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Ethnic and racial harassment and mental health: Identifying sources of resilience

Alita Nandi
Institute for Social and Economic Research
University of Essex

Renee Luthra
Department of Sociology
University of Essex

Michaela Benzeval
Institute for Social and Economic Research
University of Essex

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Non-technical summary

The enjoyment of physical safety and civil treatment in public spaces, regardless of race, ethnicity or religion, is a core right in modern democratic societies. This right is protected in the UK Equality Act of 2010, which prohibits harassment related to one's race or religion (among other characteristics). Current evidence, however, documents that this right is not enjoyed by all: approximately one in ten ethnic minorities report ethnic and racial harassment (ERH) in the past 12 months, for some groups (Chinese men and women, Pakistani men, Indian-Sikh men, Indian-Muslim men and Bangladeshi women) this is higher, around 15%. Following the Brexit vote on 23 June 2016, the number of officially reported hate crimes has skyrocketed. Thus now it is even more important to identify ethnic minorities who are most vulnerable to ERH, the association between experiencing ERH and their mental health, and to identify potential sources of resilience to ERH. Using the most recent nationally representative survey of UK residents, *Understanding Society* (2009-2014), this paper attempts to answer these questions for ethnic minorities living in England.

We find that ethnic minorities with lower socio-economic status and those who were born in the UK report worse mental health than better off and non-UK born minorities. Those who report experiencing ERH also report worse mental health than those who do not: a difference in mental health that is equivalent to the difference between two identical individuals whose household incomes differ by 8%. Indeed, even if ethnic minorities did not experience ERH but only anticipated it, they were still likely to report poorer mental health, although the magnitude of this association was smaller than those who experienced ERH.

We next explored several potential protective characteristics for minority mental health. We found several individual and community characteristics which were positively associated with mental health. Having a friendship network comprised of one's own ethnic group, attending religious services more frequently, and having a strong ethnic identity were positively associated with minority mental health, as well as higher levels of certain personality traits, Conscientiousness, Agreebleness and Emotional stability. Minorities living in a community with a higher proportion of co-ethnics also reported better mental health.

However, we were only able to identify two factors that protected ethnic minorities against the association between ERH and poorer mental health. Among ethnic minorities who experienced ERH those who had more close friends (of any ethnicity) reported better mental health than those who had fewer friends. Similarly, the negative association between ERH and mental health was weaker for those who scored highly on the personality characteristics Conscientiousness and Openness to Experience.

Additionally, we found two factors that made ethnic minorities more vulnerable rather than being protective. UK born minorities who experienced ERH reported worse mental health if they lived in areas where there were more co-ethnics. Similarly, among ethnic minorities who experienced ERH, those who frequently attended religious services reported worse mental health than those who attended religious services less regularly.

This paper highlights the mental health cost of ethnic and racial harassment and identifies specific factors which make specific minority group members more or less vulnerable to harassment and its effects on mental health. Every effort should be made by the society to prevent ethnic and racial harassment and work together to find more activities and actions that can be undertaken by individuals and communities to protect ethnic minorities who do experience ethnic and racial harassment.

Ethnic and racial harassment and mental health: identifying sources of resilience

Alita Nandi[1]
ISER,
University of Essex

Renee Luthra
Dept. of Sociology,
University of Essex

Michaela Benzeval
ISER,
University of Essex

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Abstract

In this paper, using data from Understanding Society over the period 2009-2014, we find that ethnic minorities with lower socio-economic status and those who were born in the UK report worse mental health (GHQ). Those who report experiencing ethnic and racial harassment (ERH) also report worse mental health than those who do not. We also found that ethnic minorities living in areas with a higher proportion of co-ethnics reported better mental health. However, ethnic concentration was not protective; rather, ERH had a stronger negative association with mental health for UK born minorities living in such areas. We identified additional resilience factors: number of close friends and having certain personality traits – higher levels of Openness to Experience and Conscientiousness. We also found those who attend religious services more frequently and have higher levels of Agreebleness and Extraversion are poorly equipped to deal with ethnic and racial harassment.

Keywords: harassment, discrimination, resilience, mental health, wellbeing

[1]**Corresponding author**, Email: anandi@essex.ac.uk; Address: ISER, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, UK

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1 Introduction

The enjoyment of physical safety and civil treatment in public spaces, regardless of race, ethnicity or religion, is a core right in modern democratic societies. Both past and current evidence, however, documents that this right is not equally enjoyed by all in the United Kingdom: the last nationally representative survey of ethnic minorities in 1994 reported that 11% of UK's ethnic minorities had been harassed in the previous year (Dustmann, Fabbri and Preston 2011). Over 15 years later, this number remains remarkably stable, with one in ten individuals in the UK reporting being harassed due to their ethnicity, nationality or religion. Following the Brexit vote it has spiked even further (Khaleeli 2016). In addition to violating our sense of fairness and equality, and perhaps partly because of it, racial and ethnic harassment has detrimental effects on both physical and mental health (Becares and Das-Munshi 2013; Bécares et al. 2012; Karlsen and Nazroo 2002; Paradies 2006); more so if experiencing harassment repeatedly (Wallace, Nazroo and Bécares 2016). It is thus important to ask what factors particularly drive individual vulnerability to such experiences, as well as what resources might be available to ethnic minority members to buffer against their negative impact on health. While one in ten ethnic minorities report experiencing ethnic and racial harassment in the past year, almost twice that number in some groups, say that they avoid certain places or find some places unsafe. Fear of ethnic and racial harassment could be as detrimental to individual health as an actual experience of it. In this paper we estimate the association between reported as well as anticipated ethnic and racial harassment on mental health and on identifying resilience or protective factors.

Existing research shows, firstly, that ethnic and racial harassment is lower in areas of with a higher proportion of co-ethnics, and secondly, that the harmful effect of harassment on mental health is weaker in areas such areas (Becares and Das-Munshi 2013; Bécares et al. 2012; Das-Munshi et al. 2010). However, these studies are based on the Fourth National Survey of Ethnic Minorities (FNSEM), a 20 year old survey and as the UK has undergone significant changes during that time, we need to reassess minority vulnerability to harassment and the moderating relationship of ethnic attachments.

In the last 20 years, immigration policies have become more stringent resulting in more high skilled immigrants coming to the UK. It is also true that early immigrants have now settled and raised children of their own, with the result that over one-third of adult ethnic minorities are currently UK born – the second generation. They are likely to differ from the first generation in terms of their expectations of fair treatment and comparison or reference groups. For example, even though they are more likely to be educated than their white majority or white British peers, they are also less likely to get jobs and more likely to earn less (Dustmann, Frattini and Theodoropoulos 2011). Finally, in the last 10-15 years majority attitudes towards different ethnic groups has undergone a significant change. There has been a marked rise in Islamaphobia while attitude towards black and Asian groups have become more favourable (Ford 2008; Poynting and Mason 2007). These changes are likely to alter individual level exposure to harassment as well as the effect of harassment on individuals' mental health operating via differences in expectations of fair treatment and reference groups across generations.

