2019

Environmental values, knowledge and behaviour: Contributions of an emergent literature on the role of ethnicity and migration

Lesley M. Head
University of Melbourne, lhead@uow.edu.au

Natascha Klocker
University of Wollongong, natascha@uow.edu.au

Ikerne Aguirre-Bielschowsky
University of Melbourne

Publication Details

Head, L., Klocker, N. & Aguirre-Bielschowsky, I. (2019). Environmental values, knowledge and behaviour: Contributions of an emergent literature on the role of ethnicity and migration. Progress in Human Geography: an international review of geographical work in the social sciences and humanities, 43 (3), 397-415.

Environmental values, knowledge and behaviour: Contributions of an emergent literature on the role of ethnicity and migration

Abstract
Amidst calls for paradigm shifts in environmental scholarship, we track an emergent literature on how environmental values, knowledge and behaviour (EVKB) change (or not) with the migration process. We focus on the role of Majority World migrants to the Minority World. Large-scale survey research into EVKB is beginning to consider both ethnicity and migration history as important variables, but tends to leave the concepts of environment and environmental behaviour unexamined. Western EVKB indicators thus tend to be universalized rather than understood as themselves culturally specific. An emergent literature attempts to improve both quantitative and qualitative research on EVKB by broadening the conceptualization of environmental behaviour to include the practices of Majority World migrants. Those studies throw new light on the process of acculturation as having disruptive or solidifying potential for sustainable practices. We summarize four implications for future research. There is a need to go beyond western logics in research design and method. Straightforward assumptions about the 'pro' in pro-environmental behaviour need to be challenged. Cases of EVKB's persistence post-migration and positive influence on the broader population should be sought out and examined. The migration process provides real-time experiments in enacting alternative worlds.

Disciplines
Education | Social and Behavioral Sciences

Publication Details
Head, L., Klocker, N. & Aguirre-Bielschowsky, I. (2019). Environmental values, knowledge and behaviour: Contributions of an emergent literature on the role of ethnicity and migration. Progress in Human Geography: an international review of geographical work in the social sciences and humanities, 43 (3), 397-415.

Head, L., Klocker, N., Aguirre-Bielschowsky, I. (2019) 'Environmental values, knowledge and behaviour: contributions of an emergent literature on the role of ethnicity and migration' *Progress in Human Geography*, 43(3): 397-415

Lesley Head

University of Melbourne, Melbourne, Vic, Australia

Natascha Klocker

University of Wollongong, Wollongong, NSW, Australia

Ikerne Aguirre-Bielschowsky

University of Melbourne, Melbourne, Vic, Australia

Abstract

Amidst calls for paradigm shifts in environmental scholarship, we track an emergent literature on how environmental values, knowledge and behaviour (EVKB) change (or not) with the migration process. We focus on the role of Majority World migrants to the Minority World. Large-scale survey research into EVKB is beginning to consider both ethnicity and migration history as important variables, but tends to leave the concepts of environment and environmental behaviour unexamined. Western EVKB indicators thus tend to be universalised rather than understood as themselves culturally specific. An emergent literature attempts to improve both quantitative and qualitative research on EVKB by broadening the conceptualisation of environmental behaviour to include the practices of Majority World migrants. Those studies throw new light on the process of acculturation as having disruptive or solidifying potential for sustainable practices. We summarise four implications for future research. There is a need to go beyond western logics in research design and method. Straightforward assumptions about the 'pro' in pro-environmental behaviour need to be challenged. Cases of EVKB's persistence post-migration and positive influence on the broader population should be sought out and examined. The migration process provides real-time experiments in enacting alternative worlds.

