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Hostility of lived environment as a determinant of immigrants' life satisfaction

Case of England and Wales

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Abstract

Migrants' wellbeing is affected by those around them and the context in which they live. Yet we still know relatively little about the impact of attitudes to immigrants (ATI) on migrants' life satisfaction, nor the routes by which it manifests. Using individual data from the UK Understanding Society study matched to area-level data on ATI for England and Wales from the European Values Study 2018, I ask whether subnational attitudes to immigrants are associated with migrants' life satisfaction. If so, on which geographical level, and is it possible to identify the mechanisms through which this association operates? By exploiting different geographical scales at which ATI are aggregated, I show within-country variation in ATI. Controlling for contextual- and individual-level characteristics, I find that migrants' wellbeing is sensitive to the being exposed to non-migrants' negative ATI on a regional level but not at the municipal level. Theoretically identified mechanisms (local social cohesion and ethnic composition) are not drivers of the association and that in interethnic friendships moderates it. Further I show that ATI are a measure of environment rather than a function of intergroup contact/exposure and that the whole makeup of the ATI in an area is more important that the most negative attitudes. I discuss the implications of these findings.

Key words: subjective wellbeing, contact theory, attitudes towards immigrants, immigrants' integration

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1. Introduction

Understanding the subjective wellbeing of immigrants is an important contemporary issue. Firstly, migrants' life satisfaction[1] is a measure of a particular individual's experience, which tells us about a migrant's ability to live successfully and happily in the destination country. Secondly, when we focus on immigrants as a group, their wellbeing and the conditions that improve or diminish it become an indicator of a country's success in creating functional integration policies and providing support to the migrant population.

The effective integration of immigrants is a key issue in Western European countries due to the growing shares of settled migrant populations (Hendriks and Bartram 2018). Integration is typically examined in terms of migrants' success on objective measures, such as educational attainment in the destination, earnings, or mastery of the language (Vervoort, Dagevos, and Flap 2012; Bartram 2010). Increasingly, it is argued that integration should (also) be assessed according to subjective criteria such as life satisfaction (Hendriks and Bartram 2018; Jenkins 2019). Such measures may better reflect an immigrant's own evaluation of the success or otherwise of their migration project (Baykara-Krumme and Platt 2018). In addition, life satisfaction does not necessarily correlate with success or failure in objective criteria. For example, Bartram (2010) finds only a weak association between the total income of immigrants and their self-assessed life satisfaction. This raises the question of whether objective (particularly economic) measures are enough to assess the success of individuals' migration projects. To identify what contributes to migrants' own sense of success in the destination country, we need to understand what additional factors influence their life satisfaction.

[1] While being aware of the nuances between terms *subjective wellbeing* and *life satisfaction* and the discussion of these terms in the wider literature, for the purpose of this research I am using them interchangeably.

I analyse the relationship between immigrants' expressed life satisfaction and local non-migrants' attitudes towards immigrants (ATI). One key influence on wellbeing is the environment in which migrant populations live. Integration is a two-way process (Klarenbeek 2021), and a welcoming or hostile environment can affect individuals' ability to integrate. Hostile environments are associated with social isolation (Maggio, 2021), migrants feeling like outsiders (Berry, 1997), and their perceived and/or experienced discrimination leading to lower wellbeing and worsened mental health (Nandi, Luthra, and Benzeval 2020). Without an environment that promotes (positive) contact with non-migrants, migrants cannot acculturate to the new society (Vervoort et al., 2010). Therefore, it is crucial to look at immigrants' wellbeing and how non-migrants can affect it.

The direct effect of non-migrants on migrants' wellbeing is neglected in current literature. The research that considers non-migrants tends to take the perspective of methodological nationalism and treats non-migrants in a country as a homogenous group (Kogan, Shen, and Siegert 2018; Heizmann and Böhnke 2018). Most research on migrants' wellbeing explains its variation through the migrants' individual perceptions of discrimination or non-migrants' behaviour towards them. These tend to be associated with immigrants' lower wellbeing (Kirmanoğlu and Başlevent 2013; Safi 2010; Vohra and Adair 2000; Verkuyten 2008; Obućina 2012). However, measures of perception of discrimination capture negative contact, but as they are perceptual, they might be endogenous to other subjective measures such as wellbeing. Another approach uses proxy measures of contact, which rely on the assumption that contact occurs when migrants and non-migrants are in the vicinity and that they affect each other (Sapeha 2015; Knies, Nandi, and Platt 2016). These studies employ measures such as ethnic composition or foreign population levels. Proxy measures have greater potential to capture contact and exposure to non-migrants, but they generally lack information about whether the interaction is positive or negative.

I consider local ATI to be a preferable measure of exposure to non-migrants. Local ATI overcomes limitations of previously used measures of non-migrants' effect on migrants' wellbeing in three other ways. Firstly, ATI are not endogenous to wellbeing. Put differently, an individual migrant's wellbeing is unlikely to affect ATI in an area. Secondly, they potentially capture non-migrants' responses and behaviour to immigrants beyond specific types of behaviour (e.g., voting). With the exception of isolated migrant groups, immigrants encounter destination country population daily in many different situations. To capture and measure them all would be impossible. Thus ATI provide a more general description of migrants' lived environment. Lastly, local ATI allow us to observe the differences in non-migrant's attitudes across a country.

Migrants experience the attitudes through contact and exposure to non-migrants by having them as friends, being neighbours, living in the same area and experiencing daily encounters, and simply by residing in the same spaces, neighbourhoods, or regions with non-migrants. All these channels of exposure can therefore be associated with better or worse wellbeing. However, the results on the direction of associations are inconclusive in the previous literature and differ across different studies, which might be explained by diversity in character of contact or degree of exposure across them. The character' of contact/exposure relates to whether it is positive or negative. I capture the character of contact using ATI on local and regional levels and test some of these mechanisms.

I use a nationally representative study of the UK with large samples of migrant groups, which contains a rich set of individual-level measures, including data on life satisfaction and measures of attachment to the neighbourhood, friendships, and local ethnic composition (mechanisms). Using regression models, I estimate the association between local and regional aggregated ATI and self-reported life satisfaction and then compare estimates for different

geographical scales. Multiple levels of ATI allow me to identify which of these theoretical channels of exposure influence the association with life satisfaction and, thus, which are its potential drivers. Multiple levels also show the subnational differences in the migrants' relation to their environment.

I find ATI are associated with subjective wellbeing on the regional level, but that this association is not moderated by the potential channels I explore (local social cohesion and ethnic composition), except for interethnic friendship.