In this paper, we test whether the earlier observed patterns of harassment prevalence and the moderating effect of ethnic attachment continues to hold with the most recent data available. We use data from the largest, most recently available nationally representative survey of the UK's major ethnic minority groups, Understanding Society (2009-2014). Secondly, we add to this literature by testing for generational differences in the association between harassment and mental health. Thirdly, we examine a large number of factors that may protect individuals against the negative mental health consequences of harassment. These resilience factors may be classified as environmental capital that include community based structures that promote wellbeing, social capital and social networks, and individual emotional and cognitive capital (Friedli 2009; Richards 2016). Until now, in the UK context, the only protective factor that had been considered was a measure of social capital– ethnic attachment as proxied by proportion co-ethnics in the neighbourhoods. For the first time, we test the role additional protective factors. These are social or community level measures – friendship networks, co-ethnic friendship networks, religiosity or frequency of religious attendance, and individual emotional and cognitive measures – ethnic identity and personality traits, ethnic and racial and mental health by generation

The extant literature focuses primarily on actual experiences of harassment. Yet the overall harmful effect of ethnic and racial harassment is likely to operate through multiple channels, both through the direct effect on those who suffered the harassment as well as by creating an environment of fear even among those who have not experienced harassment (May, Rader and Goodrum 2009). For instance, using FNSEM,(Shields and Wailoo 2002) find that black Caribbean and South Asian men who fear racial harassment are unhappy. Using Understanding Society data we compare the relative impact of experienced and anticipated harassment on mental health for UK's ethnic minorities across generations. Our final contribution to this literature is dealing with one form of measurement error. Following the Equality Act 2010 and the measures available in the data we have measured ethnic and racial harassment as having experienced physical or verbal abuse in a public place (that is excluding, home, school, college or workplace) and identifying the reason to be their ethnicity, religion or nationality. It is not always possible for a person to identify the reason for the physical or verbal abuse they have experienced, unless explicitly mentioned by the perpetrator. The person experiencing this behaviour may suspect the reason to be their ethnicity, religion or nationality but do not report it as they are not sure. Alternatively, they may not be aware that this could be the reason. Either way, they could still experience poor mental health as a consequence of it. So, in this paper we also examine the association of harassment with mental health even if the person is not able to identify the reason as ethnicity, religion or nationality.

2 Background and Hypotheses

There is a broad literature which examines the link between ethnic and racial harassment (ERH) and the mental health of immigrants and UK born ethnic minorities[2]. The motivation to look at this relationship was both a desire to empirically document the detrimental impact

[2] Note most of the studies discussed in this section focus on general health which explicitly or implicitly includes mental health aspects but not necessarily solely on mental health

of ERH on individuals from minority groups who are subject to such behaviour as well as to dispel essentialist or genetic arguments for poorer health among UK's ethnic minorities (John and Srivastava 1999; Nazroo 2003). It is also clear that from a public policy point of view it is very important to identify factors which can be exogenously changed and lead to better health outcomes such as (i) socio-economic conditions, (ii) residential area features such as deprivation, physical and social environment, (iii) psychosocial factors such as support networks, social isolation and exclusion, (iv) health behaviours and (v) quality and use of health services. ERH and discrimination is frequently proposed as an explanation for residual health inequalities when these other contextual factors are accounted for; however it is also important to note that the compositional differences themselves may be the result of discrimination faced by ethnic minorities in the labour market, housing, car insurance, or health care provision (Costa and McCrae 1980; Costa and McCrae 1988; Rotter 1966).

Compositional factors and ethnic health inequality

When considering mental health or specific diseases such as heart disease, diabetes and stroke all ethnic minority groups report worse outcomes than white British (Knies, Nandi and Platt 2016; Singh et al. 2007; Smith et al. 2000; Stillman and Velamuri 2016). Compared to the white majority, UK's ethnic minorities are more likely to be poor, unemployed, be in poorer quality low paying jobs, live in poorer quality housing and in deprived areas (Berry 1997; Berry 1998; Friedli 2009; Nandi and Platt 2015; Phillips 1998; Phinney 1991; Richards 2016). For these reasons, the compositional differences between ethnic groups in socioeconomic characteristics is frequently evoked as an explanation for the poorer physical and mental health of minorities in the UK.

Yet this general picture of disadvantage conceals substantial heterogeneity, both between and within specific ethnic groups. Whereas relatively low skilled labour migration, and later family reunification, dominated the first major migration waves following WWII, migration policy has become increasingly targeted towards skilled migrants starting with New Labour in the 1990s culminating with the introduction of a skill based point system in 2008[3]. Simultaneously free movement of workers from some European countries to the UK has been allowed since the 1970s, and was expanded to include the accession countries of Eastern Europe in 2004 and in 2014. The result is that more recent immigrants tend to be more highly educated, have better English language skills, and be more active participants in the labour market than settled immigrants, even among the foreign born with the same national origins. For this reason, explanations of ethnic inequality that rely on socioeconomic disadvantage no longer fit the increasingly heterogeneous ethnic minority population. Rather, ethnic and racial minorities in the UK display a bimodal educational and class distribution. At the disadvantaged end of the educational and occupational distribution are former labour migrants dominantly from Pakistan and Bangladesh, as well as their family members and increasingly their UK born children. Poverty and unemployment rates for these two origin

[3] While immigration to the UK has a very long history we will follow current discourse and focus any discussion of immigration to the period since the 1950s. Immigrants as a proportion of the total population jumped from 2.7% in 1931 Census to 4.3% in the 1951 Census and has steadily increased to 13.44% in the 2011 Census (https://www.migrationwatchuk.org/briefingpaper/document/48)

groups have consistently been much higher than the British average for several decades. On the other end of the spectrum are many Indian, Chinese and black African origin immigrants with very high levels of educational and occupational attainment (in some cases higher than that of white majority), as well as many of the most recent arrivals under the skilled migrant and student provisions of the point based system implemented in 2008. Historically, black Caribbeans have fallen somewhere in the middle, with stronger labour force participation and wages than Pakistanis and Bangladeshis but still disadvantaged relative to white British. However it is important to note that there is wide variation in these outcomes within groups, making it difficult and often inaccurate to talk in terms of group averages. For example, black Caribbean women who arrived primarily as labour migrants generally have better labour market outcomes than other ethnic group women (Buddelmeyer and Powdthavee 2015) while black Caribbean men have one of the highest unemployment rates among all groups (Richards 2016). New research with the most recent data is therefore necessary to understand this increasing heterogeneity.

Ethnic and racial harassment or discrimination and ethnic health inequality

There is clear variation across ethnic groups, periods of immigration, and place of birth, but in general, health inequalities between ethnic groups are reduced – but do not disappear - when common confounders of social class, educational attainment, and demographic characteristics are adjusted for (Nazroo and Karlsen 2001). To explain residual inequality, researchers have looked for evidence of a direct impact of discrimination or ethnic and racial harassment (due to the position of ethnic minorities in the UK as visible outsiders), on their physical and mental health (Becares and Das-Munshi 2013; Bécares et al. 2012; Karlsen and Nazroo 2002; Paradies 2006; Phinney et al. 2001; Wallace, Nazroo and Bécares 2016). The existence of discrimination against ethnic minorities in the UK is well-documented: in addition to the self-reports from both 1994 and 2010 cited above, the number of racially and religiously motivated hate crimes reported to the police (which are usually the most severe forms of harassment) was 42,930 in England and Wales in 2014-2015 alone. Qualitative and clinical studies consistently find that discrimination is associated with nonspecific stress, psychological wellbeing such as happiness and life satisfaction, and perceptions of mastery and control (Williams, Neighbors and Jackson 2003). At the population level, survey research similarly finds ethnic and racial discrimination to be associated with worse mental health.

The impact of *experienced* harassment on mental health is well documented. However, there is reason to believe that the effect of experienced harassment is only the tip of the iceberg when examining the overall impact of ethnic and racial harassment on mental health. While not every ethnic minority experiences harassment, they may hear about the harassment experienced by their family members, neighbours, or members of the same ethnic group and as a result anticipate that they may also experience it in the future. One study has found a negative impact of anticipated harassment on physical health (Karlsen and Nazroo (1990) while another has found its negative impact on unhappiness for black Caribbean and South Asian men (Shields and Wailoo (2016). Given the recent increased political saliency of immigration in everyday British news and political discourse (Abou-Chadi 2016) as well as

documented increases in hate crimes towards minorities since the Brexit referendum, it is likely that fear and anticipated harassment is rising as well.

The psychological costs of fear and avoidance are essentially a matter of definition: those who fear harassment are by definition experiencing negative affect, and the avoidance of certain places is by definition a partial relinquishing of self-determination in movement. The social and economic costs are perhaps less direct, but important. For instance, fear of harassment leads ethnic minority members to be excluded from certain public domains – for instance to avoid public parks due to fear of racial attack (Madge 1997), or even to report significantly changing the way they live their lives (Maung and Mirrlees-Black 1994). Such avoidance may have social costs, for instance by reducing socialising in public places or the enjoyment of publically provided opportunities for recreation, cultural appreciation, or similar. Avoidance is likely also associated with economic costs, both in the sense of loss of time (for instance, choosing routes to avoid certain places or restricting movements to daytime hours) as well as loss of actual money (by taking cabs rather than walking, or fearing to walk to work or school) (Bowes, McCluskey, & Sim, 1990; Cooper & Pomeyie, 1988);which in turn could have consequences for mental and physical health.

