

The relationship between immigration and subjective well-being

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Summary

Immigration into many western countries has grown rapidly since the 1990s and it has now become one of the most contentious issues in today's political debates. Public opposition to immigration was, for instance, central to Brexit and to the electoral success of Donald Trump. The main motivation underpinning this project is to seek to better understand why immigration is such a polarising topic. In doing this, we moved beyond an examination of objective indicators of well-being (e.g. wages and unemployment) and considered the impact of immigration for people's overall sense of well-being (e.g. self-reported mental well-being and life satisfaction). Considering the population as a whole, immigration does not appear to be particularly impactful but this masks considerable heterogeneity across socio-demographic groups. For some groups, such as relatively older individuals (e.g. over 60s), those with below average household incomes, those without any formal educational qualifications and/or the unemployed, we find the estimated impact to be negative and much more substantive than observed when looking at the population as a whole. It is worth noting that these 'well-being' differences across socio-demographic groups correspond closely with voting patterns observed in the recent UK referendum on EU membership.

One possible reason for why immigration may have negative consequences for the self-reported well-being of certain sub-groups could be due to flawed economic reasoning. The intuition here being that while immigration may not impose economic costs, it could be a source of psychological distress for some host-country residents based on the *belief* that migrants are an economic threat, irrespective of whether this is true or not. In support of this premise, we find that the negative association between immigration and subjective well-being is more pronounced in times of economic stress (e.g. when GDP is relatively lower).

Another important factor seems to be patterns of attachment to national identity. Studies of national identity commonly distinguish between two forms, namely ethnic and civic and we know from existing survey research that people with an ethnic as opposed to civic form place a greater weight on ancestry as a criterion for national belonging. Fortunately, we can at least partly capture this ethnic v civic distinction in our work based on whether one thinks of themselves as *English* or *British*. Of note here is that we find that any negative estimated impact of immigration for people's subjective well-being is concentrated on individuals who feel *English*. In sharp contrast, we found some evidence to suggest that the life satisfaction of people who feel *British* may be positively enhanced by inflows of migrants into their local area. Additional psychological traits that seem to be important in predicting the degree to which the subjective well-being of UK-born individuals will be impacted by inflows of migrants into their local area include openness and trust (i.e. ability to trust people outside one's own group).

An important implication of these findings is that even in the face of positive economic benefits, immigration could still have adverse consequences for some people's welfare as proxied by subjective indicators of well-being. Unfortunately, if specific cohorts of the population feel negatively impacted, then this may pose challenges for the successful integration of migrants in

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certain communities. That being said, our main message is not that immigration is harmful (or beneficial) for people's subjective well-being. Rather our main message is that this relationship varies substantively across the population. For some groups, such as those who are relatively older, poorer and/or with strong attachments to an ethnic form of national identity (i.e. English), significant inflows of migrants can be detrimental to their well-being. For many other groups, immigration does not seem to matter very much and indeed for some such as those with a more civic conceptualisation of national identity (i.e. British), and existing residents born outside the UK, the net impact appears to be beneficial.

Looking forward, we suggest that tackling misleading stereotypes (such as "job-stealing immigrants") and appealing to 'national self-interest' motives by drawing people's attention to the economic and social contribution of migrants (e.g. to an ageing society and COVID-19 relief efforts) may be an effective strategy for lessening perceived economic threats. This in turn will help to alleviate the negative impact of immigration for some people's sense of overall well-being. Of course, facts alone may not be enough to change minds. Information may need to be combined with more profound and constructive civic engagement with the public, as evidenced by initiatives such as the national conversation on immigration led by British Future and Hope Not Hate (see <http://nationalconversation.uk>). Additionally, anything that can help promote a civic as opposed to ethnic conception of national identity (e.g. through the educational system) and interventions aimed at encouraging civic engagement, such as increasing the opportunities for people to participate in diverse ethnic groups, may alleviate perceived cultural threats and/or help to foster trust.