Keywords

environment, ethnicity, immigration, sustainability, climate change, cultures of nature

I Introduction

Recognising the global challenges of sustainability, the last several decades have seen extensive study of the relationships between environmental values, knowledge and behaviour in mostly Minority (developed) World[1] contexts. Particular attention has focused on the gaps between knowledge or attitudes and behaviour, and the failure to shift collectively towards less destructive modes of living. O'Brien (2012) noted that issues such as the value-action gap and the deficit model of environmental knowledge (Eden, 1998) have been in the literature for a long time. They persist into contemporary climate change debates – for example, in the dominant but simplistic 'linear model' of science-policy relationships. O'Brien suggested that geographers need to help shift focus away from the challenges of translating knowledge into action, towards an understanding of how change itself occurs, particularly in the sustainability realm. She drew on Meadows (2008) to argue that changing paradigms (rather than policy) is one of the most effective leverage points for systems-scale change.

The types of paradigmatic change that dominant (Minority World) environmental thinking needs, are the subject of multiple parallel conversations. Waves of new scholarship have critiqued western ontologies and dominant environmental imaginaries, deconstructing 'environment' and 'nature' as freestanding categories, such that the question of what counts as environment has already been brought into question (Bawaka et al., 2016; Castree, 2015). The colonial underpinnings of dominant environmental framings and management practices have been brought to light (Adams and Mulligan, 2003). Postcolonial scholars have pushed consideration of how knowledge and practices originating in diverse parts of the Majority (developing) World might speak 'across geographies' (Thieme, 2017: 2) to Minority World ways of thinking and doing across a range of areas, including sustainability challenges (Author ref; Blaser, 2013; Mawere, 2014; McGregor, 2005). In debates spanning several decades, Traditional Ecological Knowledge has challenged understandings of tradition, ecology and knowledge, mostly in rural and remote areas (Usher, 2000). Geographers have also opened up the question of whose and what sorts of environmental knowledge count/s, and in what circumstances (Lane et al., 2011).

Responding to these challenges, in this paper we track an emergent literature on how environmental values, knowledge and behaviour change (or not) with the migration process. We identify the contributions this work can make to paradigm shifts in environmental scholarship. Although research on environmental values of migrants is scarcely developed (Carter et al., 2013: 132), and migrants' perspectives have been virtually ignored in climate change research (de Guttry et al., 2016: 11), it is timely to assess the disparate work that has been done, identify its contributions and develop an agenda for future research.

Throughout human history migration has been integral to the process of environmental discovery, encounter and engagement; indeed the capacity to live in virtually all of earth's environments is part of what defines humans (Bellwood, 2013). That migration has a clear connection to human-environment relations has long been recognised in

geographic scholarship (Mendoza and Morén-Alegret, 2012). This applies at timescales from the prehistoric (Boivin et al., 2016) to the historic (Crosby, 1986). Processes of colonisation led to the transfer of cultural knowledge and organisms to new worlds as the colonists made sense of new environments and extinguished or damaged long-standing indigenous lifeways. Environmental knowledge was shaped by the forced migration of slavery (Carney, 2009). Migrants have shaped gardens and other spaces to maintain memories of home and to establish new relations to place (Brook, 2003). Migration can lead to conflict, assimilation and hybridity, of plants and animals, world views, practices and knowledge. There has been considerable debate over who and what (organisms) belong in particular places and spaces (Author ref.). Movements of people and other organisms are entwined with the global spread of capitalism and with broad geopolitical processes (Moore 2015, Bashford 2016).

In this paper we engage with a small part of the bigger migration story. What is different in the new literature we track here is greater attention to the role of Majority World migrants (from non-Anglo-European backgrounds) into Minority World contexts, and what this means for different kinds of environmental values, knowledge and behaviour. Over the last fifty years or so, and particularly over the last twenty, most Minority World countries have experienced immigration from increasingly diverse source countries (Office for National Statistics, 2013; Pew Research Centre, 2015; Statistics Canada, 2013). In Australia, historical migration flows from the United Kingdom and Europe are giving way to increasing arrivals from India, China, the Philippines, Pakistan and Vietnam – to name a few (Commonwealth of Australia, 2016). Two aspects are relevant for this paper. First, we need to consider the ways that researchers are dealing with the environmental knowledge and behaviour of ethnically diverse populations. Migrants coming from diverse ancestries, ethnic groups and life histories bring different experiences, worldviews and environmental behaviours to those of the established populations of their destination countries. Second, we consider what this means for Minority World contexts where environmental debates, scholarship and management have been framed for a different and previous history. For example, in Australia and North America the indigenous/settler binary led to the promulgation of, and later contest against, a wilderness imaginary (Adams, 2005; Bawaka et al., 2016; Cronon, 1995). This imaginary itself later migrated and became influential in many African countries (Neumann, 1998). It is now being critiqued at home for its insufficient level of diversity in thought and action (Gould et al. 2017).