Resilience factors

In addition to documenting these main effects of socio-economic composition and experiences of harassment or fear of harassment on health, researchers have investigated important buffers in these relationships; in other words, factors which can be also be classified as sources of resilience to socioeconomic deprivation or harassment. These buffers or resilience factors for mental health may operate at area or environmental level, social level and individual level (Friedli 2009; Richards 2016). While studies have found certain deprived areas to have lower mortality rates than other equally deprived areas the actual environmental factors such as local council policies are difficult to measure and identify (Tunstall et al 2007 in (Friedli 2009)). In this paper we focus on individual and social level resilience factors.

Social level resilience factors are factors that restore wellbeing and operate at community or social level such as social networks, social cohesion and trust, and ethnic attachment. Ethnic attachment is loosely defined as strong affiliation with and social embeddedness in the co-ethnic community. While the relationship between social disconnectedness, perceived isolation and poor physical and mental health is well documented for the general population (Berry et al. 1987; Richards 2016; Waite and Cornwell 2009), ethnic minorities in particular are expected to benefit specifically from social connections to members of their own group. In this literature ethnic co-networks are generally measured by the proportion of co-ethnics living in the individual respondent's neighbourhood and its impact on health is also referred to as the ethnic density effect: "as the proportion of an ethnic minority group in an area increases, their health complications will decrease (Becares, Nazroo and Stafford 2009) 701)". In addition to a direct beneficial effect on health, living in areas of high ethnic density is expected to lower exposure to ethnic and racial harassment, and to "buffer" its impact on health when it does occur (Karlsen and Nazroo 2002). Living in areas with a higher proportion of co-ethnics reduces the likelihood of coming in contact with white majority

group members. It has thus been hypothesised and established empirically, that ethnic minorities living in these areas are less likely to experience harassment (Dustmann, Fabbri and Preston 2011; Tajfel 1981). When ethnic and racial harassment does occur, minorities residing in high density ethnic areas are hypothesized to appraise their experience of harassment in a less self-stigmatizing way, and to have a better opportunity to process the experience with sympathetic neighbours and friends (Nazroo and Halpern 1999). Several analyses in the UK have demonstrated that living in an area with higher ethnic density is associated with better mental health and weaker association between racism and mental health (Pickett and Wilkinson 2008; Tajfel 1981). These studies also acknowledge areas of high ethnic minority concentration are more likely to be economically deprived and so area level deprivation should be controlled for to identify the effect of ethnic density.

Individual level resilience also referred to as psychological resilience reflect an individual's capacity for maintaining good physical and psychological functioning in the face of severe negative shocks or adversities and to return to positive health and wellbeing (Bonano 2004 in (Buddelmeyer and Powdthavee 2015)).One such factor is a sense of affiliation with one's own ethnic group, generally measured as ethnic identity. Researchers have postulated that for ethnic minorities, identifying with one's own ethnic group is a source of resilience to discrimination and will have a positive effect on their wellbeing via better self-esteem (Phinney 1991). Choices of identification are complex: minorities can choose to maintain attachment to their own group, to adopt a majority identity, or to combine the two in a variety of ways. Berry's acculturation framework conceptualises that individuals undergoing an acculturation process make two separate choices – whether to maintain their own culture and whether to interact with the majority group – resulting in four paths to acculturation and types of identification (Berry 1997; Berry 1998). Studies have found that UK's ethnic minorities do exhibit identity patterns consistent with this framework –integrated identity (identifying with both), assimilated identity (only strongly identify with Britishness), separated identity (only strongly identify with parents ethnic group, and marginalised (identify with neither)(Nandi and Platt 2015). (Berry et al. 1987)hypothesized that these acculturation modes moderate the relationship between acculturation and stress where those with integrated identities experience the least stress. There is some evidence across different countries of this relationship (Berry et al. 1987; Phinney 1991; Phinney et al. 2001)

Ethnic identity has been found to mediate *a positive* relationship between perceived discrimination and wellbeing: the experience of discrimination activates a stronger ethnic identity, which in turn has a positive effect on wellbeing (Verkuyten, 2008). But there is no study to the best of our knowledge that has examined the role of ethnic identity as a buffer against negative effects of discrimination. Studies looking into ethnic density effects, implicitly assume that living in areas of higher ethnic density increases a sense of belonging to the ethnic group, a component of ethnic identity (Phinney 1990), which in turn has a positive effect on mental health. But these studies do not account for other components of ethnic identity, such as strength of identification with own ethnic group or the identity achieved as a result of a particular mode of acculturation adopted. According to(Phinney 1991) having a strong ethnic identity is likely to serve as a buffer against racism because the

individual will interpret such acts as being directed at the group and driven by prejudice thus not related to his or her individual characteristics.

Another individual resilience factor that has been studied is personality. Personality traits are "defined as patterns of thought, feelings, and behaviour" and reflect "differences in how people actually think, feel, and act, not on how people want to think, feel, and act" (Borghans et al. 2008). Locus of control and the Big Five personality traits have been identified by psychologists as key personality traits that impact behaviour (John and Srivastava 1999; Rotter 1966). Individuals with strong internal locus of control believe that they can change life outcomes by their own efforts while those with strong external locus of control believe outside influences such as fate affects their life outcomes and they can do little to influence those. The Big Five personality trait model proposes that individuals have high or low levels of five different personality traits: Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism.

Over the last two decades personality has been studied extensively by social scientists to understand socio-economic behaviour such as labour market performance, investment in human capital, occupational choice[4]. Recently, building on the work on resilience by (Bonano 2004 see in (Buddelmeyer and Powdthavee 2015)) researchers have started investigating the role of locus of control on wellbeing following adverse negative shocks such as bereavement, being victims of violent crimes (Buddelmeyer and Powdthavee 2015; Stillman and Velamuri 2016). They find that the relationship between adverse events and cognitive measures of wellbeing such as life satisfaction is weaker among those having strong internal locus of control, although the effects vary by gender. Other studies have found relationships between the Big Five personality traits and affective of experienced measures of subjective wellbeing[5]. Note, GHQ that is often used as a measure of mental health in ethnic and racial harassment studies discussed here mostly includes measures of negative affect. These studies have found a positive relationship between positive affect and extraversion and agreeableness, negative association between and conscientiousnes and negative affect and positive association between negative affect and neuroticism (Costa and McCrae 1980; Costa and McCrae 1988). As experiencing ethnic and racial harassment can be considered to be a negative shock, and as conscientiousness has a negative association with negative affect it may also be protective and weaken the association between ERH and mental health.

Generation status and the relationship between harassment and health

A final contribution of this paper is to differentiate between foreign and UK born ethnic minorities, that is first and second or higher generation, when examining the relationship between harassment, ethnic attachment, and mental health. This is a very important distinction, given that ethnic minority groups in the UK have undergone a generational shift as earlier immigrants have settled, raised families, and now have adult UK born children.

[4] Barrick and Mount 1991, Mount and Barrick 1998 and Saldago 1997, Bowles et al 2001, Nyhus and Pons 2005, Mueller and Plug 2006, Heineck 2011, Heineck and Anger 2009, Nicoletti and Nandi 2014, Cunha and Heckman 2008, Cunha et al. 2006, Cobb-Clark and Tan 2010

[5] See Luhman et al (2012) for a discussion of cognitive and affective measures of subjective wellbeing.

According to the 2011 Census, 40% of the non-white English and Welsh residents were born in the UK. We expect that within ethnic groups the first generation will exhibit both different exposure to harassment and different levels of mental health than the second generation, for a variety of reasons. Firstly, "second generation" minorities did not migrate by choice, and hence are likely to differ from immigrants in both their observed and unobserved characteristics. Second, as full citizens born and socialized in the UK, their expectations for treatment and frame of reference (Bartram 2010) will also surely be different from the foreign born. Finally, native born minorities should rely less on ethnic ties imported from their parents' countries of origin, which may alter the impact of ethnic attachment as a resiliency factor in their mental health.