2. Background

The life satisfaction of immigrants depends on the same determinants that impact the life satisfaction of native populations, e.g., age, relationship status, or employment (Dolan, Peasgood, and White 2008; Kogan, Shen, and Siegert 2018; Luttmer 2005). However, factors unique to immigrants' specific life experiences also contribute to their life satisfaction. For example, identifying with the destination country, the ability to fulfil motives to migrate, higher level of integration and more opportunities to integrate, and perceived and experienced discrimination (Crul and Schneider 2010; Hendriks and Bartram 2018; Vohra and Adair 2000; Safi 2010). Many of these factors are linked to migrants' social relations and their lived environment in the destination country. This includes the networks and (in)groups of which they are members (Arpino and de Valk 2018; Sapeha 2015), their contacts (Sapeha, 2015), and exposure to non-migrants and spaces, which are occupied by migrants and non-migrants simultaneously (Kirmanoğlu and Başlevent 2013; Hellgren 2018; Knies, Nandi, and Platt 2016; Wiedner, Schaeffer, and Carol 2022).

There are two important determinants of the effect of non-migrant/migrant exposure on individuals and their wellbeing. First is the extent of exposures, which may depend on several aspects: own-group concentration, interethnic mixing, societal diversity, one's social contacts. Second, there is the character of these exposures.

Character of exposure

Intergroup contact theory (Allport 1958; Pettigrew and Tropp 2011) suggests, and empirical research on migrant and non-migrant samples shows (Laurence, Schmid, and Hewstone 2018), the character of exposure or contact can be positive, negative, or ambiguous. Therefore, this exposure could affect certain aspects of immigrants' lives positively,

negatively, or to varying magnitudes. Thus, distinguishing the character of contact/exposure is essential in determining the direction of the effect on the relationship between groups (Allport, 1958). The same seems to be true also in research on migrants' wellbeing. Existing studies show that negative attitudes and behaviours towards migrant groups link to their mental and physical wellbeing. For example, Kogan, Shen, and Siegert (2018) in a comparative study of 18 European countries, argue that more racist ATI threaten migrants' wellbeing.

Nandi, Luthra, and Benzeval (2020), found that the experience of harassment worsened the mental health of immigrants in the UK and increased their anxiety. Perceived discrimination is an explanatory factor of lower life satisfaction for immigrants globally (Safi, 2010; Vohra & Adair, 2000). For example, Schilling and Stillman (2021) show that exposure to far-right mobilization negatively impacts asylum seekers' integration, and Wiedner, Schaeffer, and Carol (2022) demonstrate its impact on the wellbeing of migrants in Germany. This is especially true for skilled migrants (Knabe, Rätzel, and Thomsen 2013).

On the other hand, Kogan, Shen, and Siegert (2018) link warmer national level ATI with higher reported life satisfaction of migrants. Similarly, qualitative studies argue that if areas in which migrants live are more inclusive, it helps fight against migrants' negative feelings of disintegration and detachment from local regions (Hellgren 2018), which are factors linked with migrant life-satisfaction (Amit 2010).

A common feature of research using character of contact is the use of subjective measures – perceived discrimination (e.g., feeling of being discriminated, self-assessed belonging to a discriminated group) or specific behaviours of non-migrants (e.g., voting patterns, experienced discrimination). There are two main reasons why measures capturing migrants' perceptions might inadequately describe or bias the information about migrants' lived environment. First, there are issues with the measurement: they only capture negative

perceptions, and they might be endogenous if related to other subjective measures like wellbeing. Second, there are issues with the data collection: The survey questions might be too specific and thus only collect information about particular encounters. Immigrants might not feel comfortable answering these questions. Some might not experience/perceive discrimination aimed at themselves, but still be affected by experiences of their fellow migrants. For instance, Hopkins et al. (2016) show very little geographic variation in perceived discrimination in the US despite differences in residents' behaviour and attitudes regarding immigrants. They suggest perceived discrimination might not be perceived in the immediate environment, it is unclear what are its triggers or that it might be de-coupled from non-migrants' behaviour. Therefore, we do not have unbiased data from sufficient samples of immigrants to generalise their experiences to reliably describe the environment in which they live and how it relates to migrants' experience. Measures capturing non-migrants' behaviour have greater potential to partially describe the environment than measures of perceptions. However, non-migrants might influence migrants beyond the effect of a particular behaviour (such as voting preferences or support of a specific political party). Example of such a behaviour could be having a Brexit bumper sticker, wearing an 'immigrants welcome' pin, or asking an individual with an accent where they are from. It is difficult to capture the non-migrants' general behaviour (sum of all their actions) using these narrowly specified measures. They also do not indicate how such behaviours are actually observed or experienced by migrants. Thus we lack a comprehensive understanding of the association between the character of contact/exposure and subjective wellbeing.

Extent of exposure

Migrants can experience exposure to non-migrants at multiple levels – personal contact, neighbourhood, workplace, commute, formally in institutions, and others. The local area where

individuals live is, besides their workplace, one of the two primary contexts where people spend much of their daily lives (Laurence, Schmid, and Hewstone 2018). Therefore many of these exposures to 'others' occur in their residential locality (Laurence 2013). However, investigating whether higher and lower migrant/own-group composition in local areas positively or negatively impacts migrants' wellbeing has proved inconclusive. In 2011 a research study on 15 western and southern European countries showed a strong correlation between life satisfaction and local ethnic diversity for the whole sample of the migrant and non-migrant population. The reported wellbeing levels were significantly lower in more ethnically diverse neighbourhoods (Davies et al. 2011). This research compared migrants to non-migrants and showed a similar relationship between life satisfaction and ethnic composition. The authors suggested that increased ethnic diversity is connected to ethnic and religious tensions. Especially in the UK, significant differences in life satisfaction were measured not only when comparing regions with low and intermediate levels of diversity (as in other countries in the study) but also between regions with intermediate and high levels of diversity, suggesting that UK residents are more sensitive to any changes in their local environment.

However, Knies, Nandi, and Platt (2016) do not find this pattern. Using UKHLS data, they find variation in the association between life satisfaction and own-group ethnic concentration. Some groups (Pakistani immigrants) report lower life satisfaction, while others (Black Africans, second-generation Indians) report higher. A recent German study, using a novel dataset including measures of ethnoreligious density presented by places of worship and ethnic grocers and businesses, links higher wellbeing with higher ethnic concentration and ethnoreligious density, especially for immigrants of non-European background (Wiedner, Schaeffer, and Carol 2022). In contrast, immigrant regional concentration is negatively

associated with the life satisfaction of immigrants in Canada (Sapeha 2015). The same study shows that migrants with more interethnic friendships are more satisfied.