Following O'Brien's (2012) call to shift paradigms, we are interested in the disruptive and creative potential of an emergent literature on the environmental values, knowledge and behaviour of migrants, i.e. the potential of this literature to expose alternatives. Specifically, our review of the literature considers how migrants' environmental values, knowledge and behaviours change post-migration, or not – so too, migrants' capacity to change environmental thinking and practice in their new home countries. For convenience we sometimes use the shorthand EVKB for environmental values, knowledge and behaviour. Our aim is both to throw light back onto certain assumptions in western-dominated environmental scholarship, and to render alternatives more visible. To be clear, we wish to step beyond the neo-Malthusian literature that treats migrants as

environmental problems or threats (based on concerns about raw population increases), or that assumes a 'correct' standard of environmental behaviour in the host country to which migrants must assimilate. Rather we locate ourselves in an emerging body of work that seeks to understand migrant perspectives and knowledge as a potential resource (Author ref; Carter et al., 2013; de Guttry et al., 2016). While broader challenges to western (or, perhaps more accurately, white) environmental agendas and discourse have been well established in the environmental justice literature (Agyeman et al., 2016) – which has shown that marginalised communities often express concern about specific suites of environmental issues that relate to their residential geographies (and proximity to environmental 'bads' such as industrial waste and air pollution) – we nevertheless contend that the nexus between ethnicity and migration history throws these issues into particularly stark relief.

If this literature is emergent, it is also disparate. This means a variety of definitions and framings of both ethnicity and migration are used. Equally, there are many different ways of approaching environmental research. We do not want to pin these definitions down too tightly because, following O'Brien (2012), we seek to shift the broader conversation. But some clarification is needed before we start. Throughout the paper we range widely over the concepts of environmental attitude, values, knowledge, behaviour and practice. A mooted knowledge-behaviour link is itself a product of a western mindset assuming a rational, unconstrained actor, even though a battery of research now demonstrates much more complex subject positions and structural influences on such an actor. We will show that a migration lens, like the other critiques mentioned above, exposes some of the western assumptions built into even these categorisations, and complicates understandings of EVKB. In arguing to broaden the understanding of EVKB, we do not deal fully with the empirical task of establishing which EVKB are more 'pro-environment' than others, although we do point to some contradictions. As we outline in the conclusion, that empirical work – which is necessarily contextual – is an important priority for future research.

The migration we are referring to is international. We focus on migrants from the Majority (developing) World who live in relatively affluent Minority (developed) World destination countries. We use the terms Majority World migrants, and ethnic minority migrants interchangeably – the latter being framed vis-à-vis the culturally and (typically) numerically dominant[2] Anglo-Celtic and European ethnic majorities in places such as North America, Northern Europe and Australia, where most existing research on this topic has occured. Our use of the term migrant is broad, encompassing first and subsequent generations; as well as different migration strands (e.g. voluntary and forced/humanitarian). Ethnicity is conceived differently in various bodies of scholarship – in the USA it is conflated strongly with race. The aspects of identity encompassed by ethnicity – ancestry, heritage, nationality, cultural norms and modes of living – all have implications for the kinds of everyday practices and worldviews that constitute EVKB. Our approach positions ethnicity as a temporally and contextually fluid construct, not a primordial attribute (Song, 2003). Like Carter et al. (2013: 132) we acknowledge that 'environmental values are shaped by lived experience in place(s), which surely differ among ethnic groups but not because of differences in their basic character'. Ethnicity

and country of origin may also be associated with varying degrees of socio-economic advantage or deprivation. A number of the studies we draw on have sought to distinguish between migrants' economic circumstances and cultural factors, and how these impact EVKB. In sum, we do not assume essentialised ethnically-defined, environmental orientations, such as particular groups being in tune with nature or voracious consumers of it. Indeed we do not assume that any of what we are analysing is necessarily because of ethnicity or migration history; the literature reviewed here has diverse findings with respect to different combinations of causal factors. We consider these questions empirically open, and the field of research ripe for careful development. Importantly, an ethnicity lens exposes the extent to which environmental indicators and practices, dominant in the literature under labels such as 'pro-environmental behaviour', are themselves culturally loaded.