Immigration and well-being

The general public (both in the UK and elsewhere) appear to be polarised on the topic of immigration. A natural question to ask is *why is immigration a topic of such concern for many?* The typical reasons cited revolve around job losses and pressure on public services. Thanks to the availability of high-quality local-area data on immigration flows and labour market statistics, economists and indeed other social scientists have extensively [studied](#) the economic impacts associated with immigration. This literature suggests that while there is some uncertainty, particularly regarding [short-run effects in the US](#), immigration does not negatively impact the [job prospects](#) of host-country residents. One reason for this is that although migrants enter the labour market, they create jobs too by using the wages they earn to support economic activity in the local economy. Another reason is that migrants tend to complement, as opposed to compete against, existing workers by [often doing the tasks others don't want to do](#). When it comes to wages, the evidence would also suggest that immigration has little or no impact overall, but may place some small downward pressure on the wages of the low-skilled, while the impact on the rest of the distribution is [positive](#). The overall conclusion is that while immigration may have a small negative impact on the wages for relatively low-skilled cohorts; relative to other factors (e.g. [technological change, tax policies](#)) the impact (if there is one) is minimal.

Another source of concern that is often raised has to do with the idea that migrants may increase pressure on current public services, such as the NHS while benefiting from a generous welfare system. This worry is also misplaced as migrants, who have acquired education elsewhere, tend to be younger and healthier than native populations. Hence, they are [net contributors to the fiscal budget](#). Of course migrants may be net contributors to the public purse but if government policy reduces per capita expenditure on public services over time, then UK-born individuals may *perceive* migrants as restricting their own access to public services.

While there is a lack of evidence to suggest that immigration negatively impacts the economic welfare of host-country residents, it is still often associated with hostile political reactions. Much of the rhetoric underpinning debates surrounding the UK referendum on EU membership, for instance, revolved around '*taking back control*' over immigration policy. Similar divisions on the topic of immigration are evident in the US where Donald Trump promised to 'build a wall' between the US and Mexico.

What about subjective well-being?

Focusing on subjective, as opposed to economic indicators of well-being, could offer a useful framework when it comes to better understanding anti-immigration attitudes in the UK and indeed the rise of this sentiment throughout Europe and the US. While immigration may not impose economic costs, it could be a source of psychological distress for UK-born individuals based on the *belief* that migrants are an economic or cultural threat, irrespective of whether this is true or not. With this idea in mind, the main aim of this project was to move beyond 'objective' measures of welfare such as wages and unemployment, and examine to what extent immigration impacts the subjective (self-reported) well-being of the UK-born population (either positively or negatively). The main indicator of subjective well-being we used in this work is the General Health Questionnaire (GHQ-12). It is a widely used measure of subjective well-being which consists of a 12 item aggregated scale designed to measure a variety of components of individuals' mental well-being such as anxiety, social dysfunction and general happiness. Some examples of the types of statements included in this measure include: 'Have you recently felt unhappy or depressed', 'Have you recently lost much sleep over worry?'; and 'Have you recently been able to enjoy your normal day-to-day activities?' The GHQ offers an advantage over single question measures of subjective well-being, such as happiness and life satisfaction as it is based on responses to 12 separate questions.² From this point forward we refer to this metric of subjective well-being as mental well-being. A second indicator of subjective well-being we used related to "life satisfaction", and it is based on the following question: "How dissatisfied or satisfied are you with life overall?". Respondents give a single reply on a Likert scale with options ranging from 1 (completely unsatisfied) to 7 (completely satisfied).

What do we already know?

In sharp contrast to the rich and varied literature exploring the economic consequences, there is comparatively little evidence available relating to the impact of immigration for subjective indicators of well-being. Focusing on Germany, [Akay et al. \(2014\)](#) in what was the first study in this area using longitudinal data, reported a positive relationship between immigration and the self-reported life satisfaction of German natives. As noted by these authors, the relationship between immigration and subjective well-being could vary across countries due to, amongst other things, contextual differences (e.g. rate of change, ethnic and skill composition of migrants) and cultural or historical factors. In this regard it is interesting to observe that, in contrast to these findings in Germany, [Ivlevs and Veliziotis \(2018\)](#) observed a negative association between immigration and the life satisfaction of certain groups in the UK, namely relatively older, poorer and less well-educated UK born

² Factor analysis shows that most of the variance within these 12 item measures can be explained by one overall general factor. In essence the GHQ-12 is unidimensional (Gnambs and Staufenbiel, 2018).

individuals. A potential limitation with the study by Ivlevs and Veliziotis (2018) is that they were constrained to a relatively short time period, namely 2003–2008 (immediately before and after the 2004 EU enlargement), and as such it is possible that their estimates capture the effect of an initial migration shock due to the A8 accession³. A further limitation relates to selection effects and other sources of what economists refer to as endogeneity bias. Importantly by merging the BHPS with the UK Household Longitudinal Survey (UKHLS) our work is based on a much larger sample period ranging from 2000 to 2018. Additionally, we tested the sensitivity of our main estimates to different modelling approaches such as an individual fixed effects, an instrumental variable approach and propensity score matching to ensure that our estimates are not impacted to any significant degree by endogeneity concerns (e.g. measurement error or residential sorting). Furthermore, in addition to unpacking the relationship between immigration and indicators of subjective well-being, of equal importance to us are questions related to *for whom* is immigration impactful (be it positive or negative) and *why*?

