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Title: Broad, strong, and soft: using geospatial analysis to understand folk-linguistic terminology

Short Title: Using geospatial analysis to understand folk-linguistic terminology

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Competing interests: The authors declare none

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Abstract

This study uses a modified online version of the 'draw-a-map' task and Garrett et al.'s (2005b) 'keywords' methodology to explore the geospatial distribution of different accent and dialect labels and descriptors in Greater Manchester, UK. Specifically, we consider the distribution of the three most frequent labels related to 'accentedness': *Broad*, *Strong*, and *Soft*, as provided by 349 Greater Manchester residents. This analysis finds that these descriptors were clustered in separate areas of Greater Manchester, suggesting that they were being used to describe perceptually distinct varieties of English. In order to uncover the nuances in these folk-linguistic terms, we consider how they correlate with other concepts emerging from the dataset, finding that they are being used to differentiate between varieties with contrasting social associations. By combining innovative approaches, this study demonstrates how the subtleties of folk-linguistic modes of awareness can be uncovered through in-depth analysis of the terminology employed to describe linguistic variation on a very local scale. In so doing, it paves the way for further development of draw-a-map techniques that will enable similarly nuanced analysis in different regions, thus pushing the sub-discipline forward.

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1. INTRODUCTION

In both Niedzielski and Preston (2003) and Preston (2002:18), the authors present their view of

speech perception as a continuum from conscious (aware, deliberate) reactions and comments on

language use, to unconscious (automatic, unaware) reactions. The study of folk-linguistics, as they

define it, is concerned with uncovering and disambiguating those conscious reactions to language.

These approaches can range from qualitative analysis of free-flowing conversations about language

use, to highly controlled experiments eliciting reactions to stimuli. Within folk-linguistics, the

discipline of perceptual dialectology is concerned with 'what non-linguists say about language

variation, including where they think it comes from, where they think it exists, and why they think it

happens' (Montgomery & Cramer 2016:9). In other words, perceptual dialectology explores how

non-specialists understand and talk about language variation and change. This paper sets out to

explore the perceptual dialectology of Greater Manchester, both focussing on where,

geographically, locals view different varieties to be spoken in the region and attempting to

disambiguate the nuances in the terminology used to describe them.

One of the difficulties with this work is that non-specialists' descriptions of language, or 'folk

metalanguage' (Preston 2004), often does not align with the terminology used by linguists. For

example, Preston (1996, 2004) discusses the folk use of the term 'nasal', apparently 'incorrect' in

that the speech being described often does not align with the formal linguistic definition of

nasalisation. However, Preston notes the value in delinking the term from its formal definition and

acknowledging the speech style and associated social types evoked by its folk-linguistic usage. Given

the variation and complexity in the ways non-specialists describe language use, research in

perceptual dialectology often seeks to code or group these descriptions in order to disambiguate

more wide-reaching patterns. For example, researchers such as Long (1999), McKenzie (2006) and

Montgomery (2007) have attempted to categorise folk-linguistic terminology as 'positive', 'negative,

or (for some studies) 'neutral'. While an effective method of quantitatively processing large amounts

of varied and complex data, this research often acknowledges the complicating factor of the

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occasional ambiguity of these terms. The importance of consideration and understanding of folk-linguistic terminology terms is also brought to the fore by Cramer (2018) in her discussion of the benefits of combining the 'emic' and the 'etic' in perceptual dialectology. She argues that locally-relevant labels accessed via methods such as the draw-a-map task or more qualitative approaches should be both carefully considered in interpreting the data, and ideally incorporated into any subsequent tasks, such as voice placement and rating surveys. This careful examination of terminology then provides a much more nuanced understanding of attitudes, ideologies and language use in a given region.

Overall, then, researchers in folk-linguistics are working toward a framework in which folk-linguistic terminology is not dismissed as an insufficient attempt to evoke specialist knowledge. Instead, understanding of this terminology is valued as both an entry point for exploring the social types linked to language use, and as a methodological tool for either grouping descriptions together to uncover wider trends or incorporating into the design of locally relevant surveys. As such, it is particularly important to not simply take this terminology on face value, but to attempt to disambiguate finer shades of meaning and gain a nuanced understanding of how folk descriptions of language are operating at a local level.

This disambiguation is the intention of the present paper, which explores the perceptual dialectology of Greater Manchester, a metropolitan county in the North-West of England. This study uses an online version of the 'draw-a-map' task (see section 2) to examine how the labels and concepts associated with different local English varieties pattern geographically in the region. Specifically, we explore how the terms *Broad*, *Strong*, and *Soft* (the three most frequent terms to describe a variety's perceived difference from a non-local standard variety within the dataset) correlate with other salient concepts that emerged from the analysis, such as *Status* and *Social Attractiveness*. In doing so, we aim to disambiguate the locally-relevant social meanings of these terms, demonstrating how they are not only being used to distinguish between different local

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varieties, but simultaneously act as a subtle evaluation of the variety and its associated social types. This paper begins with an overview of the draw-a-map methodology and the research location, before describing the methodological design, introducing the dataset, and detailing the process of coding and analysing this data. The 'Results' section then explores the geospatial distribution of the labels *Broad*, *Strong* and *Soft* in Greater Manchester alongside other related concepts. Finally, the paper concludes by examining how these patterns align with previous research in language attitudes and perceptual dialectology, and what this tells us about the social meaning of these examples of folk-linguistic terminology.

2. DRAW-A-MAP TASKS

Developed by Preston (1989), one of the key methodologies employed in perceptual dialectology is the draw-a-map task. Participants are asked to draw boundaries on a 'base map' of a region representing where they consider different accents or dialects to be used, along with some combination of dialect labels, descriptions, or evaluations. This task seeks to elicit information about respondents' mental maps by employing similar methods to those used in cultural geography (Gould & White 1986). The method can be used to elicit a great deal of information - including the names, placement and extent of dialect areas, as well as their linguistic features and social meanings. However, previous approaches to analysing perceptual data have tended to be quantitative and to focus primarily on broad, generalised composite maps (Montgomery & Cramer 2016:12).

The draw-a-map method, albeit relatively simple and straightforward, generates debate regarding its design, particularly regarding the level of detail that should be provided to respondents on base maps. Wales (2006:58–59) argued for the use of maps containing additional detail, so as to address recurring issues relating to respondents' lack of geographical knowledge. The inclusion of some geographical cues is generally considered to be necessary, although the level of necessary detail provided naturally decreases when investigating larger geographical areas (Montgomery & Cramer 2016). Previous USA- and UK-wide studies (e.g., Preston 1989; Inoue 1996) provided state and

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county lines on base maps, though found that this oriented respondents towards the lines.

Romanello (2002) and Stoeckle (2012) both marked cities, roads, and administrative boundaries in

their studies of smaller European regions. Although 'the level of detail included on maps does not

have a significant impact on the number of areas drawn' (Montgomery & Cramer 2016:13), further

research is necessary to determine whether the level of detail included on maps influences the

placement and extent of the dialect boundaries drawn.

Perceptual dialectologists have recently moved away from examining clusters of lines (i.e.,

Preston 1989) and from tracing lines using digitising pads (i.e., Preston & Howe 1987) towards the

use of Geographic Information System (GIS) software (Montgomery & Stoeckle 2013). This software

offers a systematic approach to analysing subjective spatial and attitudinal data and allows the latter

to be explored in greater depth than in previous studies. Montgomery and Stoeckle (2013:52) posit

that GIS software is 'a stable and useable method' for aggregating, processing, and displaying

perceptual dialectological data, emphasising its benefits as a widely accessible software that

produces high resolution maps and composite maps showing multiple perceptual areas. Various

types of heat maps can be created using GIS software, all of which typically show levels of

agreement amongst respondents regarding dialect boundaries, with darker areas representing

higher levels of agreement or perceptual 'cores' (Montgomery & Stoeckle 2013:74).

Recent developments in the use of GIS software within the field include coding practices to attach

demographic information to the boundaries drawn, allowing researchers to query perceptual data

and to show how dialect perceptions are stratified by factors such as age and gender (Cukor-Avila

2018). They also include content analysis and the qualitative coding of responses, enabling

researchers to analyse the social meaning of the spatial boundaries highlighted by respondents.

Evans (2013), for example, created maps using thematic categories (e.g., *country*) and isolated

regions (e.g., *Seattle*) in order to explore their associated labels in her work on Washington, USA; as

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such, demonstrating an ability for researchers to prioritise, and work from, either geographical or

social information.

To complement these significant enhancements in data analysis techniques, there exist

opportunities to develop more sophisticated data collection techniques within the field. One area

that shows great potential is the use of web-based approaches that enable the collection of larger

volumes of data from greater numbers of more diverse participants across a wider geographical

area. Online, digital data collection has the added benefit of removing what has been, to date, an

essential step in the data analysis process: the digitisation of hand-drawn maps prior to inputting

them to GIS, which is often a time-consuming task and can introduce human error (in scanning

position, for example).

Within the UK, there have been a number of studies applying the perceptual dialectological

method to exploring folk perceptions of variation, beginning with Inoue (1996). This first study asked

English students to draw their perceived dialect divisions on a map of the UK. These lines were then

grouped to create a map of 'subjective dialect divisions' in the region, broadly dividing by country,

and then dividing England in to Northern, Southern, Eastern, Western, and Midland. Subsequent

work from Montgomery (2007, 2012, 2016) has used a similar method, asking participants to create

hand-drawn mental maps of England, with a focus on Northerners' perceptions of Northern English

dialects. Instead of looking for the most frequent boundary groupings, Montgomery used an

innovative method of digitally tracing the lines to create heatmaps of the different regions. In

addition, this work looked beyond simply creating a composite map to explore the evaluation of the

identified varieties, and the cultural factors underlying these perceptions. Similarly, Coupland et al.

(1994) and Williams et al. (1996) explored the perceptual dialectology of English in Wales,

uncovering not just the most prominent areas, but the various associated social types.