The generally accepted explanation of differences in these results is that some groups benefit from own-group concentration in the form of protection (Cobb et al. 2019), whereas others benefit from exposure to the destination country culture and non-migrants as it speeds up their integration process. Furthermore, this relationship may vary over time. For example, life with a migrant's own-group might bring initial benefits such as developing skills in the new environment and building networks. Later on, it may be an obstacle to developing better economic standing (Musterd et al. 2008), language proficiency (Vervoort, Dagevos, and Flap 2012), or links with natives (Vervoort, Flap, and Dagevos 2010).

However, the association might also be explained by whether migrants are exposed to hostile or welcoming environments, as suggested by the research on the character of contact. We cannot confirm this assumption because the extent of exposure and its character are studied separately. Firstly, proxy measures of the volume of exposure, such as neighbourhood diversity, ethnic composition, or foreign population rate, do not capture the character of contact/exposure. Secondly, the research on the character of contact produces results not generalisable on all the migrant populations, but only those self-assessing as being discriminated against/members of such groups. The combination of these two factors causes a gap in our knowledge.

Therefore, in this study, I employ non-migrants' ATI as a measure of exposure which is also capturing its character. As Reitz (2002) formulates it, ATI provide a framework, a set of pre-existing boundaries, within which integration in the destination country occurs. Thus, I assume the measure of ATI encompasses behaviours towards immigrants to some extent. This includes behaviour such as voting but also more subtle expressions of pro/anti-migrant

behaviour, which would be hard to capture in other ways. The ATI might also be seen as a proxy for the legal regulations and policies, which they informally create by influencing the policy makers (Reitz 2002). However, one of the advantages of ATI is that while it encompasses other behaviours, irrespective of that, it is an important measure on its own. Migrants might be affected by ATI even if they are not acted upon, simply by knowing them. For instance, EU migrants feel more fearful in the UK after the Brexit referendum despite no evidence in the increase of intergroup violence (Nandi and Luthra 2021). The results of referendum informed immigrants about these particular attitudes. However, the election results are not the only way for immigrants to observe the ATI of non-migrants, considering they are in touch daily.

As I expect ATI to be related to subjective wellbeing, I investigate the mechanisms which expose immigrants to non-migrants' ATI. I test two widely employed determinants of subjective wellbeing, which characterise migrants local lived environment - ethnic concentration and social cohesion and their role in the association between life satisfaction and ATI (Knies, Nandi, and Platt 2016; Davies et al. 2011; Laurence and Bentley 2016). Additionally, I investigate the role of intergroup friendships. While these might not be linked with the local environment, they are an indication of an individual's socialisation outside of their own-group and thus of intergroup contact, which might influence the association with non-migrants' ATI. Positive intergroup contact is a known determinant linked with understanding between groups (Pettigrew and Tropp 2011). Having such friendships could mean the ability to understand other's circumstances and be a predictor of immigrants being less concerned about non-migrants' ATI.

Attitudes towards immigrants and their aggregation

While ATI are a well-researched phenomenon from the perspective of non-migrants (Davidov et al. 2019; Meuleman, Davidov, and Billiet 2009), they are under-researched from the perspective of migrants (Ramos et al. 2019; Becker 2019). Non-migrants' ATI are even more rarely employed as a determinant in research analysing immigrants. Two cross-national studies explore the effect of ATI on immigrants (sourced from the European Social Survey). First, Heizmann and Böhnke (2018) use ATI to measure symbolic boundaries between the native and immigrant populations. The second is a study by Kogan, Shen, and Siegert (2018) focused on welcoming environment. They measure it through both aggregated ATI (ESS data) and integration legal regulations and policies (MIPEX data).

While both of these studies confirm an association between wellbeing and ATI, both are international comparative studies and their unit of analysis is a nation-state, thus the ATI aggregation is on a broad level. Kogan, Shen, and Siegert (2018) test two determinants of wellbeing: 1) ATI and 2) integration policies. The legal regulations should be a better measure on the national level, as they do not vary across the country. Nevertheless, the authors refute the hypothesis that regulations are linked with wellbeing and only show an association between wellbeing and ATI, which have a high cross-country variability.

Considering these research studies do not factor the variability, I suggest their results show a need to analyse the association with ATI on a more granular level: we do not know whether the within-country variation in attitudes is relevant for migrants' life satisfaction. Nor do we understand whether differences in life satisfaction are consistent with the theoretical mechanisms through which immigrants might experience attitudes, as well as the factors that might mediate these associations.

In this study, I therefore aggregate the ATI on two spatial levels: 1) local (NUTS3 – comparable to Local Authority Districts (LAD)) and 2) regional (NUTS1/Government Office Region (GOR)). When aggregating attitudes, I presume they drive behaviour (Schuman, Steeh, and Bobo 1985) and, more specifically, ATI drive behaviour towards immigrants (Malloy, Ozkok, and Rosborough 2021). Therefore, I consider different aspects of non-migrant behaviour towards immigrants, most importantly, when and how specific behaviours may manifest and be experienced by migrants.

I choose to employ the local level for two reasons. First, it is a relatively small area level. It is reasonable to assume immigrants spend a majority of their everyday life and thus experience most of the daily interactions, whether with locals or immigrants within that area. Secondly, while governance of immigration is based on the national or international level, the governance of integration is increasingly local (Glick-Schiller and Çağlar 2009; Hackett 2015). This recent "local turn" (Zapata-Barrero, Caponio, and Scholten 2017) in the governance means immigrants are increasingly more affected by their local environment and governments, consisting of and elected by (primarily) non-migrants. Thus research on the relation between lived environment and immigrants also has to focus on this level. The focus on subnational levels also overcomes the issues of methodological nationalism and shows diversity within a country instead of treating it as a singular homogenous unit (Glick-Schiller and Çağlar 2009). LAD is a policymaking level in the UK, which means that residing in a particular district can specifically affect one's life.

There are two issues that arise with the use of LAD level of aggregation. The methodological issue is a small sample size of immigrants in the UKHLS data on this level. The small sample sizes may lead to an increased margin of error and a lack of statistical power. I attempt to adjust for this by excluding units with too small samples, which prevents me from

analysing all the LAD units, and my analysis covers only a limited and selected part of England and Wales, specifically urban areas. Therein arises the second issue of intergroup relations in these areas. Research shows residents in more urban areas might be disengaged from others, especially strangers (Zeeb and Joffe 2021). This might show up in the analyses as both migrants' and non-migrants' might be ignorant towards the other group. Conversely, I might observe person-positivity bias, when individual's negative attitudes towards an abstract outgroup do not translate into hostility to its member (Iyengar et al. 2013; Sears 1983). Person-positivity bias would mean disassociation between (negative) ATI and (hostile) behaviour and thus I would not observe the association. The higher population density and migrant concentration in local urban areas might create conditions for this bias to occur. Therefore, I conduct the analysis also employing the GORs. Regional aggregated data does not measure the proximate environment of an individual so well as the LAD. Regions are, nevertheless, distinct enough to capture the specifications of the environment in which an individual lives (e.g., Devon is more comparable with Cornwall, which is in the same GOR than with Essex or Northumberland, which are in other regions).