Methods and analysis

Our methodological approach (see our papers referenced at the end for more details) involves spatially linking large-scale household longitudinal datasets such as the [UK Household Longitudinal Study](#) which records individual's subjective well-being with immigration statistics and indicators of diversity from the Office of National Statistics. Using the resulting dataset meant we were able to examine the relationship between inflows of migrants into local areas and the subjective well-being of UK-born residents over the period 2000–2018, using a variety of panel-data analytical techniques.

Our analysis begins by assuming that the mental well-being of a UK-born individual i living in local authority l at time t (W_{ilt}) is explained by changes in the number of immigrants living in each local authority area⁴, hereafter referred to as *immigration* (I_{lt}). To ensure that aggregate time series variation is completely absorbed, we added year dummies y_t to this specification. We also included region dummies and a vector of time variant individual level controls (X_{it}) as well as a time variant measure of neighbourhood deprivation (ND_{lt}). Finally, we used robust standard errors clustered at the local authority area level.⁵ This yields the following explanatory model where a_i , y_t and r are the individual, year and region fixed effects respectively:

$$W_{ilt} = \beta_0 + \beta_1 X_{it} + \beta_2 ND_{lt} + \beta_3 I_{lt} + a_i + y_t + r + \varepsilon_{ilt}$$

In a series of robustness checks, we also instrument *immigration* (I_{lt}) with a shift-share instrument derived using past-settlement patterns in an approach popularised by [Altonji and Card \(1991\)](#), and substitute mental well-being (W_{ilt}) with an alternative indicator of subjective well-being, namely self-reported life satisfaction. For those interested in more methodological details, we refer to our papers referenced at the end of this document. Perhaps the key point to note from our analytical approach is that with this specification, the estimated impact of immigration is identified purely through *within person* changes and after controlling for a rich set of time-varying controls at both the individual and neighbourhood level. What this means in practice is that the impact of immigration for a person's subjective well-being is identified by solely looking at how the subjective

³ Following the 2004 enlargement of the European Union, the UK experienced a large influx of migrants from new EU member states (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia – also known as the accession or A8 countries).

⁴ There are 391 local authorities in the UK as a whole and 343 in England.

⁵ Results are not sensitive to other clustering approaches such as clustering at the individual level.

well-being of the *same* individuals, living in the same regions, changes over time in response to changes in the number of immigrants living in their local authority area. Focusing solely on within person as opposed to cross sectional variation helps ensure that our estimates are not impacted by omitted variables correlated with both subjective well-being and immigration.

Main effects

The main population estimates are discussed in more detail [here](#) (a free to access version available [here](#)). For those interested, we have placed a table at the end of this document summarising our main results when it comes to the relationship between immigration and subjective well-being (GHQ-12) for the population as a whole and for various sub-groups. In essence what we found is that considering the population as a whole, inflows of migrants into local authority areas may have some negative implications for the mental well-being of UK-born residents. These estimated population level impacts are however small. To illustrate, we can use the mean level increase of migrants into local authority areas experienced by respondents in our sample during the period 2000 to 2017 as a reference point (just under 27,000). The estimated negative subjective well-being impact of such a change in the inflows of migrants in local authority areas would be equivalent to just 18 and 4% of the estimated disutility associated with divorce and unemployment. We use divorce and unemployment as a point of comparison as they are amongst the most commonly explored determinants of subjective well-being in the wider economics of happiness literature. Unemployment alongside disability is generally associated with the largest reductions in subjective well-being whereas the adverse well-being effects associated with divorce, while still significant and substantive, are typically much more modest.