In a much more local area, Pearce (2009) used an alternative perceptual dialectology approach

(the 'little arrow' method (Weijnen 1946)) to explore perceptions of a relatively small region of the

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UK, asking participants in the North East of England to rate different local place names according to similarity or difference from their own hometown, deriving broad perceived dialect areas in the region. Pearce then compared these perceptual regions to existing research on speech production in the regions, providing evidence for clear linguistic factors underpinning these folk dialect divisions. In a similarly small region, Braber (2016) has explored how Nottingham speech is perceived in the context of the wider country by local sixth-formers. In addition, Baber employed a 'mind map' methodology, asking the students to annotate a map of the East Midlands region with their perceptions of language use in the region, followed by a group discussion of the task. Combined, these methodologies uncovered not only the lack of cultural prominence of the East Midlands dialect region, but the generally negative perception of the region and the students' tendency toward 'denial' of the accent.

Taken together, these studies have advanced our understanding of the evaluation of regional varieties in the UK, providing insight into the linguistic, cultural and social factors influencing perceptions. Notably, research such as Braber (2016) has demonstrated the effectiveness of employing these methods in a relatively small geographical region, particularly in combination with an in-depth examination of people's more qualitative responses. In line with this approach, the present study uses the draw-a-map technique to examine language attitudes in a relatively small geographical area, Greater Manchester. As detailed in the following section, this region is particularly ripe for sociolinguistic investigation, encompassing a wide range of communities and social groups, and having undergone a great deal of social change in recent years.

3. RESEARCH LOCATION

Greater Manchester (Map 1) is a metropolitan county and city region in the North West of England with a population of 2.8 million across 493 square miles (Office for National Statistics 2022). The population is 80% White British, with the largest ethnic minority groups being Asian (or Asian British): 10%, and Black (or Black British): 3% (Office for National Statistics 2013). Far from being a

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historically unified whole, Greater Manchester is made up of areas which, prior to 1974, were part of

the historic counties of Lancashire, Yorkshire, Cheshire, or Derbyshire. Greater Manchester is divided

into ten boroughs: Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside,

Trafford, and Wigan, which, due to their wide-ranging histories and traditions, have their own

distinct social and cultural makeup. In recent years, the city region has become increasingly

established and prominent, electing its first mayor in 2017, and playing a key role in the UK

Government's Northern Powerhouse agenda.[1]

[INSERT MAP 1 HERE][2]

   The city of Manchester itself is well-known nationally and internationally, in part due to its

historic role as the centre of the cotton industry during the Industrial Revolution, but more recently

due to its cultural and sporting influence in the areas of music, literature and football. Other areas of

the region have national prominence to greater or lesser degrees, but none have the reputation of

Manchester itself.

   There have been a variety of detailed speech production studies into various areas within Greater

Manchester (e.g., Shorrocks 1998; Moore 2011; Baranowski & Turton 2015; Baranowski 2017;

Turton & Baranowski 2021; Dann et al 2022; Ryan et al 2022); however, there has been a lack of

research into the region of Greater Manchester as a whole. In particular, perceptions of dialect

variation within and across Greater Manchester have received no attention in the literature to date,

aside from as part of wide-scale surveys much larger regions. However, in a discussion of one such

large scale survey, Montgomery (2016) notes the recent emergence of a *Manc* (Manchester) dialect

area in the mental maps of UK respondents, which he attributes to the more recent cultural

prominence mentioned above. The value in focusing on Greater Manchester as a whole, particularly

with regard to perception research, lies in its ambiguous social status – is it a clearly-defined region,

or is it an administrative collection of geographic areas that are more strongly associated with

historic counties?

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4. METHODOLOGY

4.1 The online draw-a-map tool

Perceptual dialectology research requires the use of mixed methods, since it quantitatively aggregates boundaries drawn by hand - or digitally, in this case - and simultaneously captures the social meanings attached to spatial data. In essence, it makes generalisations regarding the perceived distribution and extent of dialect areas (quantitative) and explores individualised attitudes and the subjective nature of dialect perceptions (qualitative). The online software developed for this project and detailed below was designed in such a way as to enable a mixed methods approach to data collection and analysis.

The study used a specially-designed online tool to collect perceptual dialectological data unsupervised between September 2019 and February 2021. Greater Manchester residents were recruited via social media and local newspaper and radio advertisements and directed to the online tool, where they were asked to provide some basic demographic information before progressing to the task. As shown in Figure 1, participants were presented with instructions asking them to draw boundaries, and then label and describe the accents/dialects within them. Next, as shown in Figure 2, they were shown a map of Greater Manchester with the 10 boroughs labelled and invited to use their mouse or touchscreen to draw boundaries. After drawing each boundary, a comment box appeared, in which they could add any qualitative or evaluative comments. Participants also had the option of editing their boundaries and comments at any point before submitting.

[INSERT FIGURES 1 AND 2 HERE]

The digital, web-based data collection tool presented here has numerous benefits when compared to the traditional method of collecting hand-drawn maps in person. An initial attempt to collect perceptual dialectological data online was made by Jones (2015), who compared data collected using Qualtrics survey software and ImageBot editing software with data collected via a hand-drawn map task. The digital component of his data collection methods contained three steps:

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an instructional video, the draw-a-map task, and a survey. The draw-a-map task involved the use of

draw and text features, although ImageBot also enabled participants to use auto-shape and colour-

coding features. Whilst the options made available by such digital technologies allow people to

respond to the draw-a-map task in new and different ways, they also highlight the need for

researchers to ensure that they are gathering comparable and usable data. Jones's (2015) research

instrument, albeit a notable advance in studies of language perception, led to respondent fatigue

and low participation because respondents were required to download, save, and upload their

maps, as well as completing additional tasks. Hence, Jones (2015:42) calls for 'further refinement in

terms of creating a tool that is user-friendly and not overly cumbersome for the respondents'.

That said, there are clear benefits to using an online approach. Firstly, online data collection has

the potential to reach a wider audience across a larger geographical space. An online research

instrument is more accessible to the sample population selected and, thus, has the potential to

generate vast amounts of data (Lefever et al. 2007). Secondly, researchers are not limited to

recruiting respondents through their social networks, which often lack diversity: 'the use of

crowdsourcing […] is a promising approach to collecting more representative samples, as compared

with the commonly used undergraduate participant pool' (Behrend et al. 2011: 802). Thirdly, web-

based technology is currently used across numerous devices - e.g., PCs, laptops, tablets, and

smartphones. As such, an online tool that is usable across various platforms is essentially available to

anyone, anywhere, and at any time. This renders researchers uninhibited by issues relating to time

and resources; the data collection is no longer limited to time spent in the field. Once an online tool

is launched, it can collect data efficiently for an allocated period with minimal effort and planning on

the part of the researcher. Of course, one of the disadvantages of online data collection is that

respondents are self-selecting and may have a shared set of social and/or attitudinal characteristics;

as such, their responses must be interpreted with caution (Coupland & Bishop 2007).

4.2 Participants

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404 respondents took part in the draw-a-map task after responding to calls for participants on social

networking sites and in local media. The only exclusion criteria to take part in the study were age

(participants had to be over 5 years old) and location (they must currently live in Greater

Manchester). Of these 404 respondents, 43 were excluded because they did not currently live in

Greater Manchester, 7 were excluded because they did not include any demographic data, and 5

were excluded because their maps were incomplete. This left a sample of 349 respondents. A full

demographic breakdown of this sample can be seen in Table 1 below.

[INSERT TABLE 1 HERE]

Overall, this sample is relatively representative of Greater Manchester in terms of gender and

borough, although Bury and Trafford are a little over-represented and Salford is a little under-

represented. Although the Manchester borough has more than double the participants of some of

the other boroughs, this is in line with its higher population. In terms of the age distribution, there is

a skew toward 26–45-year-olds. In addition, there is a clear skew toward White British respondents,

and most other ethnicities are under-represented in comparison to the demography of Greater

Manchester. This is perhaps a drawback of the online sampling method, which relies heavily on self-

selecting respondents. While it was relatively easy to target specific geographic areas through social

media (e.g., local community Facebook pages), targeting specific ethnic groups and age groups

beyond that was more challenging.

As a result of the demography of our sample, our participants' knowledge is perhaps more likely

to skew toward 'traditional' dialects, as opposed to dialects spoken in more multicultural

communities. Indeed, there were only 12 comments mentioning varieties associated with a specific

ethnic group. However, the good geographical distribution of participants goes some way to mitigate

proximity effects (Montgomery 2012), where participants are likely to identify more accent/dialect

variation in their local area.

4.2 Data coding and analysis

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4.2.1 Coding the Comments

Once we came to the end of our data collection period, the individual map comments were collated

and analysed in order to create a thematic coding scheme. We developed the coding scheme using a

combination of Garrett et al.'s (2005b) proposed 'keywords' methodology, and more traditional

approaches to language attitudes (e.g., Zahn & Hopper 1985). Garrett et al. (2005b) describe the

application of the keyword approach in two studies: Garrett et al. (2006), which collected cognitive

responses to the word 'globalisation', and Garrett et al. (2005a), a study of attitudes towards

Australian, US, British and New Zealand Englishes. In both studies, the researchers performed a

keywords analysis of the qualitative responses to each of the various concepts, grouping responses

according to emerging themes, such as 'unity', 'togetherness', and 'toughness'. Garrett et al. (2005b:

44) note that a key benefit of using a keywords approach is that it enables the identification and

interrogation of concepts that are infrequent in the dataset as a whole, but which 'reflect some

illuminating salience and importance in concentrated pockets of cognitive representations'. In other

words, this approach avoids overlooking concepts that are important to only a small pocket of

respondents, or in one specific context. This differs to the approach of much language attitudes

research which has either used keywords as a preliminary approach to identifying the most salient

concepts (see, e.g., Preston 1999), or which has asked participants to either rate varieties or draw on

a map according to a set of attributes pre-defined by the researcher (e.g., Niedzielski & Preston

2003; Montgomery 2007).