With regards to our own positionality, two of the authors are first-generation migrants to Australia – one from Europe and the other from Latin America (of mostly European origins). One is of Anglo-Celtic background, with a family presence in Australia that extends back to early white settlement. As a group, our ethnic identities are skewed more towards the Anglo-European ethnic majority whose dominant environmental thinking we seek to decentre.

The structure of the paper proceeds as follows. In section II we selectively review themes in the dominant, mostly quantitative literature on EVKB, paying particular attention to the emergence of ethnicity and migration history as issues, and the embedded understandings of 'environment' in such research. In exposing the western assumptions in 'what counts' as environment and environmentalism (apparent in much survey research), consideration of ethnicity and migration has made two particular contributions. The first contribution has been to broaden the conceptualisation of pro-environmental behaviours (discussed in section III), and the second is to show how the process of acculturation has disruptive or solidifying potential (section IV). Methodological issues and challenges are threaded through our discussion, and are important considerations for the future research agendas that we advance in the concluding section (section V).

II Ethnicity and migration in quantitative EVKB research

Our overview here draws on review articles and meta-analyses from within the EVKB literature. Grounded mostly in environmental psychology and sociology, this literature undertakes detailed discussions of how to understand and measure environmental values (Dietz et al., 2005; Reser and Bentrupperaumer, 2005), and the complexity of behavioural issues (Newell et al., 2014; Steg 2016; Steg and Vlek, 2009). Our contention in this section is that, while this literature has increasingly engaged with issues of ethnicity and migration, there has been much less examination of what 'environment' means.

For example Dietz et al. (2005) assumed a divide between human and nonhuman worlds, expressed in anthropocentric compared to non-anthropocentric values. Reser and Bentrupperaumer (2005: 141) recognised both 'environment' and 'values' as problematic

terms, but then only defined the latter (i.e. environmental values are 'human values with respect to the natural environment'). Sánchez and Lafuente (2010) discussed the complexities of understanding and measuring 'environmental consciousness', but focused more on consciousness than the environment. Perhaps inadvertently, such approaches leave the concept of environment unexamined and thus take for granted what 'pro-environmental' values are. They reproduce the binary 'anthropocentric' and 'biocentric' framings used in the New Environmental Paradigm (Dietz et al., 2005; Kempton et al., 1995; Litina et al., 2016; Steg, 2016).

Here it is relevant to explain the New Environmental Paradigm (NEP), developed by Dunlap and Van Liere in the late 1970s (Dunlap, 2008). Dunlap noted that this 15-item survey instrument

> is increasingly treated as a measure of environmental beliefs, which I believe is the most accurate interpretation although ecological worldview is my personal preference for a descriptor because I believe the NEP Scale measures the degree to which respondents view the world ecologically. (Dunlap, 2008: 10).

In his reflection on the history and development of the NEP, Dunlap (2008: 7) made very clear that it was developed in the USA, to examine 'our industrialized society'. For example, the items include statements such as 'The Earth is like a spaceship with very limited room and resources' (Dunlap et al., 2000: 433). Although the NEP has been widely used in cross-national comparisons, Dunlap was open to the critique that it may be of limited use outside the west (Chatterjee, 2008) – and by extension, we would argue that such instruments are of limited use for increasingly diverse populations within the Minority World. Nevertheless, the use of such polls in Latin American countries shows that 'stereotypes of poor people being unable to attend to "higher" values such as quality of life are misguided, and probably elitist' (Roberts and Thanos 2003: 190).

