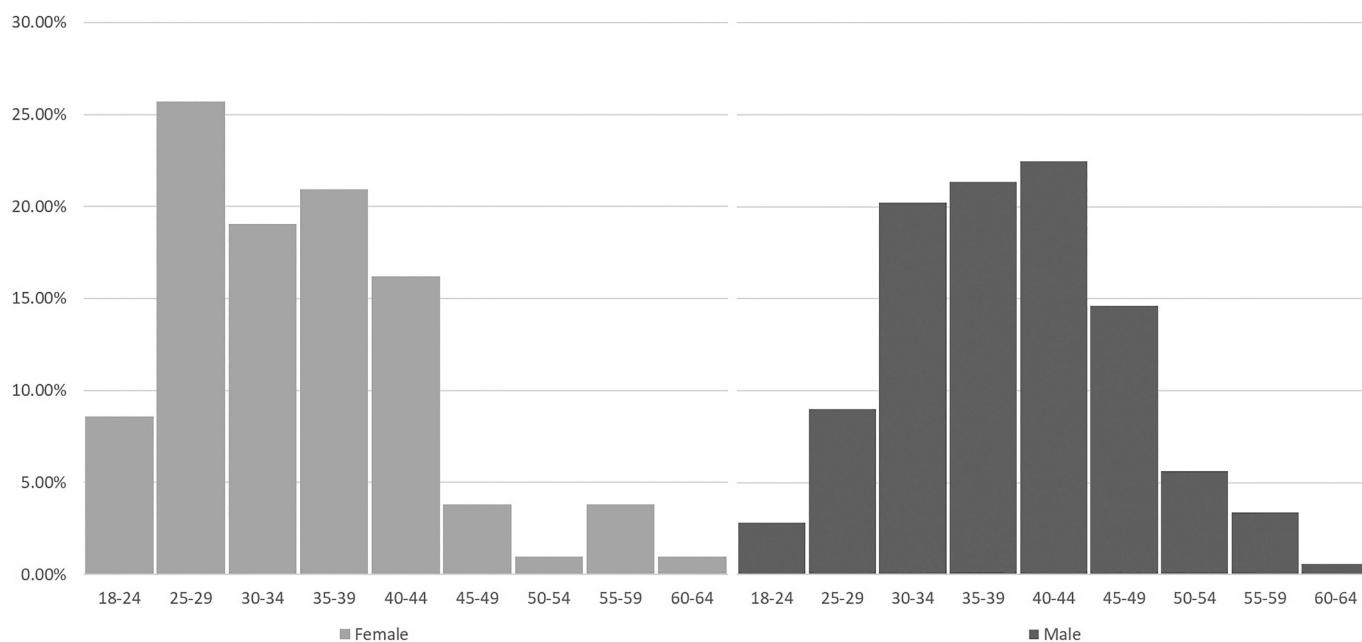


Fig. 3. Age by gender of UK run-commuters.

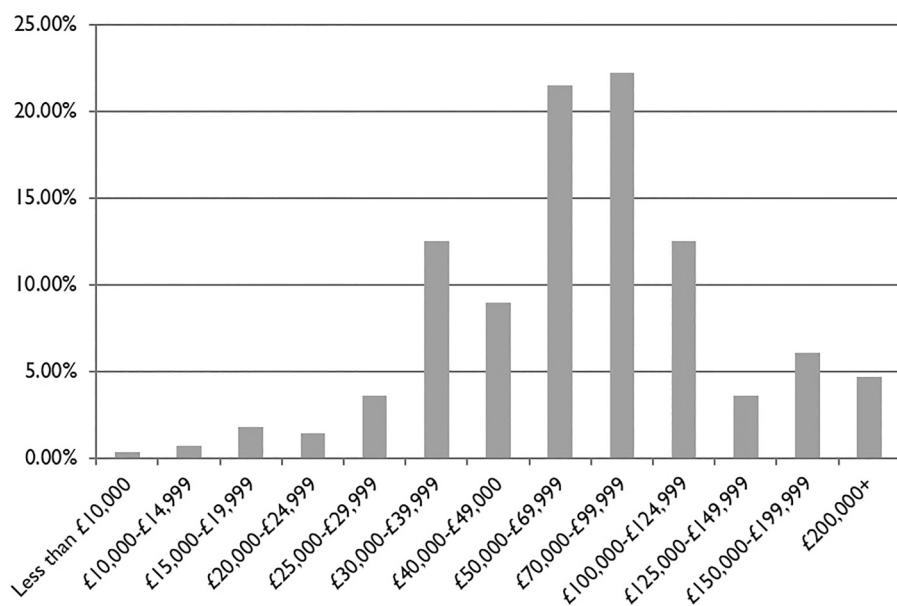


Fig. 4. Household income of UK run-commuters.