Evans (2013) applied a keywords approach directly to perceptual dialectological data in a study of

perceptions of English in Washington state and modified the approach for use with draw-a-map

data, analysing the qualitative comments together to find twenty distinct categories (Evans

2013:277). These included linguistic descriptions ('Pronunciation', 'Slang'), regional labels

('Canadian') and more social labels ('Country', 'Gangster'). Comments which fit in more than once

category were coded into each. Although this method risks over-representing certain respondents'

comments, it avoids the subjective and reductive process of having to choose just one category for

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each comment. In addition, Al-Rojaie (2020) has used this technique in a study of the perceptual

dialectology of Qassim in Saudi Arabia. After identifying salient dialect areas, Al-Rojaie used the

keywords approach to group the various descriptors into six key categories, creating heatmaps for

each to correlate them with the different varieties. Approaching the data in this way allowed for

examination of the ideologies underpinning people's perceptions of language use in the region.

In the present study, we took a similar approach to Garrett et al. (2005b), Evans (2013), and Al-

Rojaie (2020), and first performed a keywords analysis of all the 1167 comments in our dataset.

From this, we noted that most respondents named the dialect region/variety, and then provided

additional evaluative comments and linguistic descriptions. Given this hierarchical structure of many

of the comments, we did not follow Evans (2013) in treating dialect region labels as categories in

themselves alongside the evaluative and descriptive labels. Instead, we identified the top nineteen

dialect regions noted by participants and coded this in the *Dialect Region* category (this approach is

in line with Montgomery 2007, 2012). The specific label given to the variety (e.g., 'Manc', 'Lanc',

'Wiganese') was also preserved in a *Dialect Label* category. The linguistic descriptions of the variety

were coded one of four categories: *Lexis*, *Morphosyntax*, *Phonology*, or *Aesthetic Quality*. This latter

category encompasses descriptors such as 'Nasal', 'Fast', 'Slow' and 'Whiney', in line with Long's

(1999:193) 'paralinguistic' group.

A further 12 categories referred to non-regional or attitudinal social descriptors. These were

created from the keywords analysis, but with reference to the more traditional categories used in

language attitudes research of *status* and *social attractiveness* (e.g. Coupland & Bishop 2007;

Sharma, Levon & Ye 2022). First, we found that many of the comments fit well with Zahn and

Hopper's (1985) *superiority* factor, which combines social status, competency, and intellectual

status. For example, 'working/lower class', 'common', 'rough', 'chavy',[3] 'unintelligent', and 'not

proper English' were frequent labels in our dataset. On the flip side of this, 'middle/upper class',

'posh', 'well spoken', and 'educated' also occurred frequently. These were coded in a *Status*

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category as either *Low Status* or *High Status*, respectively. In line with Zahn and Hopper's (1985: 119)

attractiveness factor, we found that many respondents commented on the 'social and aesthetic

appeal' of the variety. As such, the *Social Attractiveness* category coded comments as either

Attractive (e.g., 'friendly', 'warm', 'down to earth', 'honest', 'trustworthy') or *Unattractive* (e.g.,

'harsh', 'shrill', 'whiney', 'untrustworthy'). In contrast to Zahn and Hopper (1985), a dynamism

category did not emerge from our keywords analysis. The remainder of the categories emerged

directly from the keywords analysis. Some concepts, such as *Rural* (e.g., 'country', 'farmers'), and

Historical (e.g., 'old fashioned', 'traditional'), represent categories in their own right. The focus of the

present paper, the *Accentedness* category, relates to the folk-linguistic concept of accentedness,

which assumes that 'somewhere there is "accent-free" speech' (Preston 2016:180). As such, this

category includes descriptors which appear to relate to the perceived intelligibility of the variety or

distance from RP, and comprises the terms *Broad, Strong*, *Soft*, *Thick*, and *Heavy*.

This approach to coding the data set follows Cramer's (2018) call to combine the 'emic' (from the

perspective of the local community) and the 'etic' (more generalisable and meaningful to the

scientific community) in perceptual dialectology. We have built the coding scheme from the bottom

up, first considering which categories emerge organically from the dataset, then drawing upon the

existing literature from language attitudes and perceptual dialectology to narrow down, group, and

label our categories, enabling comparability with previous research. This method enables

consideration of both how key factors in language attitudes research such as *Status* and *Social*

Attractiveness operate in this specific research context, and to explore nuanced and locally relevant

concepts, such as the differentiation of *Broad* and *Strong* varieties described in this paper.

Using the coding scheme developed from this keywords analysis, each of the comments were

coded into one or more of the categories. For example, the comment 'Wigan. Broad, unique words

for things. Old fashioned' was coded into the following categories: *Dialect Region: Wigan; Dialect

Label: Wigan; Accentedness: Broad, Unique*, and *Historical*. And the comment 'Lancastrian or Yonner

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accent. Think it sounds quite common. Long exaggerated vowel sounds, like noooo' was coded as:

Dialect Region: Lancashire; Dialect Label: Lancastrian, Yonner; Status: Low Status, and Phonological

Feature: GOAT vowel. Where relevant, one comment could be coded into more than one category.

For example, 'shrill' would be coded as *Social Attractiveness: Unattractive* and *Aesthetic Quality:*

Shrill/Whiney.

4.2.3 Processing the Maps

At the end of this process, 1167 comments from 348 individual maps were labelled with the map

and boundary number, as well as the demographic details of the respondent, and coded according

to the keywords analysis. The next step comprised aggregating the coded data and the mental maps

in ArcGIS Pro. Using a modified version of the method proposed by Montgomery and Stoeckle

(2013), we first imported the 349 map images into ArcGIS Pro and georeferenced them, bringing

them into alignment with an existing map of the region. Each of the lines of the map were then

traced to create a dataset of polygons, labelled to cross-reference with their corresponding coded

qualitative comment, and then 'clipped' to the boundaries of Greater Manchester. Next, the

demographic and coded qualitative data was 'joined' to this dataset, attributing each polygon its

corresponding information. As a result, the full dataset of polygons could be 'queried', and groups of

polygons relating to a specified attribute could be extracted. For example, as shown in Figure 3, all

the polygons coded as having the 'Manc' dialect label could be selected. Finally, heatmaps were

created by joining selected groups of polygons to a postcode sector map of Greater Manchester. The

map could then be coloured according to the number of polygons intersecting, or the 'Join Count',

within a specified postcode boundary. This process is shown in Figure 3 below.

[INSERT FIGURE 3 HERE][4]

7. RESULTS

7.1 Accentedness

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As noted in the previous section, the focus of this paper is the geospatial distribution of terms in the *Accentedness* category, which comprised *Broad* (n=93)*, Strong* (n=33)*, Soft* (n=32)*, Thick* (n=9), and *Heavy* (n=2). Of these, there were too few comments to map the terms *Thick* and *Heavy*, so we focus this analysis on the former three, asking what is the social meaning of the folk linguistic terms *Broad*, *Strong*, and *Soft* in Greater Manchester?

Beginning with the comments themselves, Table 2 shows a sample of the comments for each of these categories. Taken together, these comments alone provide some insight into how these terms are being used to differentiate the different varieties of English in Greater Manchester. First, the use of either *Strong*/*Broad* or *Soft* appears to often be differentiating between more or less 'accented' varieties. Indeed, some comments overtly put these labels on either end of a spectrum, such as the description of the Trafford accent as 'softer, less broad'. There is also regularly an association between *Soft* and more prestigious varieties. At the other end of the spectrum, *Broad* and *Strong* both appear to be referring to more 'accented' varieties. Indeed, both these terms are sometimes used in the same comment. However, a picture is also beginning to emerge of a subtle difference in the social meaning of these terms. In general, the *Strong* comments include more pejorative descriptions than the *Broad* comments, with terms such as 'rough', 'common' and 'aggressive'. In contrast, some of the *Broad* comments appear to indicate a more socially attractive variety, with comments such as, 'warm', 'friendly', and 'honest'.

[INSERT TABLE 2 HERE]

In order to explore this impressionistic finding in more detail, Maps 2, 3 and 4 below show the geospatial distribution of the three terms, *Broad*, *Strong*, and *Soft*, in the region. It shows that these terms do indeed appear to generally be describing different varieties within the region, with the *Broad* boundaries generally clustering in the Northern boroughs, *Strong* clustering in the Salford/North Manchester area, and *Soft* clustering in Trafford, Stockport and South Manchester.

[INSERT MAPS 2, 3 AND 4 HERE]

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Using this indication of where the varieties described by these terms are located, the following

section explores how these areas are described more generally in the draw-a-map task. This

provides us with an indication of the general conceptualisation of these varieties as a whole,

allowing us make inferences about the social meaning of the folk-linguistic terms used to describe

them.

7.2 Status

In the qualitative comments shown in Table 2 in the previous section, there was an indication that

the labels *Broad*, *Strong*, and *Soft*, in particular the latter two, may carry connotations of the social

status of the variety being described. It is also important to consider this dimension due to the

wealth of language attitudes literature demonstrating the ubiquity of social status (along with social

attractiveness) in the evaluation of language varieties (for a review, see Dragojevic et al. 2021). In

order to explore this connection in more detail, Maps 5 and 6 show heatmaps of the geospatial

distribution of comments that we have grouped as *High Status* and *Low Status*. In our coding

scheme, *High Status* included comments such as 'posh', 'upper class', 'educated', 'rich', and 'well

spoken', while *Low Status* included comments such as 'rough', 'chav', 'working class', 'scally',

'common', and 'poor'.

[INSERT MAPS 5 AND 6 HERE]

Regarding the status of the different varieties of English in Greater Manchester, there is a clear

North/South divide, with the southern boroughs of Trafford and Stockport, along with South

Manchester, being described as *High Status*. In contrast, the *Low Status* labels cluster Primarily in

Salford, followed by Rochdale and Oldham, and then Tameside. The geospatial distribution of these

categories provides some insight into the social meaning of the three *Accentedness* terms. The *Soft*

area seems to correlate almost exactly with the *High Status* area, while the *Strong* area correlates

with the *Low Status* region. *Broad* doesn't correlate perfectly with either of these areas, but these

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maps indicate that it is certainly not seen as *High Status*, and the *Broad* areas of Rochdale and

Oldham are sometimes considered *Low Status*.