Existing theoretical and empirical research also supports the use of multiple levels of analysis. There is no agreement on the most appropriate spatial level for measuring interethnic interactions (Petrović, van Ham, and Manley 2018): exposure to others changes in different locations and with various scales (Manley, Flowerdew, and Steel 2006) depending on the characteristics of particular areas. This suggests individuals may experience a different environment moving among regions. My research design allows me to capture potential inter- and intra-regional diversity and fully capturing the character of the environment in which an individual lives.

Many studies discuss the neighbourhood areas and effect on immigrants (Knies, Nandi, and Platt 2016; Wiedner, Schaeffer, and Carol 2022). I decided against engaging them and the neighbourhood effect theory. There is a chance that using such a small level could cause endogeneity in my explanatory variable. Contact theory shows that attitudes of individuals are affected by (the lack of) intergroup contact. The life satisfaction of immigrants living in these small units could affect the ATI of non-migrants at the neighbourhood level, and thus be responsible for the variation in ATI, which could cause reverse causality. Choosing higher granularity allows me to assume that the aggregated ATI are not directly influenced by the life satisfaction of immigrants in those areas.

The study setting

The setting for my study is the UK. As Platt and Nandi (2020) argue, the research of the UK can show a considerably complex portrayal of migrants' experiences. There is substantial demographic and socioeconomic diversity within and between migrant groups and long immigration history. This means a long experience of non-migrants with immigration and enables me to compare the wellbeing of diverse migrant groups and cohorts. Moreover, a substantive and growing body of literature is centred in the UK. It focuses on the experience of immigrants, including research studies examining issues similar to the topic of this paper, such as their health and mental health (Nandi and Luthra 2018) integration and interethnic relations (Berrington 2018; Wright 2011; Burgess and Platt 2018) and life satisfaction (Knies, Nandi, and Platt 2016). This allows me to place my findings in the broader context of research on migrants' and minorities' wellbeing, and integration.

The pool of identified wellbeing determinants is naturally greater than the focus of this work. While I recognise them and their cumulative effect on the wellbeing, I don't aim to offer a comprehensive analysis of all those determinants but rather to enhance our understanding of

how far and through which channels immigrants' environment shapes their life satisfaction. I focus on the potential of an under researched existing measure (ATI). In my analysis I control for some but not all of the determinants, which might influence the association of interest.

I investigate the association on two area levels. On the more granular local level, I employ as mechanisms of exposure two area-specific determinants: ethnic composition and social cohesion. I assume the variation in their effects on the wellbeing described in the existing research is linked with differences in the local/regional ATI (Sapeha 2015; Knies, Nandi, and Platt 2016; Davies et al. 2011). I hypothesise that migrants exposed to higher share of white British citizens are also exposed to more negative ATI which has a cumulative effect and leads to lower-reported life satisfaction. Cross-sectional studies argue that diverse local environment (the extent of exposure to others) leads to negative outcomes on community (Davies et al. 2011). Laurence and Bentley (2016), presenting their longitudinal analysis results, argue that preferences for or against the outgroup neighbours (in a sense the quality of the intergroup relations) may be the underlying reason for the varying impact of diversity on social cohesion. I hypothesise there is a potential for the same cumulative effect: individuals living in the areas with higher social cohesion are exposed to more positive ATI and report higher life satisfaction.

Additionally, I employ share of interethnic friendships as a mechanism. Previous research acknowledges their moderating effect on the association between environment and wellbeing (Laurence, Schmid, and Hewstone 2018; Sapeha 2015). I hypothesise weaker association between ATI and wellbeing for individuals with interethnic friendships. I employ this mechanism also in the model using regional ATI.

I expect the relationship between (more negative) ATI and (lower) wellbeing to be stronger on a more granular level. The measure of local ATI maps area closest to an

individuals' home and I expect them to spend majority of time there, I expect they can more strongly correlate with life satisfaction.

3. Data and methods

Data and sample

I use Understanding Society - the UK Household Longitudinal Study (UKHLS) wave 9 (University of Essex 2020), matched at the area level to aggregate measures derived from the European Value Survey 2018 (EVS 2021).[2]

The UKHLS is the UK nationally representative longitudinal household panel survey, which collects data from all adult (16+) members of approximately 40,000 households, covering around 100, 000 individuals. Each adult member of a household is asked core questions in a face-to-face interview and through a self-completion online survey each year, supplemented by rotating modules. It is not only a representative study but also includes an Ethnic Minority Boost sample (since 2009) and a subsequent Immigrant and Ethnic Minority Boost sample (since 2014) to enable analytical subsample sizes and updated representation of minority and migrant groups.

My main analytical sample, and all but explanatory variable, come from the UKHLS wave 9, which was collected in 2017-2019. As I aim to analyse migrants and the local areas where they live, I restrict my sample based on four criteria: 1) to adult (16+ years old) individuals who were born outside the UK, with at least one parent born outside the UK, who at any point of their life migrated to the UK, 2) to those who answered the question about their life satisfaction and 3) to those from NUTS3 units included in the European Value Survey, thus providing the information on the municipal ATI and 4) those in NUTS3 units with enough observations (at least 30 per unit) to conduct the analysis on the local level (N=2 096). All

[2] Data used in this paper are available under restricted access from the UK Data Service and Gesis - Leibniz Institute for the Social Sciences.

other respondents, including those who do not provide a response on where they (or their parents) were born, are excluded from the sample as non-migrants or because it is impossible to define their background. This resulted in streamlining my sample to mostly urban areas. NUTS3 regions are one of three statistical units defined by Eurostat. The size of NUTS3 units is between 150,000-800,000 people. There were in total 8% cases with missing values in individual control variables. Missingness rates range from 0.05% to 3.84%, with the variable education being an exception with 12.83% missing cases. For all but this variable, I use listwise deletion. The variable education is a categorical variable, and I recode missing cases to a category to retain sample size (Appendix 1).

The analytical sample is combined with the European Value Survey, which is an international large-scale repeated cross-sectional survey. It has been fielded every nine years since 1970, covering an increasing number of countries. The targeted national sample varies between 1000-1500 individuals and is representative of the resident population older than 18 years. The EVS uses a probabilistic representative sample, and data are collected mainly via face-to-face interviews with mixed-mode included as an experiment.

The UKHLS wave 9 data are suitable for my analysis because it is one of three waves (waves 3, 6, and 9) that included the neighbourhood module, which I employ in my consideration of mechanisms of exposure. In terms of timing, it is concurrent with the European Value Survey 2018 data, which provides my explanatory variable. The EVS data offer the most recent available source of information on individuals' ATI, which also collect information on respondents' residency on a geographical level smaller than the Government Office Region (Supplemental material (SM) 1).