5. Movements: what do run-commutes look like?

In this final empirical section, I turn my attention to the movements of run-commuters themselves. I focus here on the running elements of run-commuting - exploring frequencies, directions, multi-modalities, distances and durations - but these sit within wider commuting needs and contexts. In this respect, it suffices to say that survey respondents had a roughly average total distance they needed to cover on their commute, even if they did not cover all of this by running. Given the physical exertion, fitness and time required to run long distances, it may be anticipated that run-commuters only need to commute a relatively short distance but there is surprising variety in this. The majority of respondents, just over three quarters, had a commute of under 10 miles with modal and median commute distance estimates sitting around six miles, broadly comparable to average commuting distances in the UK (Department for Transport, 2017b). Some respondents had a much larger distance to cover on a commute, however, they were likely only

running a portion of it. Similarly, very short commuting distances were rare. No run-commuters reported a commute of under a mile and only a handful below two miles. Just as some distances may be too far to run, others would be classed as too short to bother. Crucially, in understanding the enabling and constraining factors of run-commuting, this implies that commute distance may not be as decisive as first imagined.

5.1. Frequencies

My exploration of run-commuting journeys themselves begins with a focus on the frequency of run-commuting. Here we see much greater influence of running rhythms and temporalities (Smith, 2002) than commuting ones, suggesting run-commuting is more closely tied to practices of running. Not only is there a seasonality to run-commuting, with summer peaks and winter troughs (Strava, 2016), but whereas commuting tends to occur most weekdays for the majority of commuters (Department for Transport, 2017b) this is rarely the case in run-

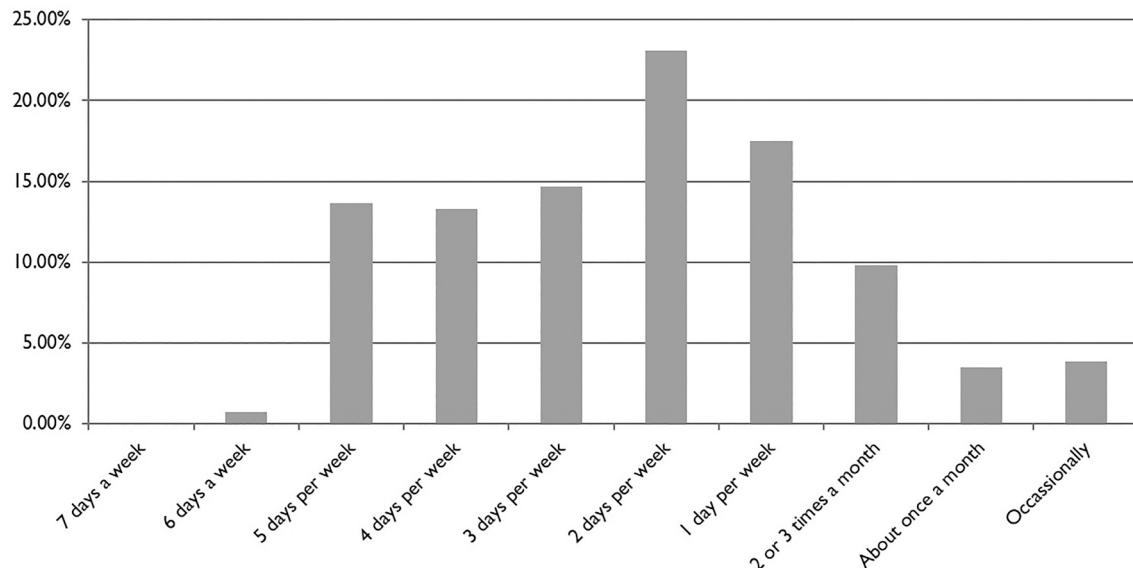


Fig. 5. Run-commuting frequencies.

commuting (Fig. 5). Although 14% of run-commuters in the study reported run-commuting on every working day, most commonly respondents reported run-commuting at least one-way two days a week. This was followed by one day a week in popularity. This rate is accomplished as a minimum by the vast majority (over 80%) of run-commuters in the study. These modal results broadly align with the frequency of 1.55 run-commutes per week reported as an average by Strava (2018). There are again gendered dimensions to the frequencies reported here. In general, male run-commuters tend to run-commute more frequently, with almost half run-commuting three days or more per week, and almost 20% run-commuting five days a week or more. Female run-commuters, on the other hand, tend to run less frequently, displaying a greater number of more occasional run-commuters and fewer three days or more run-commuters.