Ethnicity was not mentioned as a variable in some reviews of EVKB even recently (Newell et al., 2014), and meta-analyses have been 'based on a relatively non-diverse sample of studied countries (mostly western and developed ones) and all overlook country and national culture differences' (Morren and Grinstein, 2016: 91). However, in the last decade or so a number of papers have started to make cross-cultural comparisons, usually at the national scale (Burn et al., 2012; Kovács et al., 2014; Leiserowitz et al., 2006). Ando et al. (2015) compared the generational transmission of pro-environmental behaviours (e.g. recycling paper) in Germany and Japan. They referred to Germany as an example of a culture in which an independent, individualistic view of the self dominates, while Japan was seen as emblematic of interdependent, collectivist cultures. Sometimes broad national comparisons are cross-cut with religious ones. For example Minton et al.'s (2015: 1937) South Korean/USA comparison of sustainable behaviours (like 'purchasing green cleaning supplies, recycling, purchasing organic foods') is also a Atheist/Buddhist/Christian one.

Intra-country comparisons that focus on ethnic diversity in relation to environmental issues include studies from the USA (Murray and Mills, 2011; Pfeffer and Stycos, 2002), New Zealand (Kerr et al., 2016; Lovelock et al., 2013) and Australia (Leung and Rice, 2002). Macias (2016) noted that considerable attention has been given to white American

and African American comparisons over the last few decades, but less to the increasing ethnic diversity of the USA's population, particularly ethnic minority migrants. Existing research has often focused on issues such as low national park visitation rates by African Americans (Larson et al., 2011), and their perceived engagement with proximate (e.g. local air pollution) rather than distant (e.g. species extinction) environmental issues (see Jones, 2002). Related to the above, Stevenson et al. (2013) identified ethnicity-related gaps in the environmental literacy of schoolchildren, possibly due to Black and Hispanic children having less access to 'nature', and spending less time outdoors. Other quantitative, intra-country studies have used the NEP as an indicator of environmental concern – for instance, Leung and Rice's (2002) comparison of Chinese and Anglo-Australians and Johnson et al.'s (2004a) study of Black, White, Asian and Latino Americans. In such studies, the Anglo-European ethnic majority and the most 'acculturated' migrants have typically been portrayed as more environmentally concerned/engaged.

Two quantitative studies in New Zealand have compared the environmental values of immigrant and native-born residents (Kerr et al., 2016; Lovelock et al., 2013). New Zealand makes a particularly interesting research site because, like Australia, it has a recent history of migration from the Majority World overlaid on the settler/indigenous binary. Both of these studies start with a problem framing of recent migrants. Lovelock et al. acknowledged community concerns about shellfish over-extraction by migrants, and located their study within the postmaterialist thesis (i.e. that populations in rich countries have high levels of environmental concern because they do not need to spend all of their time thinking about day-to-day survival). Kerr et al. (2016: 1280) opened their paper with the statement, 'If immigrants undertake less pro-environmental behaviour (PEB), or are less supportive of policies to address environmental concerns, they may exacerbate environmental problems, and vice versa.' Despite their problem-framing, Lovelock et al. (2013: 416) found similar worldviews among New Zealand-born respondents and migrants. Kerr et al. (2016) did find significant differences, notably between Maori respondents and the broader population, as well as between 'Other Ethnicity' migrants (including from the Pacific Islands, Asia and the Middle East) and the broader population, with Maori having 'closer links to the natural environment' (p. 1292) than all other groups. However, the researchers noted the low explanatory power of their models, consistent with a high level of heterogeneity within groups.