Measures

Dependent variable:

I measure migrants' subjective wellbeing as their self-reported life satisfaction. This measure is considered as individual's assessment of their life as a whole on a more cognitive level (Veenhoven 2000) and it is widely used in the existing research. I decided against other measures such as happiness as it is considered as a simple measure of day-to-day positive emotion in contrast to life satisfaction (Veenhoven, 2000; Haller & Hadler, 2006). As my focus is on the overall satisfaction with everyday life (Veenhoven, 2012) I avoid using an index of life satisfaction dimensions (eg., job satisfaction). It is measured on a 7-point scale with the question: '*Please choose the number which you feel best describes how dissatisfied or satisfied you are with the following aspects of your current situation: Your life overall.'* The scale ranges from Completely dissatisfied (1) to Completely satisfied (7) (see Table 2).

Independent variable:

My independent variable, attitudes towards immigrants aggregated on the regional and municipal level, derives from the European Value Survey. First, NUTS3 geographical areas, which are comparable to LADs. Some NUTS3 units correspond to LADs, for instance the London Borough of Croydon, while some combine areas a number of LADS, for instance, the NUTS3 unit *Haringey and Islington* combines the London Boroughs of Haringey and Islington. Second, NUTS1 regions or, in ONS terminology GOR (e.g., East of England). This yields 28 NUTS3 ATI values and 10 NUTS1 values.

In the EVS there are five items measuring ATI. There is one question with answers measured on a 5-point scale on the impact of immigrants. Then there is a set of four statement

pairs, where respondent positions themselves on a 10-point scale closer to one they agree with more (Table 1.).

Table 1

Variables measuring ATI in the European Value Survey *questionnaire.*

	Variable	**Scale**	**Scale orientation**	**Included in explanatory indicator**
1	Now we would like to know your opinion about the people from other countries who come to live in Britain - the immigrants. How would you evaluate the impact of these people on the development of Britain?	5-point scale	1 - very bad 5 - very good	In robustness check only
	Matrix of statements	**Scale**	**Orientation of the scale**	
2	Immigrants take jobs away from the British – Immigrants do not take jobs away from the British	10-point scale	1 – completely agree with negative statement 10 – completely agree with positive statement	Yes
3	Immigrants make crime problems worse – Immigrants do not make crime problems worse			Yes
4	Immigrants are a strain on a country's welfare system – Immigrants are not a strain on a country's welfare system			Yes
5	It is better if immigrants maintain their distinct customs and traditions – It is better if immigrants do not maintain their distinct customs and traditions			No

I investigated these five measures using correlation and factor analysis. Based on the results (Appendix 2), I combine variables 2, 3 and 4 into a continuous indicator measuring

attitudes on a 10-point scale on the spectrum from 1 - most negative to 10 - most positive attitudes (Cronbach's alpha = 0.94). I exclude statement 5 as it is ambiguous if it is positive or negative towards immigrants and does not correlate with others. Measure 1, which is differently scaled, is not used in the main indicator. However, I use a rescaled (5-point) index including variables 1 to 4 to check the robustness of results.

On the NUTS3 level, ATI varies between 3.3 and 10 points and on the NUTS1 region between 4.7 and 6.1 (both on 10-point scales). The most positive non-migrants' regional ATI are in the Greater London area. The most negative area is the north of England; however, at the NUTS3 level, variation is high within GOR areas. Thanks to the higher variation on the more granular level I expect a stronger association between ATI and subjective wellbeing, which is in line with my theoretical expectations.

While I use averaging as the method of data aggregation in my main analysis (cf. Heizmann and Böhnke 2018; Kogan, Shen, and Siegert 2018), I run separate models using other methods of aggregation to check for the robustness of results and investigate if the potential association is driven by the most negative ATI in the region (see Robustness checks). Specifically, I aggregate ATI using regional mode, median, and share of the population, indicating the most negative attitudes (1 and 2 on the 10-point scale, where 10 is the most positive)

Control variables

To isolate the association between the negative attitudes and wellbeing from other effects, I employ control variables. Employing individual and regional level controls allows to explain the differences in the strength of association between and within migrant groups. It is clear from both international and UK research that ethnically visible immigrants have lower

life satisfaction (Amit 2010; Safi 2010; Wiedner, Schaeffer, and Carol 2022). Potentially, it is because of different treatment of non-migrants towards them, but it might also reflect lower life satisfaction in countries of origin. I therefore expect variation in the association dependent on the area of origin caused not only by the difference in the extent of exposure but also by the character of contact as non-migrants might hold different attitudes towards various migrant groups. I also control for the origin of immigrants, as there might be self-selection in the settlement of migrant groups and the composition of migrant groups might influence the variation in ATI in specific areas, if they are the dominant (ethnic) minority. I focus on factors that could be linked with life satisfaction, and the non-migrant population's perception of individuals (e.g., cultural background/origin) and/or can expose them to non-migrants (e.g., social activities, being employed). Lastly, I control for individual and contextual factors such as the area's unemployment level and sociodemographic characteristics (Musterd et al. 2008; Paparusso 2018; Vervoort, Flap, and Dagevos 2010; Knies, Nandi, and Platt 2016).

Thus, among individual migrant characteristics, I include following variables: having a job (binary), meeting people socially (binary), region of origin (5 categories) and the length of stay in the destination (3 categories), sex (binary), age (continuous variable), and its quadratic term, the highest attained education (seven categories). Regional unemployment rate is controlled for as it might affect both immigrants' wellbeing and non-migrants ATI. As mechanisms, I incorporate neighbourhood cohesion (measured by Buckner's Neighbourhood Cohesion Instrument – short), ethnic composition of the local area measured as a share of White British residents, and having friends of another ethnicity (five categories).

Table 2

Descriptives of all the explanatory and control variables.

		Suitable NUTS3 units	
		N	**%**
Life satisfaction	Least satisfied	55	2,62
	2	111	5,30
	3	170	8,11
	4	295	14,07
	5	432	20,61
	6	781	37,26
	Most Satisfied	252	12,02
Sex	Male	913	43,56
	Female	1183	56,44
Age	mean/SD.	48,31	15,44
Place of birth	Europe, Australia, North America	245	11,69
	India, Pakistan, Bangladesh	873	41,65
	Africa	237	11,31
	South America	93	4,44
	Other	648	30,92
Length of stay in the destination	0-5 years	94	4,48
	6-19 years	834	39,79
	20+ years	1 168	55,73
Education	Lower Secondary and Lower	237	11,30
	Upper Secondary	241	11,50
	Higher Education	226	10,78
	University	650	31,01
	Other	473	22,57
	Missing	269	12,83
Job	Unemployed	874	41,7
	Employed	1 222	58,3
Social meetings	No	358	17,08
	Yes	1 738	82,92
Interethnic friendships	No friends	75	3,58
	All same friends	578	31.15
	More than half same	752	35.88
	About half the same	396	18.89
	Less than half same	295	14.07

Social cohesion (Buckner)	Mean/SD.	3,54	0,77
Ethnic composition (Share of British White residents)	Mean/SD.	56,17	20,68
Total		2 096	

Data on the unemployment rate and ethnic composition rate are sourced from ONS (2018).