The diversity of run-commuting frequencies seen in this research begs the question of what influences the decision to run-commute on any given day. Exploring responses to this open-ended question in the survey (Fig. 6) further reveals the complex entwining of run-commuting with other rhythms of running, work, life and home. Commuting choices and routines are often deemed to be habitual and unthinking (Bissell, 2014; Cass and Faulconbridge, 2016; Schwanen et al., 2012; Walker et al., 2014), but akin to other active transport modes (Heinen et al., 2010), run-commuting frequencies and decision-making demonstrate a large degree of logistics planning in determining and actuating the practice. Running, home and work life requirements were markedly more influential in determining the decision to run-commute on any given day than other factors.

Some of the factors affecting frequency reported in Fig. 6 demonstrate similarities to other active commuting modes, such as issues of weather, climate and light (Simpson, 2019), but others seem more divergent. A case in point, the issue of what needs to be carried tends to be a more significant consideration in run-commuting than other modes (though not absent in them, see Heinen et al., 2011a on cycling). Many things we need at both home and work must also commute. Thus, encumbrances and the location of those encumbrances are vital considerations in run-commuting frequencies. Carrying things while running is difficult and can have a dramatic impact on running rhythms, experiences and flows (Csikszentmihalyi et al., 2017). Therefore, the run-commuting assemblage becomes a significant aspect of the practice (Cook, 2020a). Similarly, the influence of energy and fitness (in both medicalised and affective articulations) is more pronounced in run-commuting than other active commutes. Running abilities, energy levels, injuries, general health, moods, emotions, and interest all

factored in run-commuters' decisions to run on any given day. The relative exertion and cardiovascular impact of running a commute compared to walking or cycling causes this divergence. Indeed, fitness only received passing reference in Heinen et al.'s (2010) review of factors that affect cycle-commuting frequency. Some run-commuters need the commute to function as a workout and achieve the equivalent physical exertion they would on an ordinary run. This is less likely to be the case for cycling commuting. Although it does occur (Larsen, 2018), the time and space required to function as a workout/training session is often not possible on the commute. Thus, issues of fitness, physical exertion and affective states mark an interesting point of divergence between run-commuting and other active modes. These factors, alongside the frequencies of run-commuting, demonstrate run-commuting's greater entwining with and influence from running temporalities and considerations than commuting ones.

5.2. Directions

Alongside frequency, the direction of the run-commute is an integral element determining the parameters of run-commuting. Direction contributes to the plausibility of different journeys, affecting the brute facts of different run-commuters' practices. As seen in Fig. 7, run-commuting one way in a day is most popular, with the three different configurations doing so accounting for over two-thirds of survey respondents. The marginally least popular variety was to only run home from work (Fig. 7) and this is a common option for run-commuters who lack workplace facilities to enable an outbound run-commute. Running to work was slightly more popular suggesting that most of these run-commuters have the facilities they require at work to do so. A morning run-commute also drew plaudits from run-commuters for maximising the time-efficiency of the practice as no time in the evening is given over to running, and because of the mental benefits they gained from running for the day ahead. The third, and most popular, composition of one-way run-commuting is a staggered affair, running both to and from work but on different days. Just over a quarter of respondents did this, and generally ran home one day and then to work another day. Other (mostly private) transport modes were used to undertake the other journey here in a complex of commuting practices (Shove et al., 2012).

Around a third of survey respondents pulled double duty, running both of their commutes in a day. This is one area in which the rhythms of run-commuting align more closely with commuting than running where multiple runs in a day are less common. Double run-commuting is more