The first difference between immigrants and the second generation is that only the former underwent the particular process of *selection* in the decision to migrate. Only one in eight adults in the world would want to migrate internationally if given the opportunity to do so (Gallup 2009); and only a much smaller fraction, 3.3% as of 2015, of the world's population actually do so (United Nations 2016). The results is that the foreign born generally represents a small, non-randomly selected group of individuals, with important consequences. For instance, immigration is physically and financially taxing, and so immigrants to the UK are generally healthier than a similar non-migrant from their origin country as well as healthier than the average member of the white majority population, for instance immigrants to the UK have been documented to have lower mortality rates (Scott and Timæus 2013) than the white majority. The evidence of an immigrant advantage in regards to mental health is more mixed. We might anticipate a similar mechanism of positive selection of mental as well as physical health among immigrants (Bartram 2013; Ivlevs 2015), on the other hand mental health will be more immediately responsive to discrimination or relative deprivation and hence any positive selection may rapidly deteriorate for the foreign born (Bartram 2010). Such scepticism about the positive relationship between migration and wellbeing is likely to particularly apply to UK born minorities, who did not choose, as their parents did, to migrate to the UK.

A further difference in selection by country of birth is the result of immigration policy changes over time. The UK born members of many minority groups are the children of immigrants who arrived during the labour migrant recruitment phase of migration policy in the first few decades following WWII, when largely lowly educated men were recruited to work in industry and mill work. Their parents faced a strong disadvantage as unemployment rose in the early 1970s, and were ill equipped to deal with the decline in manufacturing and service sector restructuring of the UK in the late 1970s until the late 1980s. In contrast, more recently arrived foreign born minority members were much more likely to have arrived as skilled workers or students as migration policies became ever more restrictive under New Labour and beyond. These more recently arrived immigrants are much more educated, from more urban backgrounds, and with better English language ability then those who came before them, even within the same national origin group (ONS 2014). Looking at two Pakistani origin middle aged men in 2010, for instance, we may be comparing the child of a

rural labour migrant who arrived in 1960 to a highly educated former UK postgraduate student from Lahore.

Beyond these selection mechanisms of who decides to migrate to the UK, there are further social-psychological reasons to anticipate differences between UK born and foreign born minorities. These have to do with the internalized reference group of these two populations. Whereas the foreign born generally compare their outcomes against the non-migrants in their home country, UK born minorities have a different frame of reference. Having been socialized in the UK and growing up with UK citizenship, the children of immigrants are unlikely to compare themselves to peers in a country they never called their own and instead to compare themselves to the majority group in their home: the white majority. These different frames of reference will create very different perception of success as well as fair treatment. Even less well-off minorities in the UK may have surpassed the average member of their less wealthy home country population; in contrast, most minority groups in the UK are less likely to be employed and earn lower wages than white majority peers (Dustmann, Frattini and Theodoropoulos 2011). This difference in the relative sense of deprivation (or advantage) is likely to manifest in lower levels of mental health for UK born minorities as compared to foreign born of the same ethnic group.

In addition to different levels of overall wellbeing and mental health, different patterns of socialization and feelings of membership are also expected to create different expectations of treatment. The foreign born tend to reside in areas of higher co-ethnic concentration and to socialise less with white majority (Heath 2014). In general, they will have less exposure to harassment, and may be less sensitive to potential mistreatment due to a lack of knowledge of insults, slurs, or acceptable behaviour. Moreover, even if exposed to harassment, the foreign born may be more accepting of poor treatment by white majority due to their outsider status and different frame of reference (Gelatt 2013), and hence less likely to report it as such. In contrast, the UK born will be very aware of racial hierarchy and nationally specific signals of distinction. As full political members of the UK citizenry, socialised in British schools, they will know their rights and are likely to be (rightfully) angered when these are violated. The result is that we anticipate higher rates of reported ethnic and racial harassment among the second generation than among the foreign born. Moreover, we further anticipate that when harassment does occur, it will be felt more keenly by the second generation and impinge more deeply on their mental health and sense of well-being.

Finally, due to the differences in both unobservable selection and the socioeconomic composition of the first and second generation among UK ethnic minorities, we further expect that the *meaning* of residing in a densely co-ethnic area may be different between the two groups. For the foreign born, lacking language skills, network ties to British residents, and an underlying understanding of written and unwritten rules of life in the UK, living in an area with many co-ethnics is a survival strategy, providing social support as well as outlets to obtain the familiar foods, news sources, and religious or secular institutions with which one is familiar from the origin country. While this need will be felt more or less strongly depending on the education level or other resources of the individual immigrant, *all* immigrants share a socialization which occurred abroad and a lack of informal familiarity with life in the UK.

They may therefore be willing to reside in areas of higher levels of deprivation in exchange for the fulfilment of basic functional needs. In contrast, the UK born are less likely to have material needs for the company of co-ethnics. On the other hand, *all* (visible) minorities in the UK, regardless of place of birth, are susceptible to increased risk of harassment due to an environment of growing negative attitudes towards ethnic minorities and migrants. Thus the second generation could be choosing to live in these areas as a reflection of their reactive ethnic identity and as a fulfilment of an equally real psychological need for safety and ethnic belonging.

Hypotheses

From this review above, we can distil the following testable hypotheses about the association between experiences of ethnic and racial harassment and mental health, how they differ by generation and the role of resilience factors:

H1: In line with existing studies we expect individuals with lower socioeconomic standing will experience worse mental health.

H1A: As studies have shown that most UK born ethnic minorities have better educational outcomes than their white majority peers but poorer labour market outcomes, we expect this perceived unfariness to result in UK born ethnic minorities having poorer mental health than the first generation after adjusting for socio-economic status.

H2: In line with existing studies, we expect those who experience ERH to report poorer mental health after adjusting for socio-economic status.

H2A: We expect UK born ethnic minorities to have a stronger sense of fairness and keener awareness of ethnic and racial harassment and as a result they will suffer more from ERH than their first generation counterparts.

H3: We expect resilience factors to weaken the association between ERH and mental health.

H4: We expect those who anticipate but did not ERH to have poorer mental health than those who neither anticipate nor experienced, but better mental health than those who experienced ERH.

3. Data and methods

We use data from Understanding Society: the UK Household Longitudinal Study (UKHLS). The longitudinal survey started in 2009 with the General Population Sample (GPS), a nationally representative sample of around 26,000 UK households and the Ethnic Minority Boost Sample (EMBS) of around 4,000 households each of which included at least one person from an ethnic minority background. The EMBS was drawn from high ethnic minority concentration areas where 80% of UK's five major ethnic minority populations live. We use data from adult (16+ year old) interviews in the first five waves which were conducted during 2009-2014. A sub-sample comprising of the EMBS, 500 households randomly selected from

the GPS, and ethnic minorities in the GPS living in low ethnic minority concentration areas were asked five minutes' worth of extra questions. This sub-sample is referred to as the Extra Five Minutes Sample. In Waves 1, 3 and 5, this included a module on ethnic and racial harassment. All adult respondents were also asked to complete a self-completion questionnaire which included sensitive questions including those used to measure mental health and wellbeing. Thus given the research question analysed in this paper, the analysis sample is restricted to ethnic minorities (defined as anyone other than those who self-reported as white majority or white Irish) in the Extra Five Minutes Sample who also completed the self-completion questionnaire We pool data from Waves 1, 3 and 5.

To measure the ethnic composition of the neighbourhood of residence we linked 2011 UK Census information on the ethnic composition of the Lower Super Output Area (LSOA) where the respondent lives. LSOA is a geographic unit comprising 672 households and 1500 individuals on average. We also linked in an area level measure of deprivation, Index of Multiple Deprivation (IMD). As this measure is not consistent across countries and as 95% of UK's ethnic minorities live in England, we restricted the final sample to residents of England.