Empirical strategy

I estimate two sets of linear regression models. In both of them, life satisfaction, treated as a 7-point scale, is regressed on aggregated attitudes (10-point scale), controlling for individual and regional characteristics. I first estimated ordered logistic regression models (SM 2), treating the response variable as an ordered categorical variable (for the discussion on an appropriate measure of well-being see Jenkins 2019). Then I compared these results with the results estimated in a linear regression. Considering that they are comparable and the results from the linear regressions are easier to interpret (especially when using the interaction term) I present the results from the linear regressions.

I analyse data first in a model with the main explanatory variable aggregated on the NUTS3 level and then in a model with attitudes aggregated on the higher GOR level. In the models using attitudes aggregated on the NUTS3 level, models include the GOR as a fixed effect to control variation in regional characteristics. Given the complex survey design of the UKHLS, I adjusted my estimates to account for stratification, clustering, and non-response weights using svyset and used the UKHLS cross-sectional weights for wave 9 designed for cross-sectional research of a single wave. In the models with explanatory variable on the NUTS3 level, I cluster standard errors at that level (Moulton 1990).

Variation in the association

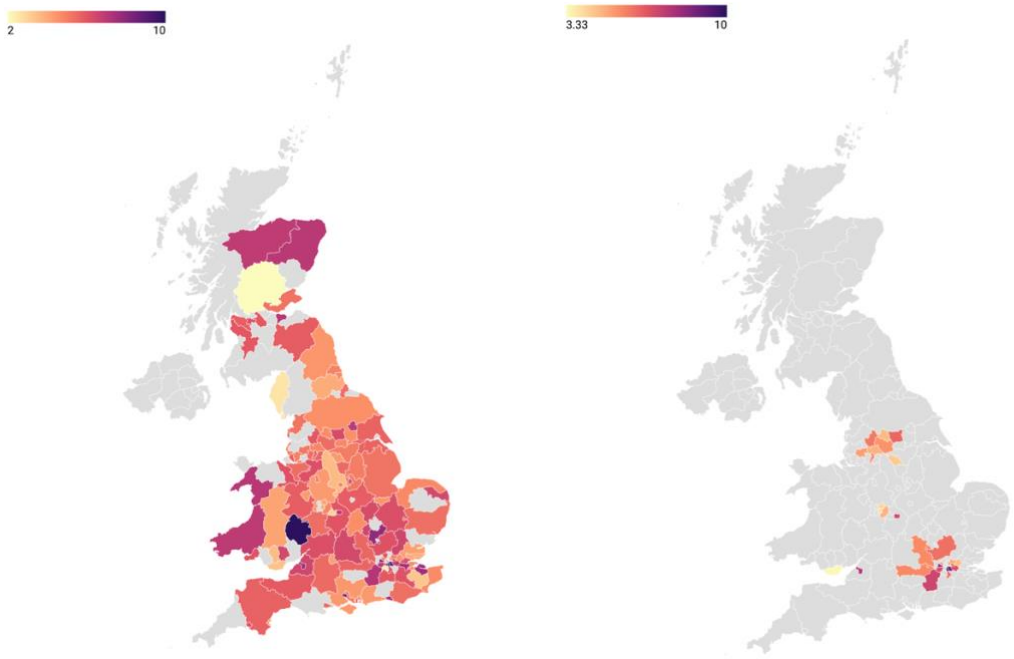
As discussed in the background section, I test local composition and cohesion, and interethnic friendship as the mechanisms of exposure. As they are linked with respondents' residential area, I test the mechanisms *Neighbourhood cohesion* and *Ethnic concentration* as interaction terms with NUTS3 level attitudes. Then, I test the moderating effect of *Interethnic friendship*, on the higher geographical area, as this mechanism is not specific to a geographical area.

4. **Results**

Descriptive results

The sample includes mostly highly populated and urbanised areas, namely London, Bristol, Manchester, Leeds, Sheffield, Birmingham and Cardiff (Figure 4 - right). While these are not representative of the whole of England and Wales, they are representative of areas where most immigrants live (Knies, Nandi, and Platt 2016) and that is the migrant population to which I generalise my findings.

Figure 1.: ATI aggregated on the NUTS3 level. Grey areas on the left map are missing data from the EVS. Additional grey areas on the right map are regions with fewer than 30 observations per unit.



Note: The left map illustrates the variation in ATI across the country. The right map shows variation in ATI for the examined sample.

OLS Estimates

In Table 3, I present estimates from models employing local attitudes. Higher values equate to more positive attitudes. Model 1 is the unadjusted association, and Model 2 is the full model. Models 3 controls for the GOR and model 4 includes all three mechanisms simultaneously. In all four models, there is no significant association between local ATI and life satisfaction. These results suggest the local attitudes do not play a role in determining migrants' wellbeing.

Regarding the potential mechanisms, there is a small but significant positive association between higher wellbeing and the share of white British residents in the local area. Their concentration as an outgroup to immigrants is thus not associated with lower wellbeing as I expected. I confirm a strong positive association between social cohesion and higher reported migrants' life satisfaction. Additionally, I estimated models including interaction terms between local ATI and both of these mechanisms to exclude the possibility that the null effect disguises a significant interaction. Models with interaction terms do not demonstrate significant variation (not shown). These results do not confirm my hypothesis that the association is thanks to the greater variation in ATI across local areas stronger on the more granular level than at the national level (Kogan, Shen, and Siegert 2018).

Table 3

Linear regression model estimates of migrants' life satisfaction on Local ATI.

	Model 1 Unadjusted	Model 2 Full Model	Model 4 Full Model with GOR	Model 5 Mechanism
Local ATI	0.034 (0.026)	0.012 (0.027)	0.015 (0.022)	0.009 (0.022)
Share of White British residence				0.005** (0.002)
Social Cohesion				0.331**

				(0.041)
All the same friends				0.440+
(r.c. no friends)				(0.218)
More than half the same				0.441+
				(0.215)
About half the same				0.390
				(0.260)
Less than half the same				0.343
				(0.242)
Individual controls		Yes	Yes	Yes
GOR region			Yes	Yes
R^2	0.00	0.04	0.05	0.08
N	2,096	2,096	2,096	2,096

Notes: *** p<0.01, ** p<0.05, * p<0.1. All analyses are adjusted for sample design and non-response. Controls not shown in the table: sex, age, age squared, education, employment, region of origin, length of stay in the destination, socialisation, dummy for GOR. Full models in Appendix 3.