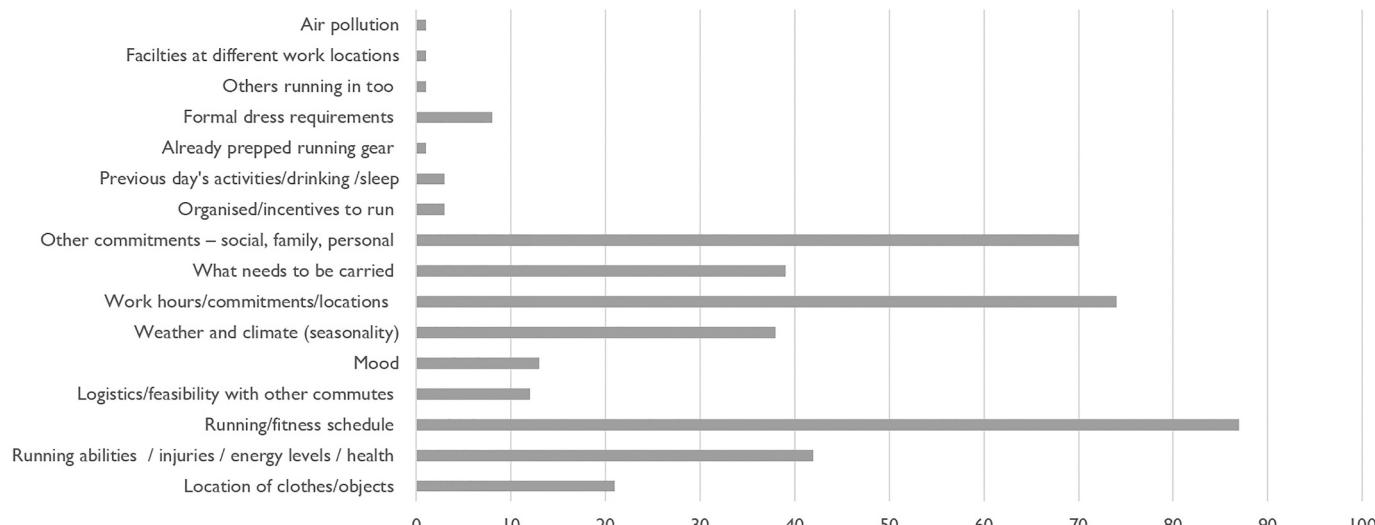


Fig. 6. Factors affecting decision to run-commute on any given day – by count.

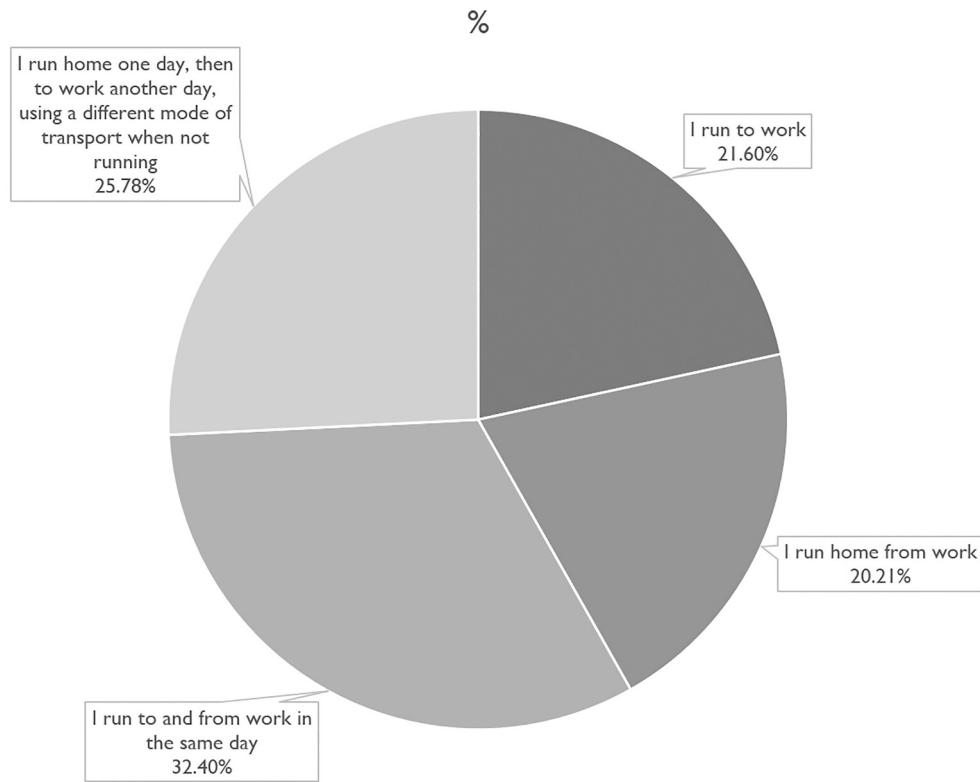


Fig. 7. Run-commuting directions.

exertive and changes the logistics involved in making run-commuting happen. Therefore, it is not feasible or desirable for everybody. A gender influence is visible here too, with male run-commuters more likely to run-commute twice in a day. These directional configurations of run-commuting journeys highlight the importance of workplaces in

enabling or constraining run-commuting possibilities.