These estimated population level impacts did mask considerable heterogeneity however. Specifically, there appears to be certain socio-demographic sub-groups where the effects are negative and much more substantive. The sub-groups we identify as being most likely to experience a more substantive reduction in mental well-being in response to inflows of migrants into their local area include relatively older individuals (e.g. over 60s), those with below average household incomes, those without any formal educational qualifications and/or the unemployed. As an illustration of these estimated impacts, after restricting our analysis to those in the lowest quartile of household income, we found that the estimated mental well-being losses associated with a mean level increase came to 43% and 10% of the estimated wellbeing losses associated with divorce and unemployment, respectively, for the population as a whole. For the unemployed, the estimated effects are somewhat larger, and equivalent to 99% and 23% of the estimated impact of divorce and unemployment. A similar picture is observable for the over 70s where again the estimated well-being losses were found to be broadly equivalent to that associated with divorce for the population as a whole (96%) and 23% of the estimated well-being effects from unemployment.

Taken as a whole, these figures suggest that the overall estimated mental well-being impact of immigration for the population as a whole is relatively modest (at most) but that there are more substantive negative impacts for certain subgroups. It is notable that there is a significant degree of similarity between these wellbeing differentials across distinct cohorts of the population, and voting patterns (e.g. see [Ipsos MORI, 2016](#)) observed in the recent UK referendum on EU membership (commonly referred to as Brexit). In short, those individuals most likely to vote 'leave' are those groups we identify as being most likely to be negatively impacted in subjective well-being terms by immigration.

What can explain these findings?

Flawed economic reasoning

Inflows of migrants could be a source of psychological distress for some UK-born residents based on the belief that it lowers their economic opportunities, even if it doesn't actually have any tangible impact. Our subgroup analysis described above, specifically our findings that the negative estimated mental well-being effects associated with inflows of foreign-born individuals are larger for the unemployed and those in relatively lower educational groupings, provide some support for this conjecture. This is because it seems reasonable to suggest that these groups in particular are more likely to see themselves in direct labour market competition with migrants. In further support of this premise, we also found that the negative association between immigration and mental well-being is more pronounced in times of economic stress (e.g. when GDP is relatively lower). The intuition here being that in times of economic stress (e.g. negative or low GDP growth), UK-born residents may see net inflows of foreign-born individuals as more of a threat to their own economic security.

'Us' vs 'Them'

We also draw on both social identity theory and identity economics in helping to better understand and explain why inflows of migrants into local areas may have a deleterious effect for some cohorts of UK born residents. [Social identity theory](#) postulates that individuals are naturally inclined to self-categorise into an "ingroup" (us) versus "outgroup" (them). The consequences associated with this division derives from the fact that people often boost the status of their own in-group and so a favourability gap emerges between their own in-group members who are the beneficiaries of a sense of kinship and an out-group perceived as being less trustworthy. In support of this in v outgroup idea, we observe that in contrast to some cohorts of UK-born residents, inflows of migrants into local areas appear to be beneficial for the well-being of residents born outside the UK, and substantively so. Relative to UK-born individuals, residents born outside the UK would we suggest be more likely to see migrants as part of their own ingroup as opposed to a competing outgroup.

We also uncover substantive differences in the degree to which the subjective well-being of individuals is impacted by inflows of migrants based on national identity. Individuals in the UKHLS are asked: *What do you consider your national identity to be?* The two most common were *English* and *British* and a significant number also reported being both. To explore the role of patterns of attachment to national identity in shaping the relationship between immigration and subjective indicators of well-being we simply divided the population into three distinct groups, namely people who more commonly ascribe to being *English*, *British* or both. Our findings are documented in detail [here](#).

In summary, we find that the stronger the attachment to an English identity, the larger the estimated adverse subjective well-being effects associated with inflows of migrants are. Indeed, there is little if any evidence to suggest that *immigration* negatively influences the subjective well-being of individuals who think of themselves as *British* as opposed to *English*. If anything there is some evidence of migrants adding to the life satisfaction of those who identify as 'British only'. We note that these differences according to national identity are observable both after we control for differences in socio-demographic characteristics directly and use propensity score matching to try and ensure that both our English and British sub-groups are as similar as possible to each other in terms of observed characteristics.