To examine if the association nevertheless varies within England and Wales as I hypothesised, I estimate models with regional ATI (Table 4). The first model is the unadjusted association, and model 2 is the full model. The association between the regional ATI and migrants' life satisfaction is significant both statistically and substantially, unlike in the previous analysis. It is robust to including additional individual and regional variables into the model.

Model 3 includes the mechanism intergroup friendships and model 4 includes the interaction term between intergroup friendship and ATI. The inclusion of the mechanism into the model does not change the estimated association between ATI and wellbeing. Estimates in Model 4 suggest variation in the association between ATI and wellbeing by interethnic friendship but only for those with a half or fewer friends of the same ethnicity. The main effect shows a strong association between their higher reported wellbeing and a higher number of interethnic friendships. The interaction shows a moderating effect of having friends on the association between ATI and wellbeing, meaning that in regions with more positive ATI, the number of interethnic friendships is less important for reporting higher life satisfaction. This might mean that interethnic friendships offer protection from ATI in regions with more

negative observed attitudes, which is in line with my expectations. The values for some of the wellbeing determinants in these models (employment, origin) are not strong or significant despite being widely linked to wellbeing (Paparusso 2018; Dolan, Peasgood, and White 2008). Unlike in the previous set of models, I can estimate the model for the whole sample (all NUTS3 regions) and conclude this lack of association is to a degree caused by the sample size as the full model estimates show expected significant link with the employment (SM 3 for the results on the full sample).

Table 4

Linear regression model estimates of migrants' life satisfaction on Regional ATI.

	Model 1 Unadjusted	Model 2 Full Model	Model 4 Mechanism	Model 5 Interaction
Regional ATI	0.223* (0.087)	0.181* (0.092)	0.181* (0.092)	0.948* (0.443)
All the same friends *(r.c. no friends)*			0.579** (0.188)	4.409+ (2.635)
More than half the same			0.582** (0.189)	4.345+ (2.603)
About half the same			0.537** (0.195)	6.667* (2.725)
Less than half the same			0.513* (0.200)	6.044* (2.882)
All the same friends x Regional ATI				-0.688 (0.471)
More than half the same x Regional ATI				-0.676 (0.465)
About half the same x Regional ATI				-1.094* (0.486)
Less than half the same x Regional ATI				-0.986+ (0.512)
Individual controls		Yes	Yes	Yes
Regional controls		Yes	Yes	Yes
R^2	0.00	0.04	0.05	0.05
N	2,096	2,096	2,096	2,096

Notes: *** p<0.01, ** p<0.05, * p<0.1. All analyses are adjusted for sample design and non-response. Controls not shown in the table: sex, age, age squared, education, employment,

region of origin, length of stay in the destination, socialisation, regional unemployment. Full models in Appendix 4.

Robustness checks

To check the robustness of results and the association between the ATI and life satisfaction, I estimated three additional sets of models to assess if the association and its specifications change when: (i) using alternative methods of ATI aggregation and an alternative index of attitudes, (ii) testing possible non-linear relationships and (iii) controlling for the change in the local ethnic composition in the last two and five years.

First, I run models using different measures of ATI. Table 5a shows the association size and significance of the regional ATI and subjective wellbeing estimated in an OLS regression model as in the Model 2 (Full model, Table 4) for two indices of ATI and three ATI measures separately (see table 1). Table 5b shows estimates from the same model run in a logistic regression for all measures except the regional share of worst attitudes (share of the population who identifies with the most or second most negative ATI on the 10-point scale). I compare average regional ATI, which I report in my results with the share, mode and median. In doing so, I investigate whether the observed association between regional ATI and wellbeing is driven by the individuals with the most negative attitudes. As the results show, there is no link between the share and subjective wellbeing. Considering there is a strong and significant link also with the regional median, I conclude that the whole makeup of the attitudes present in a region is more important that the share of the most negative attitudes.

Table 5a: Comparison of the association between life satisfaction and different measures of regional ATI estimated in the OLS models .

	Welfare	Crime	Jobs	Index 3 ATI measures (10-point	Index 4 ATI measures (5-

				scale)	point scale)
Average ATI	0.234*	0.136+	0.179*	0.181*	0.359+
	(0.114)	(0.076)	(0.090)	(0.092)	(0.193)
Share of most negative ATI	-0.008	-0.009	-0.015	-0.010	-0.009
	(0.007)	(0.008)	(0.012)	(0.009)	(0.009)
Mode ATI	0.039	0.049+	0.040+	-	-
	(0.035)	(0.028)	(0.023)		
Median ATI	0.172*	0.078+	0.069+	0.108*	-
	(0.076)	(0.041)	(0.041)	(0.053)	
R^2	0.05	0.05	0.05	0.05	
N	2,096	2,096	2,096	2,096	

+ $p<0.1$; * $p<0.05$; ** $p<0.01$

Table 5b: Comparison of the association between life satisfaction and different measures of regional ATI estimated in the logistic regression models .

	Welfare	Crime	Jobs	Index 3 ATI measures (10-point scale)	Index 4 ATI measures (5-point scale)
Average ATI	0.304*	0.178+	0.230*	0.233*	0.472+
	(0.141)	(0.095)	(0.113)	(0.114)	(0.241)
Mode ATI	0.050	0.062+	0.051+	-	-
	(0.044)	(0.034)	(0.028)		
Median ATI	0.217*	0.102*	0.087+	0.139*	-
	(0.095)	(0.051)	(0.051)	(0.066)	
N	2,096	2,096	2,096	2,096	

+ $p<0.1$; * $p<0.05$; ** $p<0.01$

Second, I test my assumption of a linear association between attitudes and wellbeing from the main model, as the association might be limited only to environments with exceptionally positive or negative attitudes. Therefore, I recode the aggregated measures of the negative attitudes on the NUTS3 level to two other measures. I run the analysis on the NUTS3 level with the units divided into three categories according to the degree of negative attitudes, firstly with the first and the last quintile, and secondly with the first and the last decile

representing the most positive and the most negative ATI (Appendix 5). These models also do not demonstrate significant association between local ATI and subjective wellbeing and I conclude there is no association between local ATI and subjective wellbeing, which is in line with results in Tables 5a and 5b.