5.3. Multi-modalities

As mentioned earlier, not all run-commuters run the entirety of their

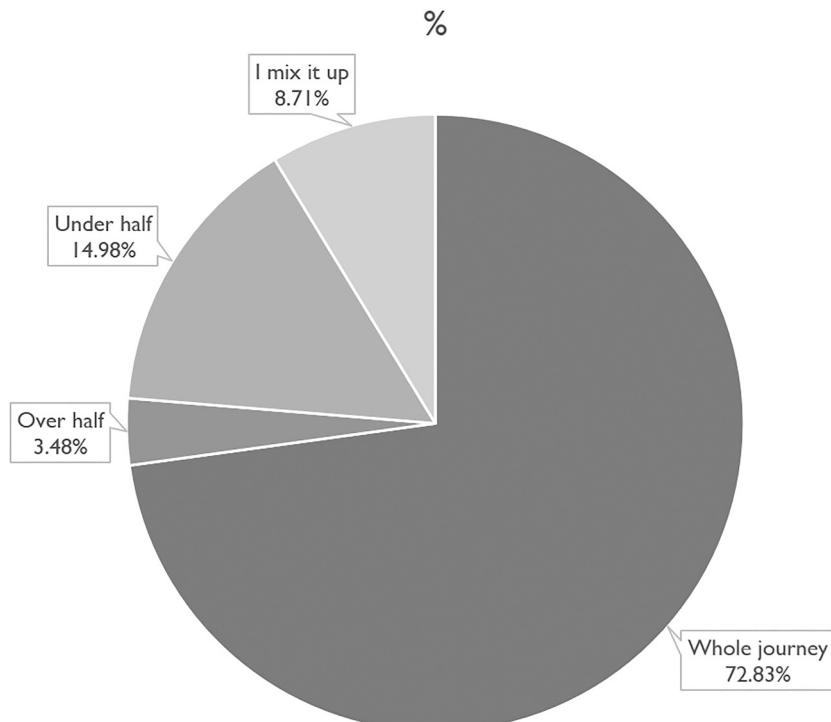


Fig. 8. Amount of commute ran.

commute. For most respondents, run-commuting is a single mode affair; however, for just over a quarter, their journeys involve combining multiple transport modes. Multi-modal journeys have historically been underrepresented in travel surveys and large datasets as journeys are logged according to the dominant mode (Clifton and Muhs, 2012). However, it is a topic rising in significance within transport studies, policy and practice (Oostendorp et al., 2019) and important in understanding the production of many run-commuting journeys.

For those respondents who undertake multi-modal journeys, they are most commonly running under half of the total distance, using another form of transport for the majority, which is the case for almost 15% of run-commuters in this study (Fig. 8). A much smaller percentage run over half of the total distance whereas an intriguing cohort of run-commuters claim to mix it up, demonstrating a flexibility to run-commuting practices. The train is the most popular transport mode to combine with running, as done by almost 70% of respondents with multi-modal run-commutes. Trains often deliver passengers to strategic locations within a city, but it is rarely a door-to-door service, thus commuters are left with distance to cover to get to work/home. This is where the emphasis on the last mile in transport research has stemmed from (Tilahun et al., 2016). For run-commuters, covering this distance by running is a suitable solution.

Overall, public transport seems more amenable to combine with running, with Underground and bus services proving the most popular modes after trains. These findings place emphasis on public transport infrastructure, and particularly train stations, as sites of intersection between run-commuting and the other modes used in a multi-modal commute. Multi-modality may enable run-commuting but also offers a confluence of elements that may conflict with it. Many run-commuters are not just run-commuters. They are also train-travellers, bus patrons and Underground passengers. As such, they undertake their commute as an assemblage tailored to, or at least compromised for, these multi-modalities. For example, run-commuters are likely to have materials and accoutrements for the "art and craft of train travel" (Watts, 2008, p. 711) with them as well as what they need for their running and working day. How these intersections take place in run-commuting is not just a question of infrastructural provision (though important), it is also a question of atmospheres, experiences, elements, and encounters that warrants more extensive investigation.

5.4. Run-commuting distances and durations

The frequency, direction and multi-modality of run-commuting act as parameters as to what is possible to run due to the physical nature of run-commuting. Simply, there is only so far and so often people can or will want to run. This makes it very interesting to explore the duration that people run-commute for. For most run-commuters, their travel time is being increased by run-commuting. The modal and median time band that respondents spent running on the commute is 40–49 min (Fig. 9), whereas in most areas of the UK, the average travel time to work is under half an hour (Department for Transport, 2017c). In London, however, the average travel time to work is 46 min (Department for Transport, 2017c), suggesting potentially no increases in travel time for London run-commuters. This may help to explain why London is such a hotspot as it offers potentially heightened time-savings. However, these savings are also dependent on the mode of transport practitioners are swapping from. The most common other form of transport for run-commuters is cycling, which has an average commute duration in the UK of just over 20 min, whereas the average rail commute (the second most common other transport mode) is almost an hour (Department for Transport, 2017c). While traditional transport rationales and imperatives of travel-time savings (Mackie et al., 2001; Metz, 2008) can make sense of opting to run-commute if it makes commuting quicker, they struggle more to explain any increases. Under this school of thought, decreasing travel time is the highest priority. However, considering temporal rationalities and productivity over a wider scale than a single journey is important here. Under this logic, increases in travel-time caused by run-commuting can seem rational due to the time-saved elsewhere in the day/week and the training, health-improvements or experiential benefits gained by running. In run-commuting, rationality may present differently to how it is usually considered in travel time approaches.