Social identity theory again offers a platform for helping us to understand these results. In keeping with this theory, we suggest that migrants may be more likely to be seen as a competing outgroup for those who identify as *English* as opposed to *British*. This is because we know from [survey research](#) that people who identify as English place a greater weight on ancestry as a criterion for national belonging. The identity economics framework popularised by [Akerlof and Kranton \(2000\)](#) offers another explanation for these differences. This identity framework illustrates how norms for how people “should look, act, and interact, shape economic life” ([Kranton 2016](#)). The argument here in essence is that individuals well-being/utility can be impacted by the extent to which others (e.g. migrants) behaviour and characteristics depart from the prescribed ‘idealised’ behaviours associated with social categories, such as being *English* or being *British*. For individuals who categorise themselves as English, migrants may be less likely to conform to the normative behavioural ideals associated with being English, and so immigration may in turn be more likely to diminish the subjective well-being of this group. For those interesting we have placed two figures at the end of this document which provide a visual illustration of the observed differences between the relationship between immigration and subjective well-being for people who self-identify as English and British.

Underlying psychological dispositions

As a supplement to the previous analysis involving national identity we also looked at the role of underlying psychological dispositions in shaping the degree to which people feel impacted (in subjective well-being terms) when faced with inflows of migrants into their local area (more details can be found [here](#)). Fortunately, the UKHLS records a number of personality measures which we posit will help determine the degree to which (if they do at all) UK residents will feel impacted by immigration when it comes to their subjective well-being. For some groups, such as those with high scores on constructs measuring *importance of ethnicity to one’s self concept*, and low scores on *openness* and *particularised trust*, the negative estimated impacts associated with inflows of migrants can be substantive. On the other hand, we find that immigration is positively associated with the subjective well-being of individuals with high scores on *openness* and those relatively more prepared to take risks in trusting people who are different to themselves. This highlights the importance of invisible, in addition to the more commonly examined visible differences between people (e.g. socio-demographic differences), in explaining the sharp public divide on immigration issues.

Going forward

Overall this project has highlighted how focusing on subjective as opposed to just economic indicators of wellbeing can help us better understand the forces underpinning the sharp variation in public attitudes towards immigration. For some groups, such as those who are relatively older, less well-off, comparatively lower education levels and/or unemployed, inflows of migrants appears detrimental to their self-reported well-being, despite the estimated positive economic benefits. There are likely a myriad of reasons for this. Two that we point to as being particularly important are perceived economic or labour market threats and cultural threat perceptions.

If certain cohorts of the population feel negatively impacted in terms of their subjective well-being when faced with inflows of migrants into their local areas then this can pose challenges for the successful integration between migrants and UK-born residents in certain communities. That being said, it is important to note that for many other groups, immigration does not appear significantly

related with subjective well-being and indeed for some such as those who identify primarily as *British* may be welfare enhancing. These findings suggest that the appropriate question is not whether immigration affects people's subjective well-being, rather *for whom* is it harmful and for whom is it beneficial and why.

Going forward, we suggest that tackling misleading stereotypes (such as "job-stealing immigrants") and appealing to 'national self-interest' motives by drawing people's attention to the economic and social contribution of migrants (e.g. to an ageing society and Covid-19 relief efforts) may be an effective strategy for lessening the negative impact of immigration for some people's sense of overall well-being. Additionally based on our findings, anything that promotes a civic as opposed to ethnic conception of identity may help reduce (or prevent) any negative emotional response in response to inflows of migrants.

Whilst personality traits such as openness are generally thought to be stable in adulthood, they are quite likely to be responsive to environmental influences in youth. Therefore, fostering an environment where it is safe to interact with strangers, and one which encourages openness and engagement with others from different backgrounds from a young age may have future protective effects for subjective well-being in a world which is increasingly global, interconnected, and interdependent. Interventions aimed at encouraging civic engagement, such as increasing the opportunities for people to participate in diverse ethnic groups (e.g. volunteer group or collaborative project) may help to foster trust and thereby diminish any losses in subjective well-being associated with inflows of migrants. These interventions are supported by experiences such as the 'national conversation' launched by British Futures and Hope Not Hate (<http://nationalconversation.uk>) and [recent research](#) showing that attitudes may change following intergroup contact.

Project outputs: Please refer to these for additional details relating to our key findings and methodological approach.

Papers/Working papers

Howley, P. Moro, M. Waqas, M., Delaney, L. and Heron, T. (2020) It's *not* all about the economy stupid! Immigration and subjective well-being in England. [Work, Employment and Society](#), 1-18. Free to access version available here: <https://eprints.whiterose.ac.uk/148014/>

Howley, P. and Waqas, M. (2021) National Identity and Brexit. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3464210

Howley, P. Ocean, N. and Waqas, M. (2021) Open minds, open borders: Individual differences in the relationship between immigration and psychological well-being. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3321720.