7.3 Social attractiveness

Another important theme that emerged from the comments including the terms *Broad*, *Strong,* and

Soft, as well as being a key dimension in language attitudes more widely, was *Social Attractiveness.*

We coded respondent comments as either *Socially Attractive*, including labels such as 'friendly',

'warm', and 'pleasant', or *Socially Unattractive*, including labels as us 'ugly', 'harsh', 'shrill', or

'aggressive'. Maps 7 and 8 show a heatmap of where these comments were grouped.

[INSERT MAPS 7 AND 8 HERE]

As with the *Social Status* categories, there is a slight correlation between the distribution of the

Accentedness labels and the areas viewed as either *Socially Attractive* or *Socially Unattractive*. Once

again, Salford and the closely surrounding areas, which were labelled as *Strong* and generally

considered *Low Status*, are described in a more pejorative way. Language in this region, and

particularly the more urban postcodes, is therefore generally considered to be both the lowest

status and least socially attractive. The *High Status* and *Soft* area in the south of Greater Manchester

was also sometimes labelled as *Socially Unattractive*. In comparison, the Northern boroughs, and

particularly the Bolton/Bury area, was most often considered *Socially Attractive*. The area described

as *Broad* roughly correlates to this *Socially Attractive* region and was only very rarely labelled as

Socially Unattractive.

7.4 Rural and Historical

Finally, there were two further categories that, like the *Broad* label, were focussed on the Northern

boroughs. As shown in Maps 9 and 10, these were *Rural*, which includes any mentions of concepts

linked to rurality, such as 'farmer', 'country', 'hillbilly', or 'yokel', and *Historical*, which includes terms

such as 'traditional', 'old timey', 'classic' and 'quaint'.

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[INSERT MAPS 9 AND 10 HERE]

Areas that were coded as *Rural* are clustered in the north-eastern boroughs of Bury, Rochdale and

Oldham, while the Historical areas are clustered in the north of Greater Manchester, including a little

of North Salford, but are largely focussed on Wigan and Bolton. Previous research in language

attitudes in Britain has highlighted the importance of these two concepts in shaping perceptions of a

variety. For example, Dann (forthcoming) discusses the general trend in large-scale language

attitudes surveys for rural varieties to be upgraded relative to their urban counterparts, perhaps due

to their association with more traditional/historical speech, unaffected by social and linguistic

change more urban areas.

8. DISCUSSION

The previous sections have a provided an overview of the geospatial distribution of a variety of

concepts that emerged from the draw-a-map task comments. It showed that the folk-linguistic

Accentedness labels, *Broad*, *Strong*, and *Soft*, were being used to differentiate between three

varieties within the relatively small region of Greater Manchester. Comparison of the distribution of

these labels with four other key concepts that emerged from the keywords analysis, *Status*, *Social

Attractiveness, Rural*, and *Historical*, demonstrated how these accent/dialect areas were being

conceptualised more generally. This provides insight into the social meaning of these folk-linguistic

terms.

First, we found that the terms *Broad/Strong* and *Soft* appeared to be differentiating between

more and less 'accented' varieties, respectively, with the less accented varieties likely invoking

something similar to General Northern English (Cardoso et al. 2019; Strycharczuk et al. 2020). In this

context, the term *Soft* correlated strongly with the areas that were described as *High Status*, with

both of these descriptors predominantly used to describe the south of Greater Manchester.

However, this is not to say that people were always describing something close to Received

Pronunciation. Instead, the comments would often refer to a 'softer' version of Mancunian or

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Northern varieties, presumably with fewer highly salient local features. Indeed, phonetic analysis of

speech of speakers from South Manchester in a separate strand of the project (Drummond et al

2022) found speakers from the boroughs of Trafford and Stockport to employ widely used regional

features, such as the lack of a TRAP-BATH split, but they were less likely to use features that were

more local, such as front realisations of /u/ in pre-l environments, e.g., in 'school'. This is a variety

spoken across Northern England, often by more middle-class Northerners. As described by

Strycharczuk et al. (2020: 2), this variety 'can be expected to display typically northern features, like

the northern BATH and STRUT, but not more narrowly defined northern features'. Beyond the term

Soft discussed here, other descriptions of this variety that emerged from the draw-a-map task align

with this characterisation, including: 'posh Manc', 'Trafford has a very very distinctive accent, the

words are pronounced more eloquently even in perhaps rougher areas', 'metropolitan/well spoken

with varying broadness', 'can tell their northern and from around the Manchester area but difficult

to pin point exactly where the accent is from'.

In comparison, the terms *Broad* and *Strong* both seemed to be referring to more 'accented' and

localised varieties. However, the varieties described by these terms occupied different perceptual

dialectological regions in Greater Manchester and appear to have contrasting social meanings. In

contrast to the distinction with *Soft*, the distinction made between these two groups seemed to be

between different accent groups, rather than simply the degree of accentedness. The term *Strong*

was generally used to describe the urban variety spoken in the centre of Greater Manchester, and

particularly in the Salford region. *Broad*, on the other hand, was used most often to describe

accents/dialects in the northern boroughs of Greater Manchester. Again, this grouping correlates

with what is known about actual speech variation in Greater Manchester, with the northern area of

Greater Manchester belonging to a different dialect area to that of Manchester itself (Hughes et al.

2012; Baranowski & Turton 2015; Drummond et al 2022). For example, the speech data collected in

the Manchester Voices project (Drummond et al 2022) shows that speakers from the north of

Greater Manchester variably make use of a number of features which speakers from the central area

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do not, e.g., a fronter and closer MOUTH vowel, NURSE~SQUARE merger and monophthongal FACE and

GOAT.

The variety labelled as *Strong* was indicated to be both the most *Low Status* and *Socially*

Unattractive in the region, with notably pejorative descriptions, such as 'rough', 'common', 'harsh',

and 'grating'. By contrast, while the region labelled as *Broad* was not considered *High Status*, it was

not as *Low Status* as the *Strong* region, and the Bolton/Bury area in particular was most likely to be

considered *Socially Attractive*. In other words, the *Broad* area was more likely to be described with

terms such as 'friendly' or 'pleasant'. In addition, language in the west of the *Broad* area was often

linked to the past, being described as 'traditional' or 'quaint', while language in the east of the *Broad*

area was often described in terms of rurality. In this way the term *Broad* is different from the terms

Strong and *Soft.* Whereas *Strong* and *Soft* seem to be used directly in opposition to each other in

terms of their perceived social status and accentedness, *Broad* does not seem to operate on this

same scale, and instead carries different additional social meanings. This could perhaps be due to

the fact that the area occupied by the term *Broad* traditionally has a different dialect to the area

occupied by *Strong*. However, due to both *Broad* and *Strong* being 'accented' varieties, additional

social meanings are needed to distinguish these dialect areas from each other.

Research from Cooper (2019) in South Yorkshire, a nearby metropolitan county to Greater

Manchester, has indicated that folk-linguistic uses of the term 'broad' may have links to more

'traditional' speech. He discusses how 'broad' was often used to characterise speech in Barnsley as a

notably old fashioned and unintelligible variety of Yorkshire English, as well as indexing 'certain

characterological figures like "Yorkshire farmers"' (Cooper 2019:78). As such, it seems that in

Greater Manchester, *Broad* is occupying a similar folk-linguistic function, delineating the more

traditional, pleasant, and 'folksy' variety perceived to be spoken in the more rural Northern

boroughs, from both the less *Socially Attractive*, urban variety, and the more middle-class, less

regionally distinctive variety spoken in the more affluent south of Greater Manchester.

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The distinction between these terms that emerged in this study mirrors wider patterns in British language attitudes research, in which urban varieties tend to be downgraded relative rural varieties (e.g., Giles 1970; Coupland et al. 1994; Coupland & Bishop 2007). As discussed in the previous section, this rural/urban divide may be borne out of associations between the rural and an imagined, idyllic past; and between the urban, industrialisation and undesirable social change (Dann forthcoming). Relatedly, it could be argued that the recent rise to cultural prominence of the 'Manc' variety (Montgomery 2016), which is also associated with the central, urban area of Greater Manchester, and its connection to divisive characters such as the Gallagher brothers, may have contributed to this more pejorative evaluation. Therefore, at least in the context of Greater Manchester, it appears that the use of either *Broad* or *Strong* to describe an 'accented' variety may be a signifier of this differentiation, and a subtle evaluation of the variety's social status.

9. CONCLUSIONS

This paper has presented a selection of results from the online draw-a-map task conducted as part of the Manchester Voices project. Methodologically, it has demonstrated the benefits of using an innovative digital, web-based tool to collect this perceptual dialectology data, as it was easily shared and accessed, allowing us to collect large volumes of data unsupervised, and its novelty and simplicity also generated high levels of engagement. However, we did find that the reliance on participants self-selecting to take part resulted in a bias toward White British 26-45-year-olds. Therefore, future research using this method aiming to access a range of demographics may benefit from more targeted recruitment tactics.

The analysis explored the geospatial distribution of the three most frequent labels that emerged from the draw-a-map task relating to *Accentedness* (*Broad*, *Strong*, and *Soft*), and found that they were each clustering in a different region of Greater Manchester. We compared where, geographically, these descriptions clustered to other key categories (*Status*, *Social Attractiveness*, *Rural* and *Historical*) in order to better understand the social evaluation of the varieties they were

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describing, providing insight into the social meaning of these terms. We suggest that, within a large and linguistically varied city-region such as Greater Manchester, these labels and their associated social meanings offer a particularly important way of enabling locally relevant distinctions to be made across multiple dimensions.

Preston (1996) discusses how, although non-linguists often lack the terminology and detailed knowledge to accurately describe linguistic variation, they are by no means 'unaware'. This paper demonstrates this further and adds to the evidence that folk-linguistic terminology should not be dismissed as an insufficient attempt to evoke specialist knowledge. Our approach here has been to treat the beliefs and attitudes expressed by our respondents as important for processes of language variation and change. We therefore responded to Preston's (2016:195) calls for the use of 'increasingly subtle techniques' to tease out the complexities of folk-linguistic awareness.