We estimate models of mental health to estimate its association with ethnic and racial harassment, and to see how this association is moderated by resilience factors. We also separately estimate models of anticipated ethnic and racial harassment (see definition below). We estimate these models using Ordinary Least Squares on a pooled sample of data from Waves 1, 3 and 5. In all these models we also control for a range of individual level characteristics related to mental health: age, sex, education, employment status, socio-economic status, marital status and household income.

Variables and measures

Ethnic and Racial Harassment (ERH): Ethnic and racial harassment or discrimination is a broad concept and can include a range of experiences. For the purposes of our paper, we focus on a specific form of harassment that is restricted to the public place. This choice is not arbitrary but reflects what we believe is one of the most "purest" forms of harassment, as those more commonly examined forms of harassment in school, work, housing are more likely to involve an interpersonal element. In contrast, harassment in a public place is what social psychologists like (Tajfel 1981) described as purely intergroup context where individuals see each other as group members and not as individuals, that is they do not consider (or know of) their personal characteristics. Insults given in public are further perceived as more offensive than those given in private (Cowan and Hodge 1996). This definition is closest to the definition of harassment set out in the Equality Act 2010. According to this Act, harassment is a form of discrimination where:

(1) A person (A) harasses another (B) if—
  (a) A engages in unwanted conduct related to a relevant protected characteristic, and
  (b) the conduct has the purpose or effect of—
    (i) violating B's dignity, or
    (ii) creating an intimidating, hostile, degrading, humiliating or offensive environment for B.

and the list of protected characteristics are age, disability, gender reassignment, race, religion or belief, sex and sexual orientation. The Act differentiates between harassment and direct

discrimination which refers to treating another person unfavourably because of one of the protected characteristics.

We operationalised ERH by coding a person to have experienced ethnic or racial harassment if (i) they say they have been insulted, called names, threatened or shouted at or physically attacked in a public place[6] in the past 12 months and (ii) give the reason for that to be their ethnicity, religion or national identity. Other reasons that they could have chosen are: dress or appearance, language or accent, sex, age, sexual orientation, other reason. We did not include "dress or appearance" and "language or accent" in our definition of ERH because these may not always be related to ethnicity or race only.

Anticipated ethnic or racial harassment (AERH): We measure anticipated ethnic or racial harassment by coding a person to have experienced AERH if (i) they say they have felt unsafe or avoided a public place in the past 12 months, (ii) give the reason for this to be their ethnicity, religion or national identity, and (iii) do not experience any ERH over the same period.

Mental health: We measured mental health by the total 12-item General Health Questionnaire (GHQ) score. This is a measure of psychological distress incorporating both anxiety and depression. In the 12-item version these two dimensions cannot be disentangled. It is scored by the likert method which varies from 0 to 36, higher score meaning poorer mental health. The GHQ was introduced in 1978 and has been widely tested for validity and reliability (Jackson 2007), including for inter-ethnic comparisons (Bowe 2016). All these questions are asked in the self-completion part of the interview and so any social desirability bias should be minimal.

Ethnicity and generation: We used the 2011 Census ethnic group categories combined with information on current religion or religion brought up in (if no current religion), to identify the ethno-religious groups that respondents belonged.
To identify generation, we coded any ethnic minority born in the UK as second generation and all those born outside the UK as first generation.

Resilience factors: We considered a number of resilience factors.

(i) We proxied community level ethnic support and social networks by measuring the proportion of co-ethnics (PCE) living in the neighbourhood defined by the LSOA where the respondent lives. We also used direct measures – the reported proportion of friends who are of the same ethnic group, the number of close friends and, the number of closest friends who are of the same ethnic group (the maximum number was capped at three).

(ii) We also considered religiosity or frequency of attending religious services as an additional measure of ethnic attachment or social level resilience factor. We measured this using the responses to the question asked in Wave 1, "How often, if at all, do you attend religious services or meetings?" The response options were: Once a week or more, Less often but at least once a month, Less often but at least once a year, Never or practically never, Only at weddings, funerals etc. The reference category was "once a week or more".

[6] These places include "on public transport", "Public buildings such as shopping centres, shops or pubs", "Outside: on the street, in parks or public places" etc and we have excluded "At school, college or work" and "At home" as the issues in those cases are different. Additionally, we find that most report experiencing ERH in public places.

(iii) We measured acculturation using a measure that was loosely based on Berry's acculturation framework (Berry et al 1987) as implemented by Nandi and Platt (2015). Individuals with strong ethnic identity and British identity are termed as "integrated", while those with only strong ethnic identity as "separated", with only strong British identity "assimilated" and neither as "alienated" or "marginalised". Those who reported a Britishness score greater than median were coded as having a strong British identity. Those who reported identification with their parents' ethnic group as higher than the median were coded as having a strong ethnic identity. The combination of these two variables was used to compute the acculturation variable.

(iv) We measured personality using the Big Five 15-item personality module which includes 3 items to measure each of the five traits: Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. As is the usual practice we computed the score for each trait by taking the average of the three items.

4. Results

Ethnic and racial harassment and mental health (Hypotheses 1 and 2)

We implement a series of models of mental distress as measured by GHQ in Table 1, to test Hypotheses 1, 1A, 2 and 2A. The first model includes only the ethno-religious group indicators and a variable indicating whether UK born. In the second model, we include socio-economic controls – age, sex, education, household income, employment and occupational status, and marital status. We report descriptive statistics for the main independent and dependent variables considered here, separately by ethnic group and immigrant generation (see Table A1 in the Appendix). As can be seen in Table A1, there is considerable variation across ethnic groups, and between generation statuses within them.

As expected, having a high level of education, being in employment, having higher income and being married are all positively associated with mental health. Thus we find strong support for Hypothesis 1. Comparing Models 1 and 2, we see that controlling for socio-economic composition reduces ethno-religious differences in mental health between the reference group, Indians who were not Muslims or Sikhs (that is mostly Hindus), and most of the other ethno-religious groups, but increases the difference with black African Christian and Indian-Muslims. For these groups, a higher socio-economic status was supressing their relative disadvantage in mental health. Similarly, the higher levels of education and income among the second generation mask their higher levels of mental distress and once we account for their socioeconomic advantage, we find that the second generation has worse mental health than the foreign born. In other words, there is strong support for Hypothesis 1A.

In Model 3, we introduce ERH and see that, as expected in Hypothesis 2, ethnic minorities who report ethnic and racial harassment have substantially worse mental health than those who do not experience ERH. Even after controlling for a range of socioeconomic characteristics, minorities who report ERH have, on average, over 2 more points on the 0-36

point GHQ scale, a one-third standard deviation higher level of mental distress. In Model 4, we test Hypothesis 2A, that is, whether the negative association between ERH and mental health is stronger for the second generation. As expected we find that the sign of the interaction effect is positive, suggesting a stronger relationship between ERH and mental health for the UK born. However, this interaction effect is not statistically significant, and thus we cannot conclusively reject that ERH is equally harmful for minorities of all generations.