Lastly, I run models including controls for the change in the ethnic composition in the local area in the last two and five years, as these changes might impact local ATI and thus the association might change. These models also do not show link between migrants' wellbeing and local ATI (Appendix 5) further confirming no association between subjective wellbeing and local ATI.

5. Discussion

This paper aims to analyse the association between non-migrants' attitudes towards immigrants and their wellbeing and how this association changes with different levels of ATI aggregation and potential channels of exposure. I expected a positive association between welcoming ATI and wellbeing, with a stronger association on the most granular aggregation level. I also expected moderating effect of higher social cohesion, ethnic diversity and more interethnic friendships on the negative association. Moreover, as I employ an innovative approach of measuring aggregated ATI on multiple spatial levels, my research tests whether aggregated ATI are a suitable measure of environmental hostility/hospitality.

I showed a strong association between regional ATI and wellbeing, identifying the region as a crucial area for investigating migrants' lived environment. While immigrants in my sample live mostly in urban areas, and despite lower variation in the ATI in regions compared to local areas, migrants' subjective wellbeing is still strongly associated with regional differences. Local ATI did not, however, show a significant association with life satisfaction, and I found no link between investigated mechanisms and the association. My analyses bring three main findings regarding the link between wellbeing and the environment.

Firstly, the investigation of different levels, *as well as* exposure to ATI, allows me to disentangle if ATI are specifically linked to migrants' personal interactions or if they shape the environment in which immigrants live and therefore relate to migrants' life satisfaction despite the type of interactions they have with non-migrants. This is because immigrants might experience ATI not solely through contact or exposure with non-migrants. My local level results and the lack of moderating effect of mechanisms suggest that ATI are rather a characteristic of the environment in general than a function of intergroup contact/exposure. The lack of association on the local level is in line with the Person-positivity bias theory (Sears

1983), which suggests people do not channel negative prejudices of a group in their interactions with specific group members. This also demonstrates the importance of investigating both the extent and character of intergroup contact/exposure in migrant studies. As I discuss, existing studies mainly look at the extent of exposure, not its character (Knies, Nandi, and Platt 2016; Davies et al. 2011).

If immigrants' experience of ATI through other channels is more important than through contact/exposure, it explains why regional and not local ATI are linked to their wellbeing, as they describe a broader environment in which immigrants live. While these results do not support my expectation that the association will be stronger on the most granular level, they confirm that immigrants across England and Wales face different levels of hostility from non-migrants, not unlike immigrants residing in different countries (Kogan, Shen, and Siegert 2018). Reporting results on the sub-national level shows within-country differences, which can be relevant to the experience of immigrants.

Secondly, the analysis of the association using different ATI aggregates shows that the average is the most reasonable measure as it captures the makeup of the local/regional attitudes, which I show seems to be more relevant for immigrants' life satisfaction than the share of the most negative ATI. This would be in line with the contact theory. Those with the most negative ATI might not be in contact with immigrants, thus not exposing them to their prejudice. The average value of regional/local ATI does not mean immigrants are necessarily meeting those on-average-hostile/welcoming non-migrants on their street. However, those values are closer to the individual's experience in their lived area compared to the use of national averages.

As I do not find evidence of association with the most negative ATI usually linked with perceived discrimination, my results are also consistent with the Hopkins et al. (2016) hypothesis that ATI are decoupled from (perceived) discrimination. Nevertheless, the link

between ATI and subjective wellbeing shows that ATI still impact immigrants' lives. Considering those with the most negative ATI are also usually voters of the right-wing parties (Malloy, Ozkok, and Rosborough 2021), investigation of ATI could be a complementary method to investigating perceived discrimination (Safi 2010; Vohra and Adair 2000) and voting preferences (Schilling and Stillman 2021). That could show the cumulative effect of the environment on an individual in the destination country. Using multiple levels of data aggregation allows one to understand on which level immigrants are exposed to ATI. The level of data analysis also enhances our ability to extrapolate the results to the population to which we can confidently assume we can generalise our results.

Thirdly, the strong association between regional ATI and wellbeing, robust to controls for known predictors of wellbeing, implies a link between the region and wellbeing. This is an unexpected outcome as the literature tends to investigate context on the neighbourhood level (Knies, Nandi, and Platt 2016; Wiedner, Schaeffer, and Carol 2022; Laurence and Bentley 2018), which is more comparable with the local area level employed in this paper, or with the policymaking level ("local turn"), considering its effect on the local residents. Thus, I can contribute to our understanding of migrants' wellbeing and explain some variations in the reported life satisfaction across different migrant groups, specifically depending on their place of residence.

Limitations

While I do find evidence that lived environment is associated with immigrants' life satisfaction, the main limitation of this research is that causality cannot be established, and therefore the path of the migrants' exposure to the ATI cannot be demonstrated. The second limitation is that while I control for regions of origin and contextual controls and thus for the migrants' self-selection into regions based on the local characteristic and pull effect of their

co-ethnics, I cannot completely exclude the possibility that this self-selection is not impacting the results of my study. Immigrants might affect the ATI of non-migrants, for example, causing a more negative ATI to a particular migrant group. Lastly, I only control for the potential habituation of individuals to conditions in the destination country by controlling their tenure length. My data do not allow me to determine if immigrants gradually accustom to the negative treatment and potential of this habituation to protect their wellbeing.

To improve the presented analysis, future research should examine the attitudes on bigger samples and longitudinal data. It is possible that the lack of association was driven by lower statistical power due to the sample size, despite the fact I only employed areas with a pre-defined minimal number of observations. Thus, I cannot completely reject the hypothesis that local ATI are associated with currently identified local area determinants of migrants' wellbeing. Longitudinal data would provide tools to analyse immigrants' habituation. However, this is also linked with my second data-related limitation, which is, first, the limited availability of data on non-migrant attitudes disaggregated to small-sized areas (e.g., EVS or discontinued Citizenship Survey) and second, the availability of sufficient datasets allowing analysis of migrant populations. While most immigrants live in urbanised areas, some settle in a much wider variety of places. With the focus on cities (in data collection or research), we do not investigate these immigrants and create further inequality in understanding the nuances of their experience. There is great potential for research on ATI and their impact. This cannot be achieved without more widely available data on ATI and immigrants across countries, not just urban regions.

Nevertheless, my descriptive and exploratory results present new information on how the environment relates to migrants' wellbeing. My paper shows the importance of focusing on variation in the environment within regions/country. I specifically demonstrate a novel use of

the ATI measure as an indicator of local hostility/welcoming environment and a tool for identifying areas where education and integration policies could improve immigrants' wellbeing by paying attention to non-migrants negative ATI. My findings imply that migrants residing in different areas of the UK do not face the same environment and thus do not have the same opportunities for wellbeing. This paper, therefore, opens new avenues for future research on the effect of the environment on immigrants.

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