The insight provided by this analysis into the subtle nuances of folk-linguistic terminology in Greater Manchester was made possible by our adaption of the keywords methodology, first proposed by Garrett et al. (2005b). This approach enabled us to look beyond simply mapping the highest frequency accent/dialect labels, to explore how the region was divided by correlations of a variety of perceptual categories, including those that occurred relatively infrequently. We have also demonstrated the effectiveness of asking respondents to name, evaluate, and describe the variety as part of the map task, rather than simply asking them to add labels to the regions. The elicited rich and detailed data, providing us with a basis to explore the indexical relationships between different meaningful units for our respondents (i.e. between 'dialect name' and 'dialect evaluation').

In this paper we have demonstrated one way that non-linguists characterise their awareness of linguistic variation, uncovering subtleties in the meaning of folk-linguistic terminology that could easily have been overlooked.

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Endnotes

[1] See: https://northernpowerhouse.gov.uk/

[2] This map was created using data derived from the following sources:

Contains National Statistics data © Crown copyright and database right 2022

Contains OS data © Crown copyright [and database right] 2022

[3] This is a pejorative British English term used to describe the stereotype of a working-class person

who generally wears sportwear and engages in anti-social behaviours.

[4] These maps, and all subsequent, were created using data from the following sources:

Contains National Statistics data © Crown copyright and database right 2022

Contains OS data © Crown copyright [and database right] 2022

Contains Royal Mail data © Royal Mail copyright and database right 2015

[5] This abbreviation of 'scallywag' is used primarily in the North-West of England, meaning a young

miscreant.

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Table 1: Demographic details of the participants

Demographic Group	Number of Respondents	% of total
Age		
5-18	21	6%
19-25	65	18.6%
26-45	150	43%
46-65	90	25.8%
66+	23	6.6%
Gender		
Female	195	55.9%

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Male	151	43.3%
Non-binary	1	0.3%
Not specified	2	0.6%
Borough		
Bolton	32	9.8%
Bury	39	11.8%
Manchester	60	17.2%
Oldham	31	8.9%
Rochdale	27	7.5%
Salford	27	7.5%
Stockport	36	10.3%
Tameside	24	6.9%
Trafford	36	10.3%
Wigan	37	10.6%
Ethnicity		
White British	307	88%
Asian, Asian British or Mixed White and Asian	17	4.9%
Black African, Black Caribbean, or White and Black African/Caribbean	8	2.3%
Irish	10	2.9%
Other (inc. Arab, Gypsy or Irish Traveller, European)	7	2%

Table 2: Sample of comments including the terms *Broad*, *Strong* and *Soft* from the draw-a-map task.

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Label	Comments
Broad	Broad Mancunian.
	Similar to Lancastrian. Very broad. Reit instead of Right as one example.
	Rochdale, broad, flat, cruckle, guinnel, bit more Lancastrian - ey up, blumin eck, less nasal than South Manchester.
	Lancashire. Very broad. Honest, not clever. On the road/ ont road.
	Broad - low, gutteral, farmer, lots of 'uh' sounds.
	Broad, country, farmer, "up t' stairs'" "can of coooooke".
	Broad. Boltonian. Warm and friendly. Strong. Very welcoming and easy to listen too.
	Very northern, broad accent.
Strong	Strong northern.
	Strong accent. Phrases like 'ee ar' are more common - meaning come here, look at this.
	Accents in Salford come across as 'rough' and 'common' but 'strong'. The word 'scally' can even be used.
	north, more ethnically diverse, stronger accent
	Very strong Manchester accent, use words like 'our kid' for their siblings.
	Wigan dialect. I think it is quite aggressive and strong.
	Broad and strong.
Soft	A softer less noticeable form of the traditional Mancunian accent
	Softer but not better.
	Broad but softer and more Mancunian sounding.
	Cheshire-Manc soft accent with less Mancunian characteristics.

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| | Younger generation have a more softer blended accent.

Trafford accent - softer, less broad, less obviously Manchester.

Manc accent however softer and more friendlier. Still can tell you're from the

Manchester area but appears more reformed.

Cheshire accent, soft spoken standard British pronunciation. Clearly annunciate

letters t in words.

In Stockport your accent is 'soft', 'posh' and 'well spoken'. |
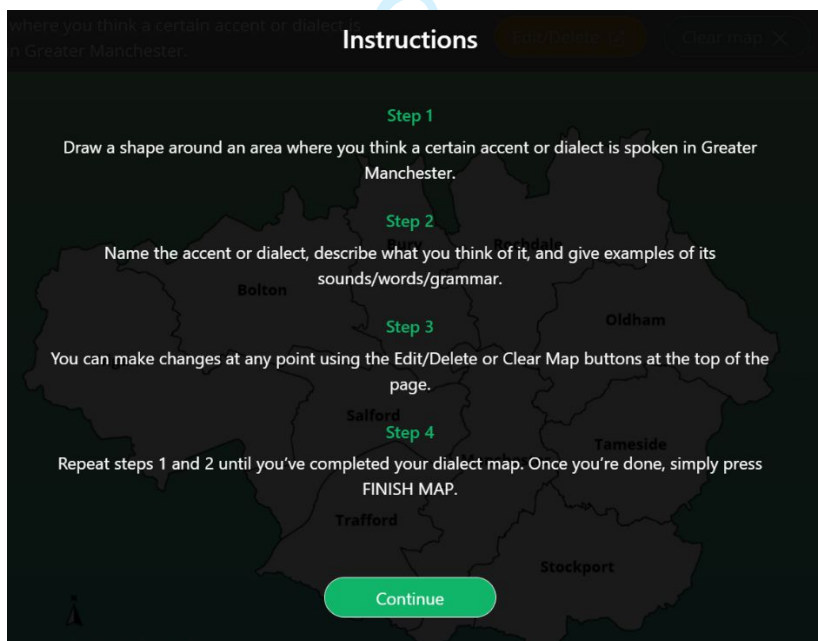
Figure 1: Instruction presented to participants at the start of the task.

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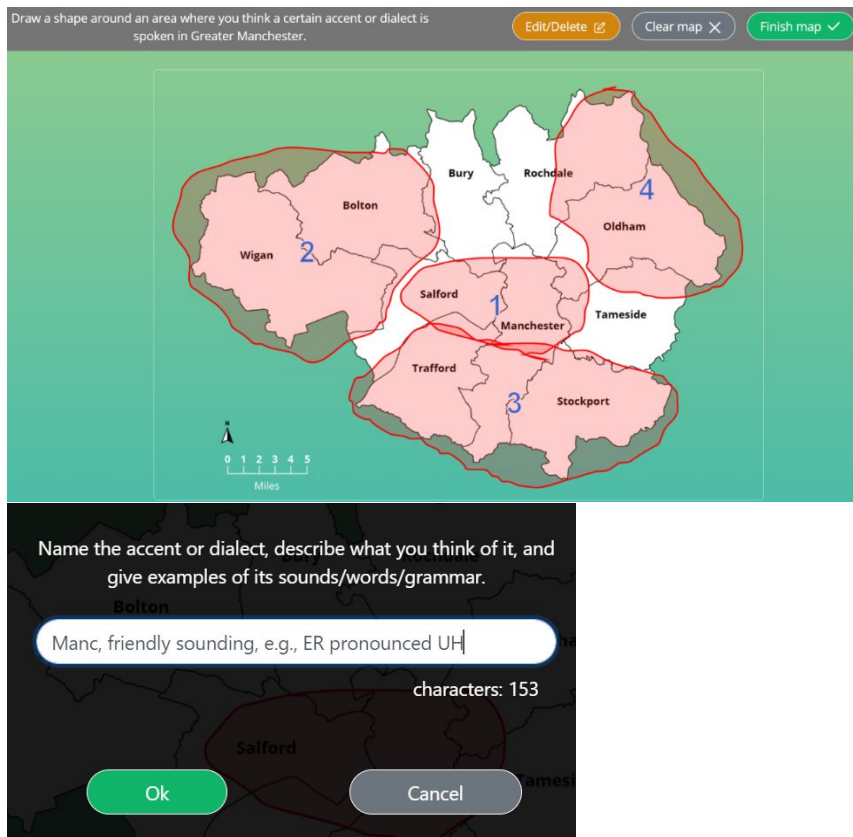
Figure 2: Example of a map in the process of being completed (top), and the comment box

presented to participants after drawing each boundary (bottom).
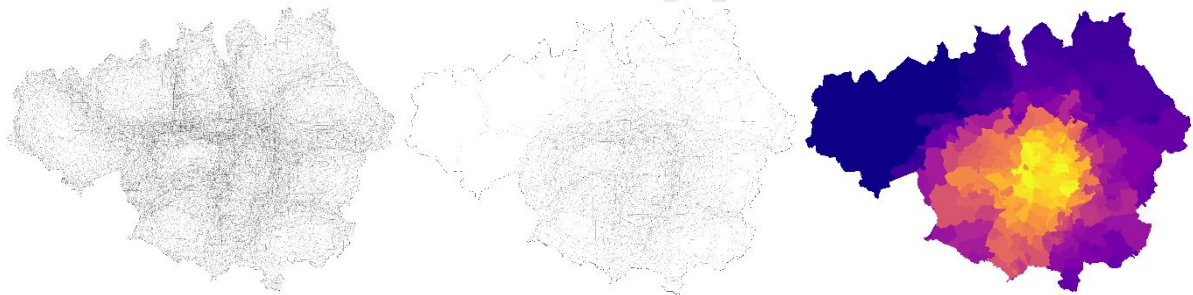
Figure 3: Workflow for the creation of heatmaps using traced 'mental map' boundaries, from a full

set of polygons (left), to a filtered set representing only those labelled as 'Manc' (centre), to a

heatmap coloured according to the Join Count of polygons intersecting within a postcode boundary

(right).[4]

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Map 1: Map of the ten boroughs of Greater Manchester and their location within the UK.[2]