Table 1: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model1	Model2	Model3	Model4
Ethno-religious group (Ref: Indian-Hindu and other religions)				
Indian-Muslim	-0.46	-0.80*	-0.85*	-0.85*
Indian-Sikh	1.35**	1.10**	1.00**	0.99**
Pakistani	1.52**	1.03**	0.99**	0.99**
Bangladeshi	1.09**	0.83**	0.78**	0.78**
Chinese	0.77*	0.76*	0.66+	0.67+
black Caribbean	0.87**	-0.29	-0.30	-0.30
black African-Christian+	-0.64**	-1.10**	-1.11**	-1.11**
black African-Muslim	0.47	-0.34	-0.36	-0.36
Mixed	1.17**	0.47+	0.46+	0.46+
Other	1.09**	0.74**	0.70**	0.70**
UK born	0.20	0.69**	0.69**	0.67**
Ethnic and racial harassment			2.17**	2.03**
Ethnic and racial harassment X UK born				0.35
Age group (Ref: 30-39 years)				
16-19 years		-2.58**	-2.54**	-2.54**
20-29 years		-0.46*	-0.45*	-0.46*
40-49 years		0.77**	0.79**	0.79**
50-59 years		1.04**	1.08**	1.08**
60-69 years		0.84*	0.88*	0.88*
70+ years		2.19**	2.21**	2.21**
Female		0.67**	0.70**	0.70**
Highest Educational Qualification (Ref: None)				
Degree		-0.64**	-0.71**	-0.71**
Other higher		-0.24	-0.32	-0.32
A level etc		0.18	0.10	0.10
GCSE etc		0.02	-0.04	-0.04
Other qualifications		0.05	0.01	0.01
Log of household income		-0.29**	-0.26**	-0.26**
Employment status (Ref: Employed)				
unemployed		1.68**	1.65**	1.65**
retired		-0.64	-0.58	-0.58
other		1.31**	1.32**	1.32**
NSSEC (Ref: Highest)				
middle		0.01	0.02	0.02

lower		-0.05	-0.04	-0.04
none		0.27	0.30	0.30
Marital status (Ref: never partnered)				
cohabiting		0.42	0.38	0.37
married		-0.45**	-0.45**	-0.45**
Separated, divorced, widowed		0.67**	0.68**	0.68**
No. of observations	10,504	10,394	10,394	10,394

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

Sources of resilience (Hypothesis 3)

Social level resilience factors

To identify different resilience factors, we next examine the relationship between ERH and a host of resilience factors discussed in the previous section. Note all models from here on also include all the socioeconomic factors, ERH and UK born dummy included in Model 3. The Tables in this section report the coefficients for UK born dummy and ERH from Model 3 for comparison purposes. In these tables, the coefficients of the resilience factors and their interactions with ERH are then reported to test Hypothesis 3. The coefficients for socio-economic status which are robust across different models are not reported in these tables to conserve space.

First we test one form of social level resilience factor, ethnic attachment, as measured by the percentage co-ethnic (PCE) in the local area of residence. Results are shown in Table 2. In Model 5, we introduce PCE, and as expected we find that areas with higher levels of PCE are associated with better mental health although the estimated coefficient of PCE was not statistically significant. As areas of high ethnic minority concentration are also areas of high deprivation which is likely to be positively associated with poor mental health, we controlled for area level deprivation in Model 6. Once the suppressing effect of area deprivation is taken into account, we see that living in areas with a high concentration of co-ethnics is a statistically significant source of protection for the mental health of ethno-religious minorities.

Table 2: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model3	Model5	Model6	Model7
UK born	0.69**	0.69**	0.69**	0.68**
Ethnic and racial harassment	2.17**	2.15**	2.13**	1.64**
Proportion Co-ethnics in LSOA		-0.59	-0.92*	-1.14**
2010 IMD score			0.01**	0.01**
Ethnic and racial harassment X Proportion Co-ethnics in LSOA				3.48**
No. of observations	10394	10394	10394	10394

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

Finally to test Hypothesis 3, where we hypothesized that minorities who were socially embedded with co-ethnics would suffer less from ERH than those who are not, we interacted ERH with PCE in Model 7. But contrary to expectations we found that the association of

ERH with mental health was stronger in areas of high PCE. To understand this puzzling result, we investigated whether this relationship was the same across both generations. The average marginal effects of ERH across generations and for different levels of PCE are reported in Figure 1. This figure shows that among those who did not experience ERH, both foreign born and UK born minorities experience a negative association between the proportion co-ethnic in the local area and mental distress. However, for those who do experience ethnic and racial harassment, the relationship between PCE and mental health differs for the foreign born and the UK born. Amongst those experiencing harassment, the foreign born experience no protective relationship between PCE and mental health; for the UK born experiencing harassment, mental health is actually *worse* in areas of high PCE than in areas of low PCE. In other words, this unexpected result is being driven by the second generation. One explanation for this result could be that all ethnic minorities feel a greater sense of security in areas of high PCE. That coupled with a greater expectation of fair treatment among the second generation could have a worse impact if they do experience ERH in these areas.

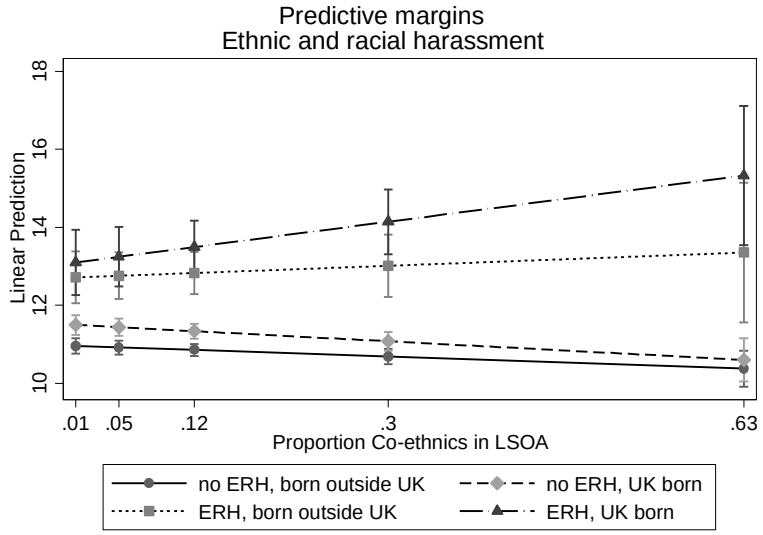

Figure 1

In addition to examining the most common measure of ethnic attachment, proportion co-ethnic in the local area, we exploit the rich individual level data in Understanding Society to include direct measures of ethnic attachment – the number of same ethnic group close friends, the ethnic composition of friends (not necessarily close friends), and religiosity – to see if these provide any additional source of resilience. We also include the total number of close friends as an additional measure of social level resilience. Results from these new models are reported in Table 3 and results from Model 6 which include PCE and IMD are also included for comparison.

Table 3: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model6	Model6	Model9	Model10	Model11
UK born	0.69**	0.62**	0.62**	0.55**	0.55**
Ethnic and racial harassment	2.13**	2.04**	2.56**	2.19**	2.62**
Proportion Co-ethnics in LSOA	-0.92*	-0.93+	-0.95+	-0.69	-0.78
2010 IMD score	0.01**	0.02**	0.02**	0.02**	0.02**

Number of close friends			-0.03		
Ethnic and racial harassment X number of close friends			-0.10*		
Half or more friends are of the same ethnic group				-0.77**	
Half or more friends are of the same ethnic group X Ethnic and racial harassment				-0.23	
# close friends of same ethnic group (max 3)= 1					-0.17
# close friends of same ethnic group (max 3)= 2					-0.07
# close friends of same ethnic group (max 3)= 3					-0.67**
# close friends of same ethnic group (max 3)= 1 X Ethnic and racial harassment					-0.99
# close friends of same ethnic group (max 3)= 2 X Ethnic and racial harassment					-0.85
# close friends of same ethnic group (max 3)= 3 X Ethnic and racial harassment					-0.64
No. of observations	10,394	6,947	6,947	6,947	6,947

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

As these friendship network variables were asked in one wave, Wave 3, including these variables reduces our sample size from the original sample (a loss of 3447 cases), and so we report Model 6 with this restricted sample [7]. These two measures of ethnic attachment, ethnic composition of close friends and ethnic composition of friends (not necessarily close friends), operates on mental health as we would anticipate from our findings with the PCE: those who have a higher proportion of close (and not so close) friends of the same ethnic group experience better mental health (Models 10 and 11). Indeed, the ethnic composition of the friendship network appears to mediate the relationship between PCE and mental health, as the coefficient for PCE in models which include these more direct measures becomes statistically insignificant. However, we again find no support for hypothesis 3, that ethnic attachment moderates the impact of harassment on mental health. The interaction coefficients are not statistically significant, thus we cannot confirm that ethnic attachment here provides a source of resilience to harassment.

When we include a variable measuring number of close friends, as an additional measure of social level resilience, we find that while this is *not* directly significantly associated with mental health, it does weaken the association between ERH and mental health (Model 9). These results are in contrast to the results for co-ethnic (close or not) friendship networks.