Blogs

Howley P. *How immigration can make some UK-born residents feel worse off even if they aren't* Published in [The Conversation](#), September 6, 2019

Howley P. and Moro, M. *Measuring the impact of immigration for subjective well-being*. Published [here](#)

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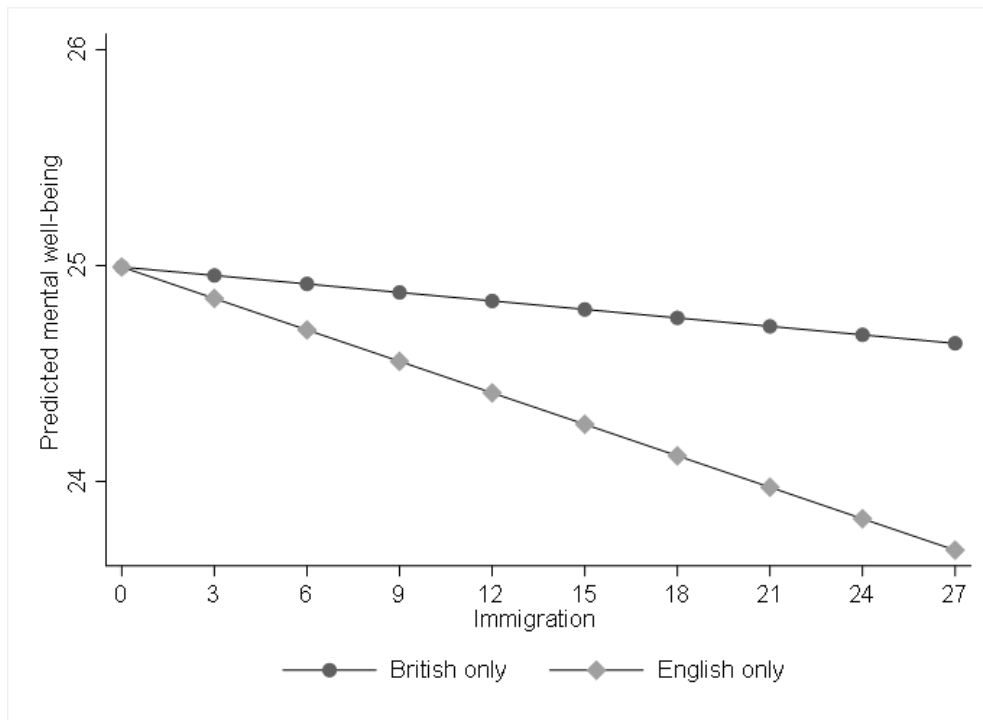
Visit www.nuffieldfoundation.org. Howley is also indebted to Muhammad Waqas for valuable research assistance throughout this project. We are also grateful to our co-investigators on this project, namely Liam Delaney and Tony Heron as well as members of our advisory team for constructive comments and suggestions. Howley is grateful to Neel Ocean, Tad Gwiazdowski, Clemens Hetschko, Andrew Oswald, John Denham and seminar participants at the University of Leeds and University of Warwick for helpful comments and suggestions on various draft papers. The usual disclaimer applies.

Table 1: The relationship between immigration and subjective well-being (GHQ) – subgroup analysis

	Foreign-born individuals				Migrant share	
	Coef.	<u>Fixed-effects</u> Clustered Std. Err.	Coef.	<u>IV</u> Std. Err	Coef.	<u>IV</u> Std. Err
<i>Age</i>						
Age≤60	-0.009	0.014	-0.011	0.015	-0.008	0.011
Age > 60	-0.084***	0.031	-0.116***	0.035	-0.071***	0.022
Age > 70	-0.142***	0.045	-0.183***	0.052	-0.128***	0.036
<i>Household income (quartiles)</i>						
Lowest 25%	-0.062**	0.032	-0.100***	0.034	-0.079***	0.027
Lowest 50%	-0.038*	0.021	-0.069***	0.022	-0.052***	0.017
Highest 50%	-0.016	0.019	-0.009	0.019	-0.006	0.013
Highest 25%	-0.016	0.026	0.001	0.028	0.001	0.018
<i>Education</i>						
Degree Education	-0.007	0.018	-0.008	0.020	-0.006	0.014
Secondary Education	0.001	0.022	-0.024	0.022	-0.016	0.015
Other Education	-0.056	0.050	-0.043	0.057	-0.034	0.044
No formal qualifications	-0.138***	0.042	-0.137***	0.046	-0.113***	0.039
<i>Gender</i>						
Males	-0.018	0.018	-0.031*	0.018	-0.021*	0.012
Females	-0.031	0.019	-0.031*	0.019	0.023*	0.014
<i>Labour market status</i>						
Unemployed	-0.146*	0.080	-0.214*	0.114	-0.225*	0.120
Employed	-0.010	0.017	-0.011	0.017	-0.008	0.012
<i>Natives v non-UK born</i>						
Non-UK born	0.055*	0.029	0.058*	0.030	0.038*	0.020
UK-born	-0.025*	0.013	-0.032**	0.013	-0.022**	0.009