Recent attempts at providing reviews and meta-analyses 'with special attention to the many non-Western studies that have been conducted' (Gifford and Nilsson, 2014: 142), or cross-cultural comparisons of environmental behaviour (Morren and Grinstein, 2016; Mostafa, 2012), have had trouble discerning overall trends. Gifford and Nilsson's overall conclusions included that the role of religion is contentious, with varying findings over whether it enhances pro-environmental behaviour or not. They identified some consistent evidence that new migrants have greater levels of environmental concern than non-migrants; and 'in general, citizens of developing countries (e.g. Philippines and Latvia) seem to have as much, or more, environmental concern as those in developed countries (e.g. Germany, the U.S.)' (Gifford and Nilsson, 2014: 150). In another example, Litina et al. (2016) used survey data from the European Values Study (45 countries) to test

whether environmental values are culturally transmitted across generations, comparing migrants with the broader population. They found a significant effect of 'the average environmental culture' from the country of origin, alongside a gradual adoption of 'integration strategies' (p. 145) in the host country. In this example, changes over time were examined in some detail, yet environmental values were proxied by a limited set of measures: the willingness to pay to prevent environmental pollution, beliefs expressed about human behaviours and the environment, and behaviours associated with environmental volunteering.

In summary, the strengths of quantitative EVKB research are the broad scale comparisons it provides. When it does bring in ethnicity and migration history, important complications have been identified, particularly in relation to the processes of generational change in EVKB. To an important extent, a limited and consistent set of indicators is necessary for any effective survey research to proceed. Yet the value in all these attempts at broad cross-cultural comparisons needs to be balanced against the risks of generalising and essentialising national characteristics. Further, as we discuss below, survey indicators do constrain the way EVKB is framed (typically according to western norms), and the responses to environmental challenges that can be developed.

Embedded assumptions about environment in quantitative EVKB research

The quantitative cross-cultural comparative studies discussed above tend to leave environment (or pro-environmental behaviour) unexamined or free-standing. A consequence is that practices specific to western or affluent or urban contexts tend to be reproduced as presumed norms. In this sub-section we summarise five interlinked assumptions of this literature that contribute to the reproduction of those norms. They include assumptions about how 'environment' is conceptualised, and also about how politics works. None of these assumptions are uncontested, and we also identify examples of challenges.

First, commonly used environmental indicators assume a level of affluence. Survey questions or indicator behaviours that assume high levels of affluence include purchasing green electricity, green apparel products or energy-efficient cars (Bong Ko and Jin, 2017; Leiserowitz et al., 2006; Minton et al., 2015). Similarly, asking how often people drive slower than 60 miles per hour on the highway and travel by plane (Brick and Lewis, 2014) assumes that respondents have the means to drive and fly in the first place. Morren and Grinstein's (2016: 102) meta-analysis explicitly associates pro-environmental behaviour with higher levels of consumerism (albeit green consumerism):

> A first insight from the current meta-analysis is that intention to behave environmentally is more likely to materialize to actual environmental behaviour in the more developed countries. This finding generally support [sic] the "affluence hypothesis" in which developed countries are more likely to act environmentally….

> Economic underdevelopment is therefore a central barrier to environmental change because it limits the ability of individuals and governments to purchase, promote or use eco-friendly technologies and products that are often costly (e.g. electric cars, organic goods).

Survey instruments framed around such understandings contain certain western and classed assumptions – assumptions that can entrench capitalist, consumptive views of environmental sustainability. The idea that 'green' consumption is a good thing has been well and truly challenged by evidence that higher income, rather than environmental attitude, is the best predictor of high household greenhouse gas emissions (Wilson et al., 2013). When intersections between migration status and affluence have been given consideration, studies have typically uncovered less resource-intensive lifestyles amongst Majority World migrants, compared to broader populations in the Minority World. In one such study, Bradley (2009: 347) questioned Swedish Government policies and discourses encouraging low-income migrant households (specifically, Kurdish-Iraqi and Somali) to adopt the environmental practices of 'well-behaving Swedes', based on empirical evidence that the carbon footprints of the former were much smaller due to lower-consumption lifestyles. High-income Swedes had large homes, dual home ownership, high rates of car ownership and use, and frequently travelled by air. Conversely, migrant households rarely flew or owned cars and lived on far fewer square metres per person (Bradley, 2009).