As a final measure of ethnic attachment, we also examine the relationships between religiosity, ERH, and mental health (Model 12). Particularly in the UK context, where religion presents a particularly bright boundary between the native and foreign born, attachment to religion may be positively associated with mental health, and a source of resilience against ethnic and racial harassment, as other forms of ethnic attachment. And indeed, we find a very similar main and moderating relationship for religiosity as the main and moderating relationship for proportion co-ethnic in the local area. Those with higher

[7] The coefficients of the key variables were similar but different. In the restricted sample, generation, PCE and ERH had a much stronger association with mental health.

religiosity (who attended religious services more) also report better mental health, however, they also suffered a larger increase in mental stress and anxiety if they experienced ERH (See Table 4). This is once again contrary to our expectations that ethnic attachment is protective (Hypothesis 3).

Table 4: Predicted GHQ scores based on Model 12

	Experienced ethnic or racial harassment?		
How often attend religious service	No	Yes	Difference
Once a week or more	10.69**	13.23**	2.54
Less often but at least once a month	10.88**	12.17**	1.29
Less often but at least once a year, Never or practically never, Only at weddings, funerals etc.	11.39**	12.95**	1.56

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

Individual level resilience factors

We begin with our operationalisation of Barry's concept of acculturation. The acculturation variable is based on measures asked in Wave 1, and so this analysis is restricted to those who responded in Wave 1 (for a loss of 1428 cases)[8]. The results of the model including separated, assimilated, and alienated identity (as opposed to an integrated identity espousing identification with both Britishness and one's non-British identity) are shown in Table 5 (Model 13). Inclusion of this variable reduced the magnitude of the coefficients for UK born and ERH variables reflecting the correlation between the variables. We find that those with assimilated or alienated identity have poorer mental health as compared to those with integrated identity and separated identity. Given the way this variable is measured, this result translates into ethnic minorities with strong ethnic identity reporting better mental health. Thus, it is not specifically an integrated identity that supports mental health, but rather an ethnic attachment – either with or without a corresponding British identification – that is associated with better mental health. However, the interaction effects of this acculturation variable and ERH is not statistically significant thus providing no support for Hypothesis 3.

Table 5: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model6	Model6	Model13
UK born	0.69**	0.73**	0.65**
Ethnic and racial harassment	2.13**	1.87**	1.75**
Proportion Co-ethnics in LSOA	-0.92*	-1.38**	-1.33**
2010 IMD score	0.01**	0.01**	0.02**
Acculturation (Ref: Integrated identity)			
Separated identity			-0.05
Assimilated identity			0.90**
Alienated identity			0.29+

[8] To make sure any observed associations are not the result of this smaller sample, we also estimated Model6 with this sample and compared the estimated coefficients obtained by estimating Model 6 with the original sample We found that the estimated coefficients of the key variables are similar although the magnitude for ERH coefficient is smaller in the new sample and that of PCE is larger.

Separated X Ethnic and racial harassment			0.09
Assimilated X Ethnic and racial harassment			-0.23
Alienated X Ethnic and racial harassment			0.55
No. of Observations	10,394	8,966	8,966

+ p<0.10 * p<0.05 ** p<.01
Data: Ethnic minorities living in England, Understanding Society, 2009-14

Next we introduced personality (asked in Wave 3) in Model 14 and this resulted in the number of observations dropping by 2951. We report the results of Model 6, Model 6 with this restricted sample and Model 14 in Table 6. In line with existing research we find that Agreebleness and Conscientiousness are positively associated with mental health and Neuroticism is negatively associated with mental health. We additionally find that Openness to Experience is associated with worse mental health outcomes. Introduction of personality measures also reduces the difference in mental health between native and UK born ethnic minorities by half and ERH is no longer statistically significant (p value= 0.15) although the coefficient is larger. The interaction effects of ERH and Openness to Experience is negative and statistically significant while that of ERH and Agreeableness is positive and statistically significant. In other words, Openness to Experience provides some buffer against ERH.

Table 6: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model6	Model6	Model14
UK born	0.69**	0.69**	0.38*
Ethnic and racial harassment	2.13**	2.06**	2.56
Proportion Co-ethnics in LSOA	-0.92*	-0.90+	-0.92*
2010 IMD score	0.01**	0.02**	0.02**
Openness to Experience			0.13*
Ethnic and racial harassment X Openness to Experience			-0.36+
Conscientiousness			-0.43**
Ethnic and racial harassment X Conscientiousness			-0.37
Extraversion			-0.05
Ethnic and racial harassment X Extraversion			0.15
Agreebleness			-0.20**
Ethnic and racial harassment X Agreebleness			0.48+
Neuroticism			1.40**
Ethnic and racial harassment X Neuroticism			-0.15
No. of Observations	10394	7443	7443

+ p<0.10 * p<0.05 ** p<.01

We then went on to estimate the average marginal effect of ERH on GHQ at the mean of each personality trait and at mean plus one standard deviation. The results are shown in Table 7. Here we find that the AME of ERH is 1.8, but a one standard deviation increase in Openness to Experience, Conscientiousness and Neuroticism reduces that to 1.3, 1.4 and 1.6, respectively. A one standard deviation increase in Extraversion and Agreebleness scores increases the AME of ERH to 2 and 2.4, respectively. This seems to suggest that those with higher Openness to Experience and Conscientiousness are better able to deal with ethnic and racial harassment while those with higher Extraversion and Agreebleness are poorly

equipped. The result for Neuroticism is puzzling but one explanation is that those who have higher Neuroticism scores and as a result poorer mental health, may be aware of resources needed to deal with such situations due to their prior condition.

Table 7: Average marginal effect of ethnic and racial harassment on GHQ for different personality trait scores (Model 14)

	AME of experienced ethnic or racial harassment	
	At Mean	At Mean plus 1 s.d.
Openness to Experience	1.8**	1.3**
Conscientiousness	1.8**	1.4**
Extraversion	1.8**	2.0**
Agreebleness	1.8**	2.4**
Neuroticism	1.8**	1.6**

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

Experienced and anticipated ethnic and racial harassment (Hypothesis 4)

To test Hypothesis 4, we replace ERH with a composite variable that identified those who neither experienced nor anticipated ERH, those who did both, those who either anticipated or experienced ERH only (Model 15). Compared to those who neither anticipated nor experienced ERH, those who either anticipated ERH or experienced ERH (or both) reported poorer mental health (See Table 8). We found that among those who experienced ERH, if they said that they avoided places or felt unsafe then their mental health was worse than those who did not modify their behaviour. While not anticipating ERH and avoiding places or feeling unsafe was also associated with poorer mental health it was less severe than those who experienced ERH. These results are in line with Hypothesis 4.

Table 8: Estimated coefficients of models of mental health estimated using OLS among UK's ethnic minorities

	Model6	Model15	Model16
Ethnic and Racial Harassment (Ref: Did not experience ERH)			
Experienced Ethnic and Racial Harassment	2.13**		
Ethnic and Racial Harassment (Ref: Did not experience or anticipate ERH)			
Anticipated but did not experienced		1.13**	
Experienced but did not anticipate		1.51**	
Experienced and anticipated		2.85**	
Harassment (Ref: did not experience any kind of harassment)			
Experienced harassment but the reason was not ethnicity, religion or nationality			2.01**
Experienced harassment and the reason was ethnicity, religion or nationality			2.27**
Constant	11.55**	11.38**	11.23**
No. of Observations	10,394	10,394	10,394

+ p<0.10 * p<0.05 ** p<.01

Data: Ethnic minorities living in England, Understanding Society, 2009-14

Robustness check

We also examined whether it mattered if ethnic minorities are able to identify the reason for the harassment they experienced as being something to do with their ethnicity, religion or nationality. We found that while those who could not identify the reason as their ethnicity, religion or nationality also reported worse mental health than those who did not experience

any kind of harassment, this association was weaker than for those who could identify the reason as being their ethnicity, religion or nationality.