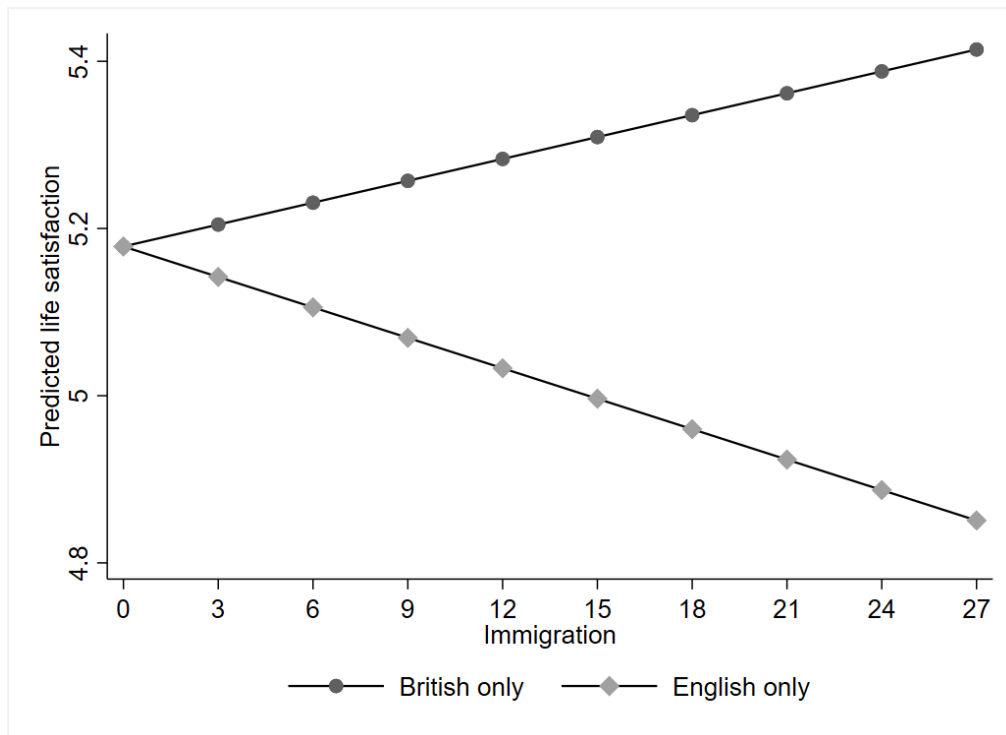
Notes: Each cell reports coefficients or standard errors from separate subjective well-being (GHQ) regressions on specific sub-groups. Each regression controls for individual characteristics (age, age-squared, educational attainment dummies, gross household income, marital status, number of children, labour force status dummies), the local authority deprivation rank, annual GDP growth at national level, wave (spread over 2-3 years) and region dummies. Foreign born individuals relates to aggregate numbers (measured in tens of thousands) of migrants whereas migrant share relates to the proportion of migrants in each local authority area. IV refers to an instrumental variable specification where we instrument our fixed effects estimates with an exogenous predicted value derived based on past settlement patterns (shift-share). The GHQ is a 12 item scale where a score between 0 (best) and 36 (worst) is computed for each individual. *statistically significant at 10% level, **significant at 5% level, *** significant at 1% level

Figure 1: Relationship between immigration and subjective well-being (GHQ) for UK-born residents who identify as English and British



Immigration is measured in tens of thousands by local authority area

Figure 2: Relationship between immigration and life satisfaction for UK-born residents who identify as English and British



Immigration is measured in tens of thousands by local authority area