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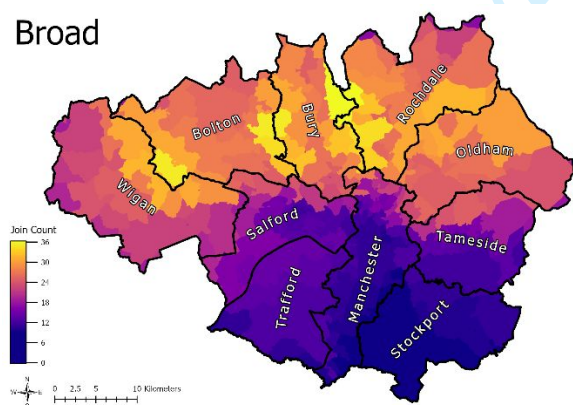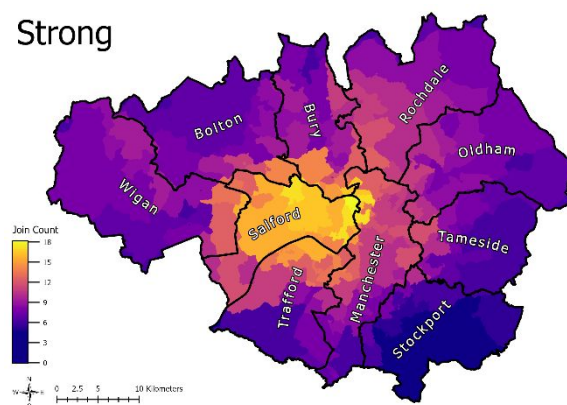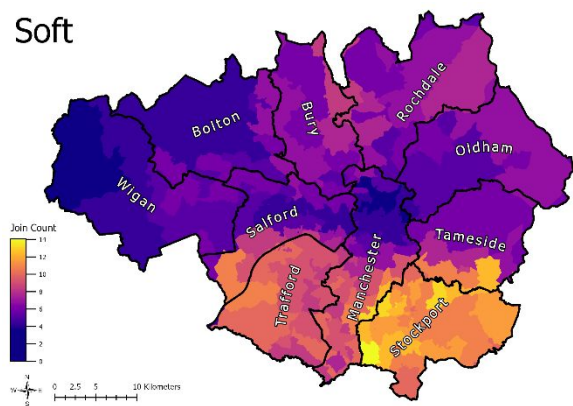
Maps 2, 3 and 4: Heatmaps showing where the labels Broad (top left), Strong (top right), and Soft (bottom) were most used to describe accent/dialect areas in Greater Manchester. Postcode areas are coloured by 'join count', or the number of intersecting boundaries in that area, with yellow being the most.
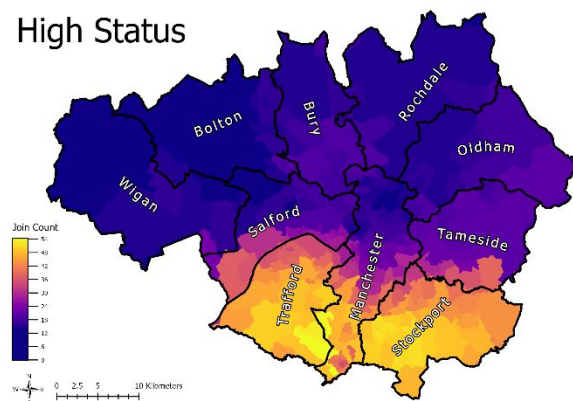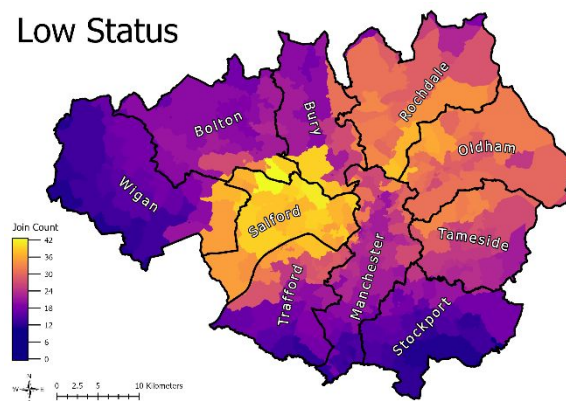
Maps 5 and 6: Heatmaps showing where comments coded as *High Status* (left) and *Low Status* (right) were most used to describe accent/dialect areas in Greater Manchester.
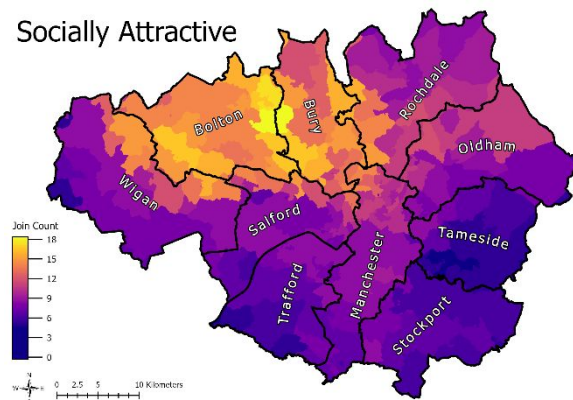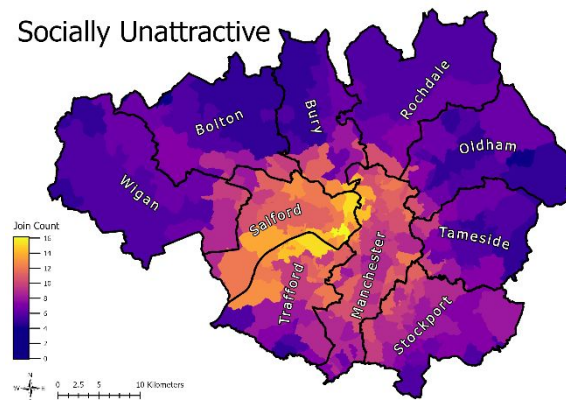
Maps 7 and 8: Heatmaps showing where comments coded as *Socially Attractive* (left) and *Socially Unattractive* (right) were most used to describe accent/dialect areas in Greater Manchester.

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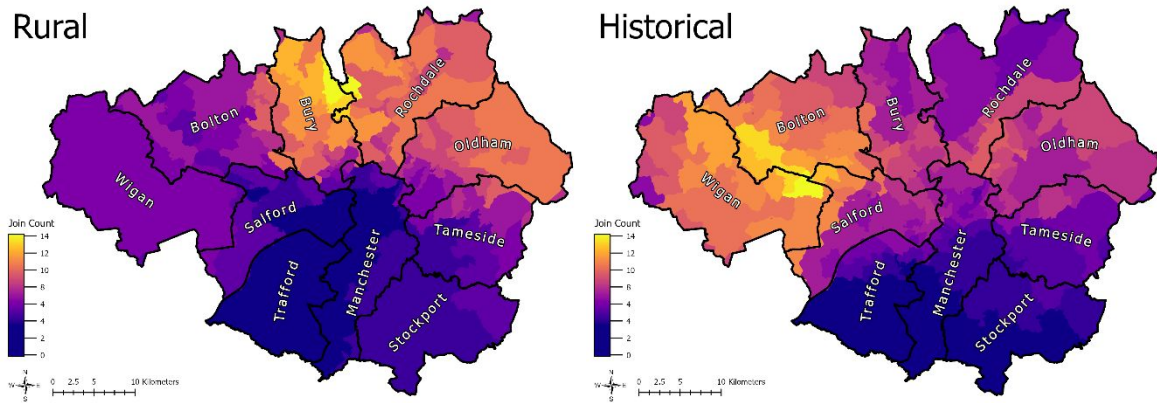
Maps 9 and 10: Heatmaps showing where comments coded as *Rural* (left) and *Historical* (right) were

most used to describe accent/dialect areas in Greater Manchester.