Although the average run-commute duration reported by survey respondents fell between 40 and 49 min, a large range is apparent (Fig. 9). The bulk of run-commuting durations reported (just over 70%) fell between 30 and 79 min. Above and below these there are rapid drop offs. This once more indicates that there are both upper and lower desired durations, above which may exceed physical abilities or interest and below which may not be worthwhile running (however defined). In essence, there are both maximum and minimum thresholds in run-commuting feasibility.

Within any discussion of duration, it is also essential to consider

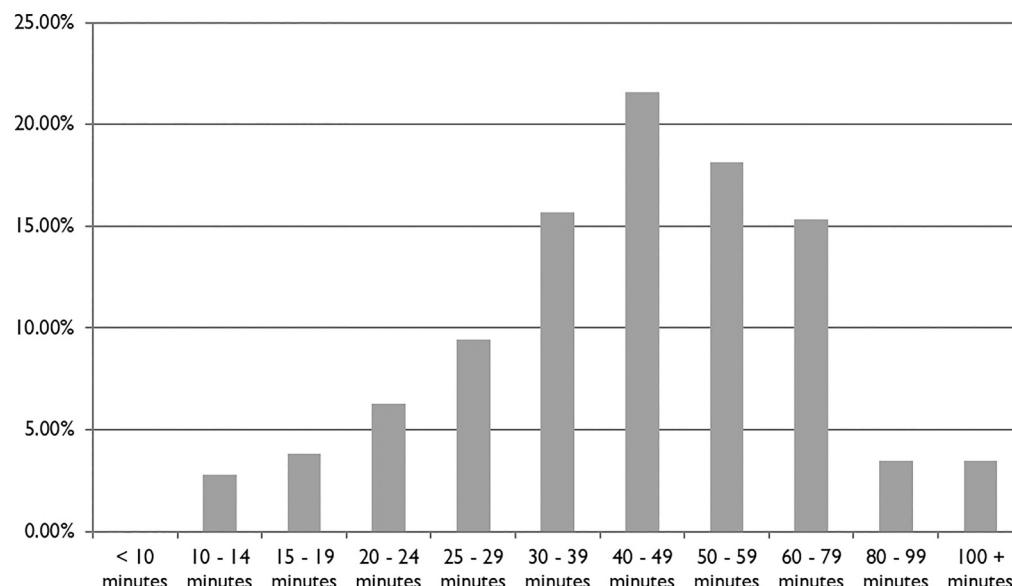


Fig. 9. Run-commuting durations.

distance. Total commuting distance has already been presented, but here we are paying attention directly on the running distance of any run-commute journey. While Strava (2018) report a median run-commuting distance of 3.72 miles (6 km) in the UK, respondents to my survey suggest it is further than this, with the modal and median distance being 5–6.99 miles (Fig. 10). Once more, there is an identifiable core of distances being ran on the commute, with almost two-thirds of run-commutes measuring between 3 and 6.99 miles, and over three quarters measuring between 3 and 8.99 miles. Distances above nine miles were quite rare, as indeed were particularly short distances. Exploring the duration and distances of UK run-commuters has permitted insights into what brute facts of movement are plausible within the practice, and how they may challenge common imperatives and rationales held regarding why people choose the transport mode they do.

6. Conclusion

A lot of ground has been covered in this paper. In seeking to more seriously and comprehensively attend to running in transport studies, I have critically presented the geographies of run-commuting in the UK. This included an exploration of the locations, demographics and movements of run-commuting suggestively characterised by my survey. Doing so has indicated some key enabling and constraining factors related to these spheres and the social differentiation inherent within and caused by them. The survey analysed in this paper suggests that run-commuting is a racialised, gendered and classed practice with it being most popular with urban-dwelling middle-aged white men in highly paid professional jobs. There are relatively high numbers of female run-commuters, but gendered differences still punctuate many of the geographies of run-commuting. This is exemplified in Fig. 11, which profiles the ‘average’ responses by male and female run-commuters in the UK. The various ways the elements interrogated in this paper enable and constrain run-commuting practices have been a central concern. These reveal a deep entwining of numerous other practices within run-commuting and the multiple ways they can enable or limit it. Of particular significance were the wider practices of running, work, and home that entangled to produce run-commuting. These practices function to enable run-commuting by creating the conditions where run-