A second and related assumption is that modernisation is a necessary condition for pro-environmental behaviours. As mentioned, the 'post-materialist' or 'affluence' hypotheses are sometimes explicit but often implicit in these works. Gifford and Nilsson's list of characteristics of the environmentally concerned and active person reads almost as a summary of the wealthy western liberal subject:

> …likely to have spent time in nature as a child, to have accurate knowledge of the environment, its problems and potential solutions, to have an open, agreeable and conscientious personality, to consider the future consequences of their actions, to feel in control of their behaviours, to harbour biospheric, post-material, liberal values and responsibility for environmental problems, to be among the upper half of the economic classes, to hold personal and descriptive norms about pro-environmental action, to adhere to a religion that teaches a stewardship orientation to the earth, and to spend time in non-consumptive nature activities. (Gifford and Nilsson, 2014: 151)

Not only are such stereotypes elitist, but the empirical evidence shows that 'the relationship between economic growth and environmental protection should not be seen as stage-based or as a given' (Roberts and Thanos 2003: 219).

Third is the idea of a national norm to which migrants must conform. For example, in Scandinavian countries particular national imaginaries of environmental engagement and the outdoor life create models to which recent migrants are often expected to conform (Flemsæter et al., 2015; Krange and Bjerke, 2011). Studies in Europe have exposed the

inherent whiteness of such expectations and their environmental problem framings, for example with regard to the recreational use of greenspace (Kloek et al., 2013). Buijs et al. (2009) compared landscape preferences between native Dutch people and migrants from Islamic countries, showing that the former had higher levels of preference for 'wilderness' rural landscapes. Emphasis on the importance of outdoor recreation can reflect anxiety in the host country that low rates of usage of urban forests and national parks, amongst some migrant populations, will result in decreased commitment to environmental conservation (Stodolska et al., 2016). Krange and Bjerke (2011) however noted that the differences in preferences for hiking in the Norwegian woods are partly differences of socio-economic class rather than ethnic status.

Fourth is the assumption that environmental practices are weaker in the Majority than Minority world. For example in an analysis that includes comparisons of 'US-born Mexican Americans' and 'Foreign-born Mexican-origin' persons, Macias (2016) identified an environmental version of the 'Latino paradox'; that first generation migrants from Latin America tend to have better health outcomes than their US-born counterparts. He argued:

> this is only a paradox if you assume a priori that conditions that foster healthy lifestyles are simply better in the United States than in immigrant countries of origins. The evidence presented here suggests there exists a parallel process of assimilation wherein the first generation of an ethnic group arrives with high levels of concern for and a willingness to do something about pressing environmental issues. Subsequently, over time and generations, interest in the topic and the willingness to make sacrifices begin to wane. (Macias, 2016: 15)

The environmental version of the 'paradox' is framed around the widespread assumption in existing literature that environmental values and practices are deficient in the Majority World vis-à-vis the Minority World. Macias' contention that assimilation to western norms *diminishes* environmental concern amongst Mexican migrants to the US upends this notion.

Fifth is a set of assumptions about the political context in which EVKB scholarship might be useful. The frequent reference to policy relevance of this research (e.g. Adeola 2007, Agyeman 2016, Bradley 2009, Buijs et al. 2009) assumes a functioning liberal democracy ready to respond to, or shape, public opinion. However, it is not necessarily researchers themselves who assume such a narrow view of research; it might equally be a research funding environment that demands 'relevance' in relatively narrow terms. Researchers have explored changing levels of environmental concern and action under authoritarian regimes such as China (Bong Ko and Jin, 2017), and in places where democracy is less than functional, such as parts of Latin America (Barkin and Lemus 2016).

III Broadening the conceptualisation of EVKB

In this section we identify three particular ways that emerging literature, much of which has a qualitative bent, is broadening the conceptualisation of environment in EVKB.