Broad
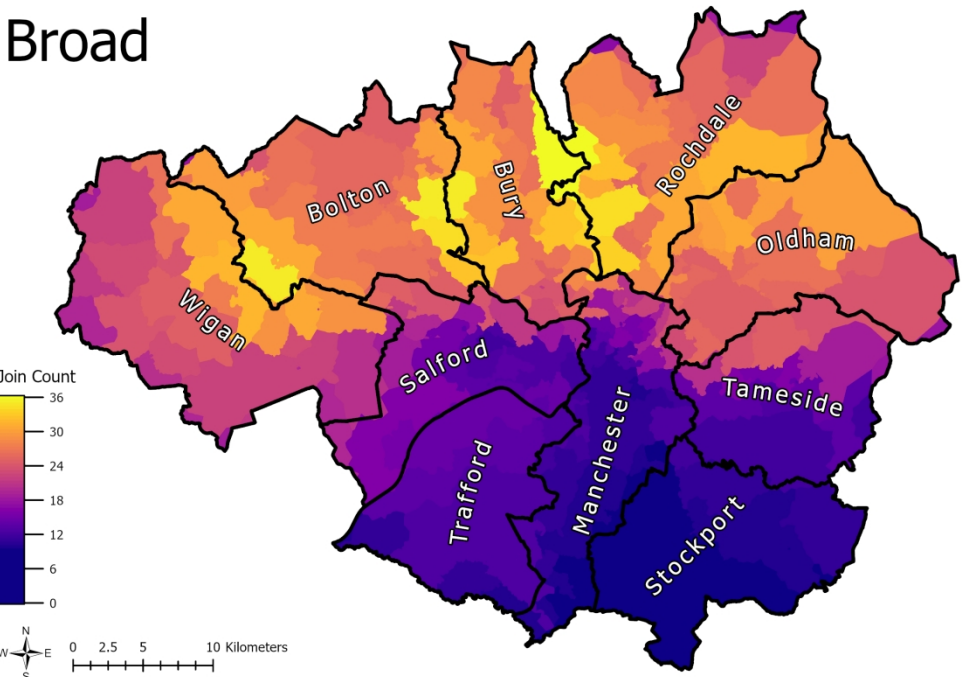
533x376mm (118 x 118 DPI)
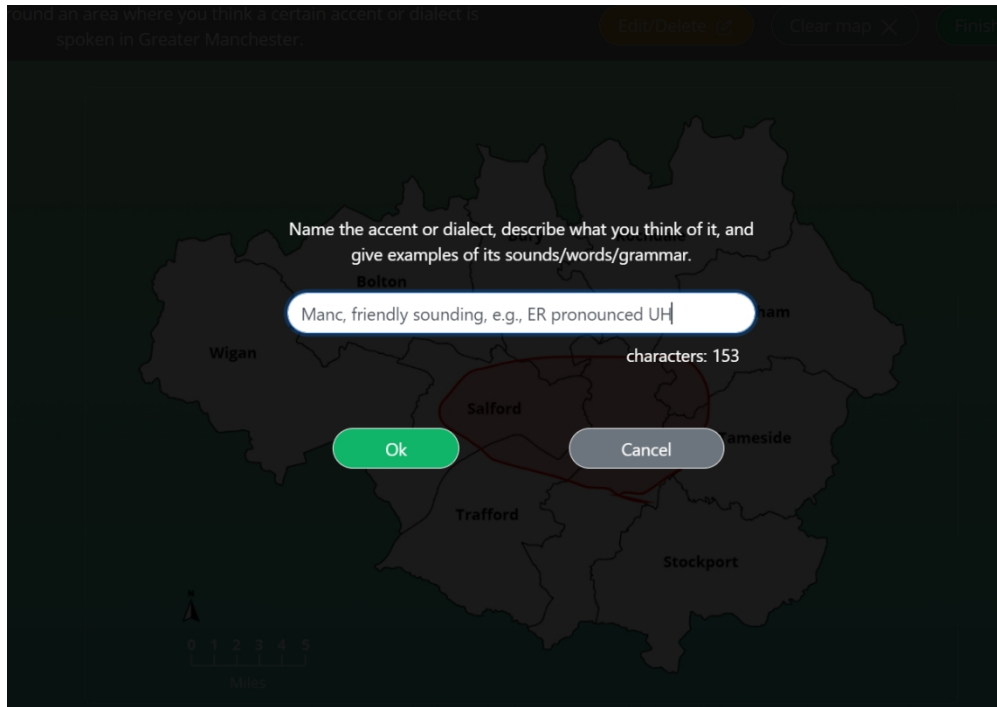
559x394mm (57 x 57 DPI)
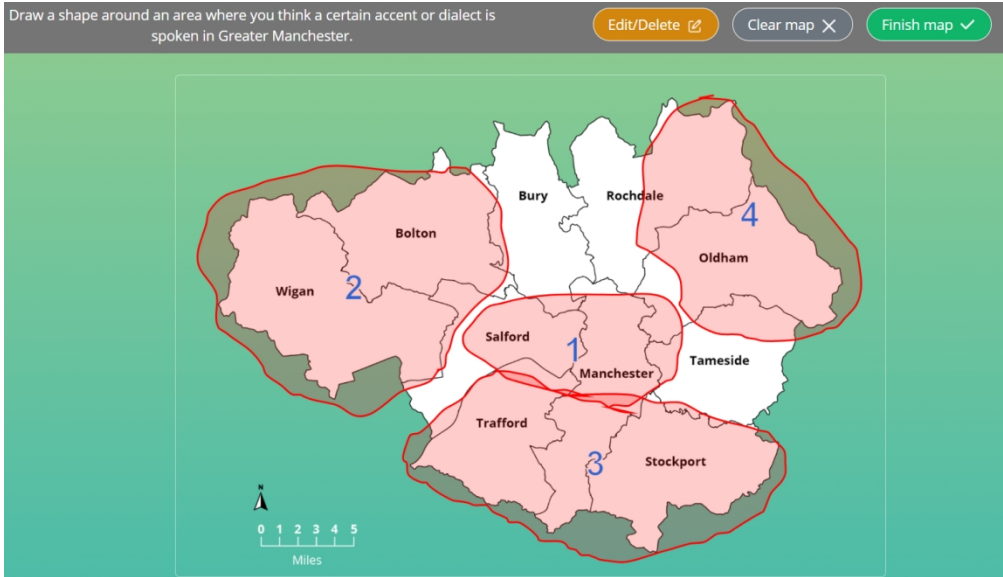
687x396mm (57 x 57 DPI)

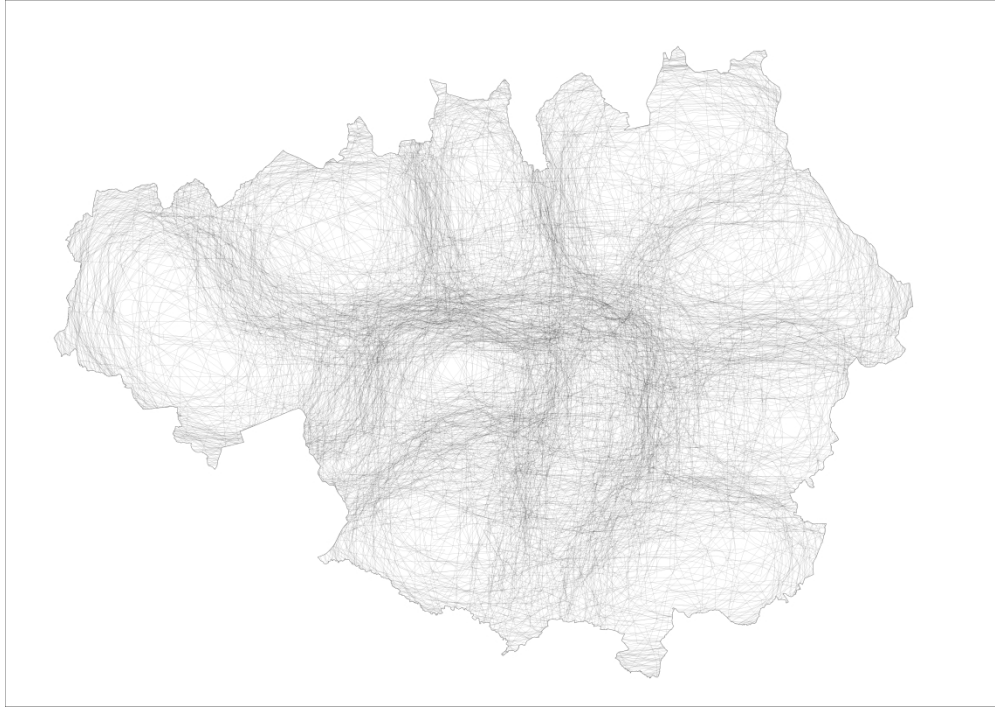1510x1067mm (118 x 118 DPI)

High Status

533x376mm (118 x 118 DPI)
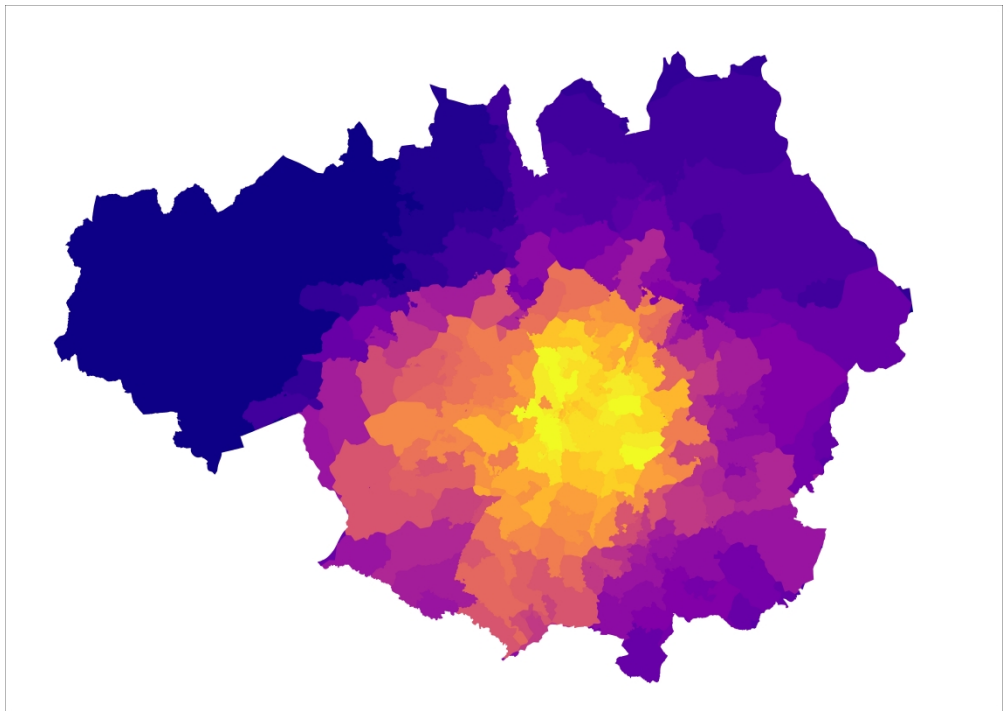
533x376mm (118 x 118 DPI)

518x401mm (57 x 57 DPI)

533x376mm (118 x 118 DPI)

1510x1067mm (118 x 118 DPI)

1510x1067mm (118 x 118 DPI)

1510x1067mm (118 x 118 DPI)

533x376mm (118 x 118 DPI)