commuting and its spatial-temporal efficiency are required, and by providing facilities that help run-commuting take place. However, should any of these practices fall out of sequence or synchronicity, they could function to constrain run-commuting, making it more difficult to undertake. Run-commuting is, thus, a pragmatic practice, one heavily entwined with the rhythms of everyday life, employed to help soothe such rhythms by those with the privileges to do so, and one generally more concerned with the running than it is commuting. In some senses this aligns with the notion of transport as derived demand while also challenging it (Mokhtarian and Salomon, 2001). Run-commuting is being used to fulfil a range of other needs rather than purely being undertaken in its own right. Yet, one of those needs it fulfils is running, an arguably archetypal autotelic form of movement (Csikszentmihalyi et al., 2017). This is emblematic of the blurriness, hybridity and contentiousness of run-commuting that make it a productive and intriguing practice to explore in transport studies.

There is still much to understand about run-commuting, its future, and application to other contexts. The characterisations of run-commuting offered in the paper are likely to have relevance to other countries in the minority world, where similar running and working cultures combine with the time squeezes of an accelerated society (Southerton, 2006) to make run-commuting the pragmatic solution it is the UK. Similar run-commuting cultures are currently visible in Canada, USA and Germany, for example. But what role the practice could have in the majority world, where some of these cultures differ and as it continues to urbanise is to yet to be seen. Likewise, many uncertainties remain about run-commuting in the UK. Along with the more specific questions raised throughout the paper, no research has yet explored why people stop run-commuting or what prevents people starting. These are vital in grasping the bigger barriers to the practice and understanding its potential, something Covid-19 has also brought into question. Could the heightened emphasis on active travel during the pandemic (De Vos, 2020) draw more people and attention to run-commuting or may the likely increase in home working for white-collar workers reduce the time pressures that motivate run-commuting in the first place? Are sweaty bodies still going to be as welcome in busy city centres and workplaces? Continuing research is needed to explore such questions.

Despite these uncertainties, the findings discussed in this paper still

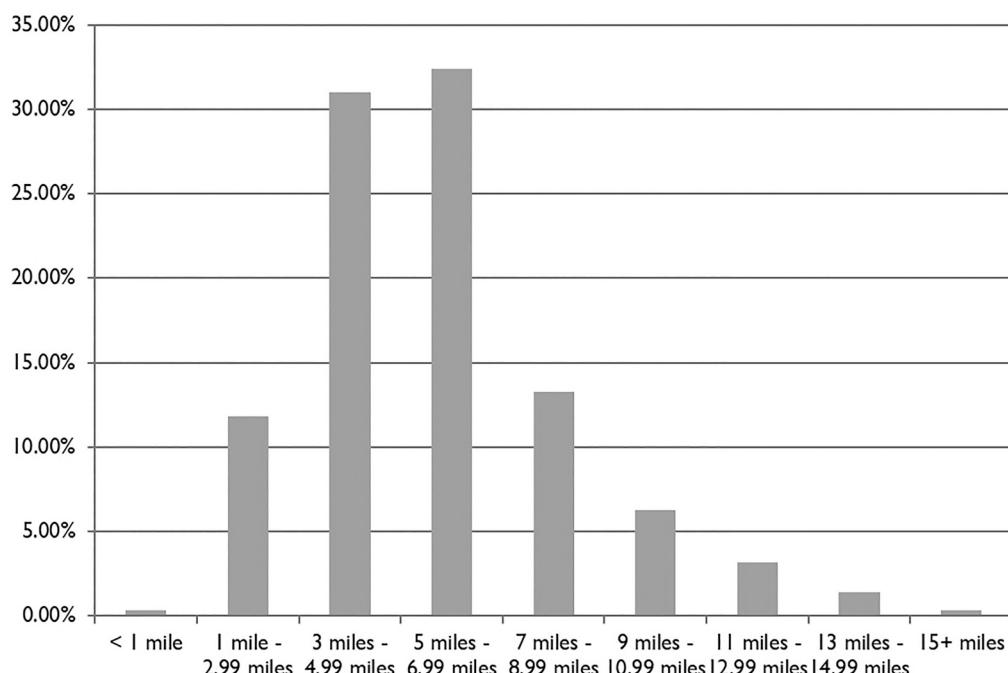


Fig. 10. Run-commuting distances.