5. Conclusion

In this paper, using data from Understanding Society (2009-2014), we examined the relationship between experiencing ethnic and racial harassment (ERH) and mental health of ethnic minorities living in England. Ethnic minorities who reported being physically or verbally assaulted in a public place at least once in the last year and said the reason was their ethnicity, religion or nationality were identified as having experienced ERH. We estimated cross-sectional models of mental health by OLS after pooling data across the first, third and fifth waves when questions about ERH were asked. We found that after controlling for socio-economic status which is negatively associated with mental health as measured by GHQ, ERH was associated with poorer mental health. This model also showed that UK born ethnic minorities reported worse mental health than their first generation counterparts.

The second aim of this paper was to identify individual and social level resilience factors. These are factors that buffer ethnic minorities against the negative mental health consequences of ERH. We examined a host of such factors – proportion co-ethnic in the neighbourhood to proxy ethnic social networks, number of close friends, proportion of casual friends (or acquaintances) and close friends who are of the same ethnic group, frequency of attending religious services, ethnic identity and Big Five personality traits. We found that while these were associated with better mental health very few of them were protective against ERH. The only two factors which were protective were number of close friends, some personality traits – Openness to Experience and Conscientiousness. There were two puzzling results. Among ethnic minorities who reported experiencing ERH, those who reported a higher frequency of attending of religious services reported worse mental health than those who attended religious services less frequently. Similarly, UK born ethnic minorities who reported experiencing ERH, those who lived in areas with a higher proportion of co-ethnic, reported worse mental health than those living in areas with lower proportion of co-ethnic.

Another aim of this paper was to see if fear of harassment was as detrimental to mental health as actual harassment. We found that those who anticipated ERH, that is felt unsafe or avoided a public place at least once in the last year due to their ethnicity, religion or nationality, but did not actually experience ERH also reported poorer mental health as compared to those who neither experienced nor anticipated ERH. The magnitude of this association was weaker than for those who actually experienced ERH.

In this paper we analysed mental health model using cross-sectional data and so it is possible that the observed associations do not have a causal interpretation. That is, there may be unobserved individual factors that may be correlated with the likelihood of experiencing and reporting ERH and mental health. Personality traits are often considered to be an important part of these unobserved characteristics. In the model where we included personality traits we found that the main results of poorer mental health among those who report experiencing

ERH than those who do not, poorer mental health among the UK born as compared to the first generation, poorer mental health among those with worse socio-economic status, persisted. In the future, we intend to address this problem more explicitly by making use of longitudinal data methods to identify causal links between experiencing ERH and mental health.

In this paper we investigated a large array of potential protective factors but found only a few factors that protected ethnic minorities against the mental health costs of ERH. Given this finding it is very important that British society works towards reducing such incidences in the first place. We also hope future research will focus on searching for other protective factors.

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Appendix

Excerpt from the Equality Act 2010, Chapter 2 Prohibited conduct

26 Harassment

(2) A person (A) harasses another (B) if—

(c) A engages in unwanted conduct related to a relevant protected characteristic, and

(d) the conduct has the purpose or effect of—

(iii) violating B's dignity, or

(iv) creating an intimidating, hostile, degrading, humiliating or offensive environment for B.

(3) A also harasses B if—

(a) A engages in unwanted conduct of a sexual nature, and

(b) the conduct has the purpose or effect referred to in subsection (1)(b).

(4) A also harasses B if—

(a) A or another person engages in unwanted conduct of a sexual nature or that is related to gender reassignment or sex,

(b) the conduct has the purpose or effect referred to in subsection (1)(b), and

(c) because of B's rejection of or submission to the conduct, A treats B less favourably than A would treat B if B had not rejected or submitted to the conduct.

(5) In deciding whether conduct has the effect referred to in subsection (1)(b), each of the following must be taken into account—

(a) the perception of B;

(b) the other circumstances of the case;

(c) whether it is reasonable for the conduct to have that effect.

(6) The relevant protected characteristics are—

age;
disability;
gender reassignment;
race;
religion or belief;
sex;
sexual orientation.

Table A1: Descriptive Statistics (means and proportions) of the main explanatory variables and the dependent variable by ethno-religious groups and generation

	Indian-Hindu+		Indian-Muslim		Indian-Sikh		Pakistani		Bangladeshi		Chinese	black Caribbean		black African-Christian+		black African-Muslim	Mixed		Other	
	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	1st gen	2nd gen	1st gen	2nd gen
GHQ score	10.0	11.6	10.1	9.7	11.6	11.9	12.4	11.4	11.4	11.5	11.2	11.2	11.4	9.7	9.6	10.7	11.0	11.9	11.2	12.2
Ethnic and racial harassment	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Age group	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16-19 years	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.4	0.0	0.0	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.2
20-29 years	0.2	0.3	0.1	0.3	0.1	0.3	0.2	0.4	0.2	0.4	0.3	0.1	0.2	0.2	0.3	0.3	0.1	0.3	0.2	0.2
30-39 years	0.3	0.3	0.4	0.4	0.2	0.3	0.3	0.2	0.4	0.2	0.3	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3
40-49 years	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.3	0.0	0.2	0.1	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.2
50-59 years	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.1	0.3	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.1
60-69 years	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0
70+ years	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Female	0.4	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Highest educational qualification																				
Degree	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.7	0.1	0.2	0.4	0.4	0.2	0.3	0.3	0.4	0.3
Other higher	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
A level etc	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.3	0.2	0.4	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.3
GCSE etc	0.1	0.2	0.1	0.4	0.1	0.2	0.2	0.3	0.2	0.3	0.0	0.2	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.2
Other qualifications	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1
None	0.1	0.0	0.3	0.0	0.2	0.0	0.2	0.0	0.3	0.0	0.1	0.2	0.0	0.1	0.0	0.2	0.1	0.0	0.1	0.1
Log of household income	8.1	8.3	7.7	8.2	8.1	8.3	7.8	8.0	7.9	8.1	8.0	7.6	7.8	7.8	7.9	7.7	7.9	7.9	7.9	8.0
Main activity status																				
Employed	0.6	0.6	0.5	0.5	0.6	0.6	0.4	0.4	0.5	0.4	0.6	0.4	0.6	0.6	0.5	0.4	0.6	0.5	0.5	0.5
unemployed	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1
retired	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0
other	0.2	0.3	0.3	0.4	0.2	0.3	0.4	0.5	0.4	0.5	0.3	0.1	0.2	0.2	0.4	0.4	0.2	0.3	0.3	0.3

Table A1: Descriptive Statistics (means and proportions) of the main explanatory variables and the dependent variable by ethno-religious groups and generation (continued)

	Indian-Hindu+		Indian-Muslim		Indian-Sikh		Pakistani		Bangladeshi		Chinese	black Caribbean		black African-Christian+		black African-Muslim	Mixed		Other	
	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	1st gen	2nd gen	1st gen	2nd gen	1st gen	1st gen	2nd gen	1st gen	2nd gen
Household level NSSEC																				
Higher	0.6	0.6	0.4	0.5	0.4	0.5	0.3	0.3	0.2	0.3	0.6	0.3	0.4	0.4	0.4	0.2	0.4	0.5	0.5	0.4
middle	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2
lower	0.2	0.2	0.3	0.2	0.4	0.2	0.3	0.2	0.4	0.3	0.1	0.3	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2
none	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.1	0.2	0.2	0.2
Marital Status																				
Never partnered	0.2	0.5	0.1	0.5	0.1	0.4	0.1	0.5	0.1	0.7	0.4	0.3	0.6	0.4	0.7	0.4	0.3	0.6	0.2	0.5
cohabiting	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1
married	0.8	0.4	0.8	0.5	0.8	0.5	0.8	0.4	0.8	0.3	0.5	0.4	0.2	0.4	0.2	0.4	0.5	0.2	0.6	0.3
Separated, divorced, widowed	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Number of observations	951	245	164	131	261	252	850	741	728	512	286	648	774	933	229	290	356	753	1022	4015

The sample sizes for these groups were too small and so not reported here: Chinese UK born, black African Muslim UK born