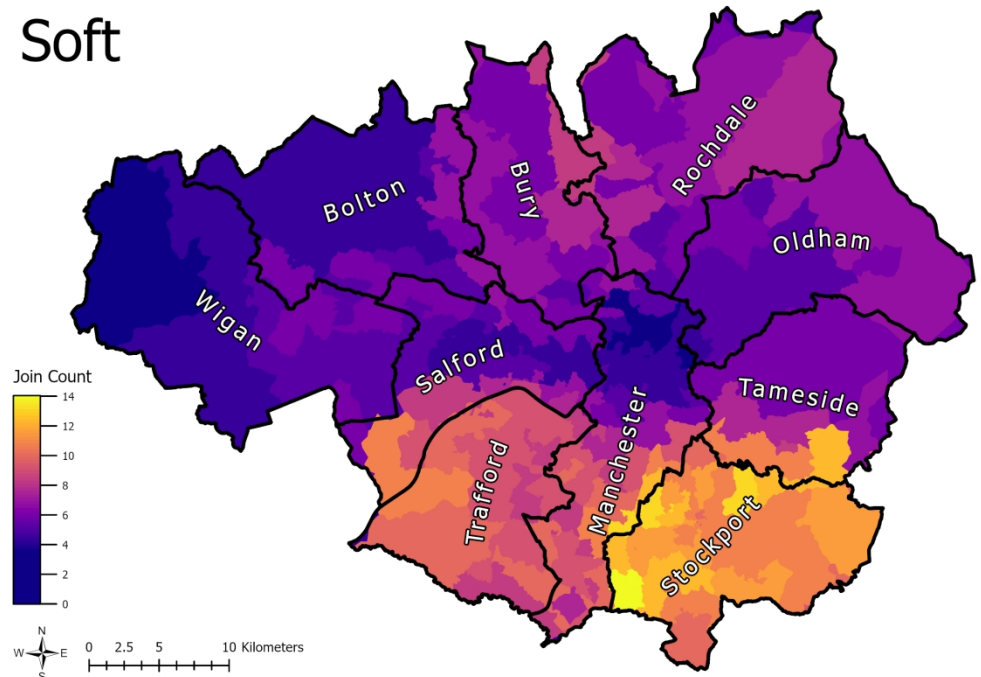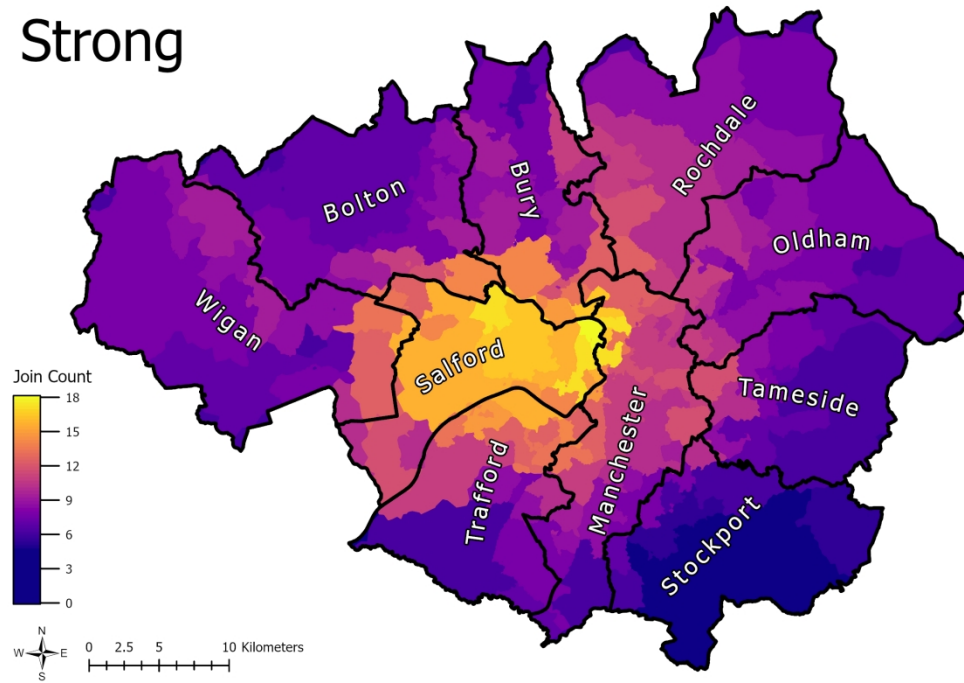533x376mm (118 x 118 DPI)

Socially Unattractive
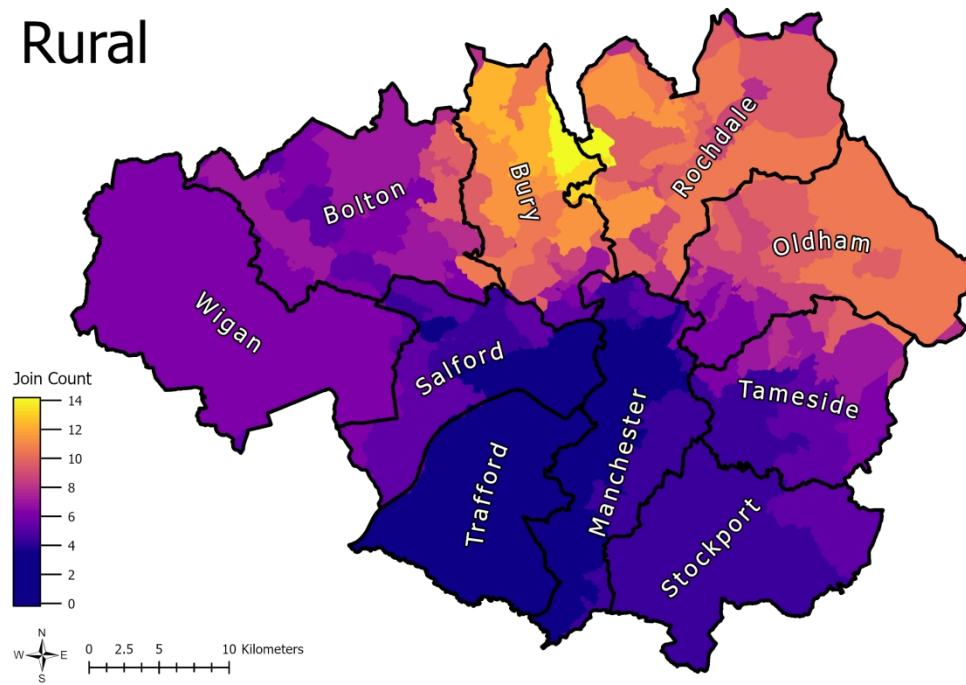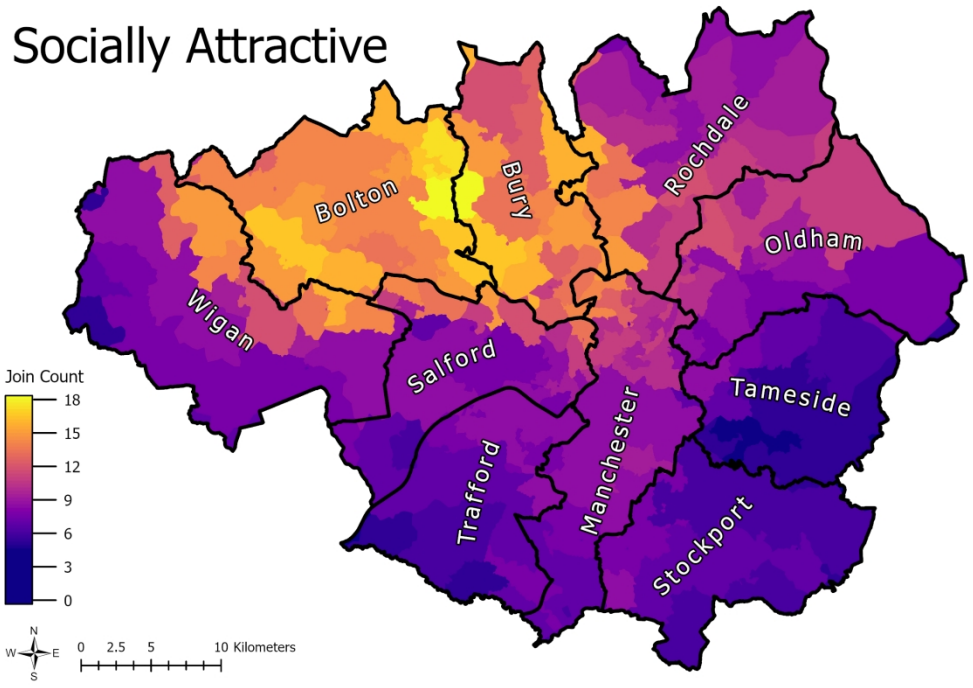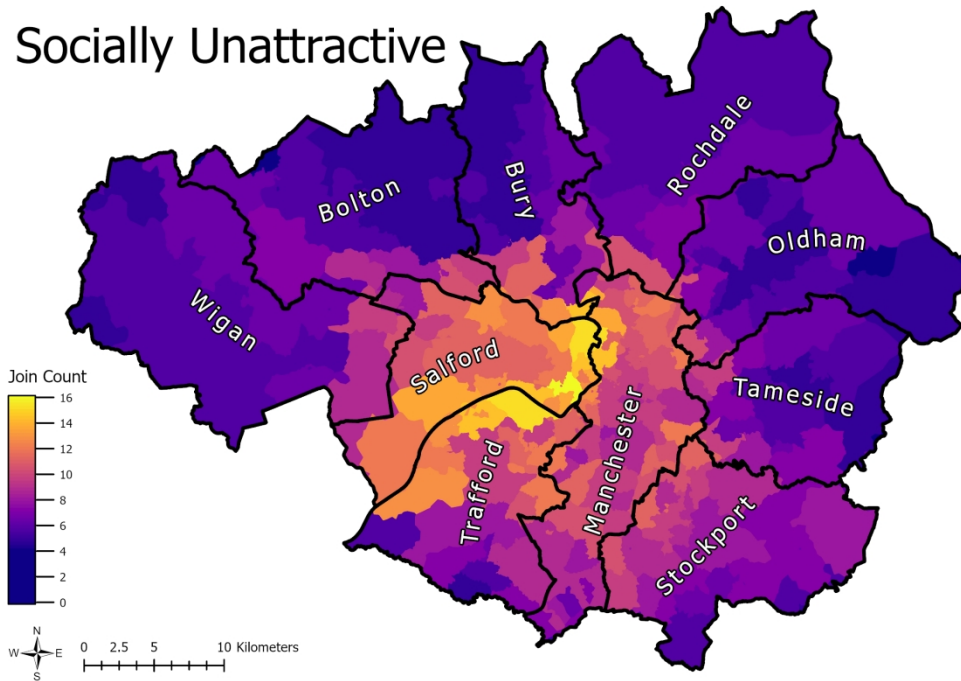
533x376mm (118 x 118 DPI)

533x376mm (118 x 118 DPI)

Strong

533x376mm (118 x 118 DPI)