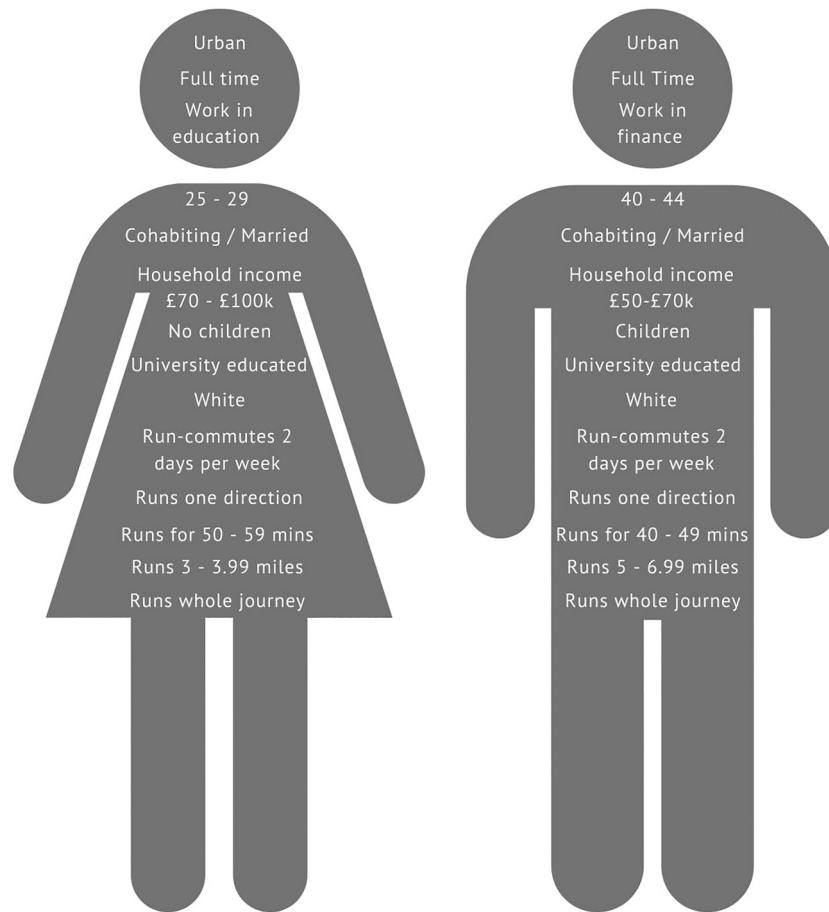


Fig. 11. The 'average' female and male run-commuter in the UK based on modal averages.

point towards valuable policy implications that could take run-commuting from the niche to the mainstream. Much of these centre on end-of-trip facilities and workplaces. Infrastructural provision, such as showers, storage, drying, hair-drying and suitable changing facilities can ease the transitions between running and working, while workplace cultures around flexible working hours and casual dress codes may prove effective in facilitating run-commuting practices by easing time pressures and logistics. However, the most impactful measure to help encourage run-commuting would be awareness raising campaigns. Just as running is absent from transport research, practice and policy, it is often absent from people's ideas of possible transport modes. An awareness of run-commuting was one of the biggest catalysts to starting run-commuting reported in this project and suggests that there may be a latent population who would benefit from run-commuting but are unaware it is a possibility. As such, measures to raise the profile of run-commuting, to increase the discourses around it and to normalise it could be very effective at further realising its potential, as being tried in the #RunSome campaign launched in the UK in September 2020 (Dixon, 2020).

Run-commuting is a unique and growing mobile practice, worthy of further, sustained study. It not only expands the remit and possibilities of active travel but invites interdisciplinary insights to help make sense of it. In this paper, I have drawn together work from transport studies, mobilities, sport sociology and physical cultural studies to help explore run-commuting, conversations with much to offer research into other active travel modes too. Run-commuting challenges many assumptions and understandings about transport. It asks us to rethink what commuting is and can be, what motivates transport practices, what affects transport practices, and how notions around speed, time, productivity and effort play out in transport practices. It is a productively

provocative practice that opens up opportunities to think and do transport otherwise, reflecting different motivations, meanings, movements, experiences, and logics than are usually considered in the transport field. It is one that deserves to be on transport studies' agendas and this paper has provided the first significant steps forward in understanding this mobile practice.

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Data statement

The data that support the findings of this study are openly available in figshare at doi:<https://doi.org/10.6084/m9.figshare.12993545> and doi:<https://doi.org/10.6084/m9.figshare.12993539>.

Declaration of Competing Interest

None.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jtrangeo.2021.103038>.

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