First is a set of studies that have sought to broaden the range of practices identified as environmental by looking beyond intentional to actual outcomes in reduced environmental impacts of different kinds. Such practices and practitioners go by a variety of names, including actually existing sustainabilities (Krueger and Agyeman, 2005), inadvertent environmentalisms (Hitchings et al., 2015), vernacular capacities (Gibson et al., 2013) and 'honeybees', who 'in pursuing some completely different goal…provide an important side-benefit to the environment' (Gifford and Nilsson, 2014: 150). These terms recognise the non-environmental reasons why people do environmentally beneficial things (e.g. cycling for health, installing insulation to save money on electricity bills, frugality because of poverty). Practices that reduce household resource consumption, including re-using bath water on gardens, showering using a bucket, and hanging clothes outside to dry rather than using a dryer (Maller and Strengers, 2013; Waitt and Welland, 2017), may not be done for explicitly environmental reasons. That such choices can be made for reasons of poverty, frugality or cultural background rather than environmental intention makes them no less interesting or valuable. While migrants are not the only social groups who undertake such practices, research has shown that migration presents a unique opportunity to disrupt the status quo, as pre-migration practices come together with post-migration norms and infrastructures, with potentially novel and beneficial outcomes. This point has methodological implications for the design of surveys and interview schedules. In our own survey research, we have sought to capture such inadvertent practices by including questions about buying household goods second hand, repairing or sharing clothing, frequency of discarding food, dwelling size and numbers of inhabitants, strategies for keeping warm or cool, living without common (Majority World) household appliances, and waiting until household appliances are broken before buying new ones.

Second, a number of studies of gardening, foraging and food production focus on ethnic minority migrants (Minkoff-Zern, 2012; Taylor and Lovell, 2015). These examples are important not so much for broadening the scope of environmental behaviours, as asking about growing fruit or vegetables for household consumption is a well-established environmental indicator (e.g. Brick and Lewis, 2014). Rather their contribution is to throw new light on the framing of environmental issues, via the way they bring putatively rural issues together with urban ones. Cabannes and Raposo (2013: 248) noted the importance of urban agriculture in transforming 'cities into productive spaces, challenging their conventional role as a space of consumption of wealth produced in rural areas or in different countries'. In contrast to situations where industrial agriculture is now considered to be part of the problem, Majority World migrants from agrarian backgrounds, such as Mexicans now living in the USA, may 'adhere to a distinctive land ethic that values nature as a source of sustenance and security and is antithetical to the dominant view which sees land primarily as property and a potential source of profit' (Macias 2016: 5). Taylor and Lovell (2015: 22) studied the gardens of African American, Chinese-origin and Mexican-origin households in Chicago, arguing that these 'represent a continuation of cultural practices and traditional agroecological knowledge associated

with their place of origin'. Their study found that because the gardens are 'sites of cultural reproduction', they may enhance household resilience and 'serve as reservoirs of (agro) biodiversity' (Taylor and Lovell, 2015: 31). Taylor and Lovell noted that the gardeners were curious and experimental, and might be willing participants in larger-scale experiments about sustainable practice. (Note, however, that they were not necessarily interested in organic agriculture, and many had heavy reliance on synthetic fertilizers.) Cabannes and Raposo (2013) also noted the importance of urban and peri-urban agriculture in enhancing urban biodiversity, and the role of migrants in this. More recent work has examined the contribution of home food gardens to ecosystem services (Taylor et al., 2017).

Third, urban foraging examples provide evidence of broadening EVKB in that diverse communities perceive and access different resources in the same landscape. In a review of several studies, McLain et al. (2014) noted that people of diverse ethnicity forage in urban and peri-urban landscapes. 'In some cases, foragers' ethnicity and/or place of origin appear to condition which products are foraged' (McLain et al., 2014: 229). Examples included Chinese migrants in the USA seeking ginkgo nuts, African-Americans foraging foods such as pokeweed shoots and sweetgrass for basketry, Native Americans evergreen huckleberries and nettle leaves, and foragers with origins in different parts of Europe seeking morel mushrooms and greens. Diversity in the human population here opens up a wider suite of plants and fungi as potential resources, beyond what would otherwise be considered edible. In the context of Seattle, Poe et al. (2013) argued that wild foods in the city have the potential to increase food security for children of colour. Clearly people forage in a range of landscapes including cemeteries, railroad tracks, abandoned properties and under freeways. In the process, these activities open up the concept of nature in the city.

In sum, this emerging and predominantly qualitative literature has broadened the suite of actions that may be identified as 'pro-environmental' in EVKB, and provides some openings for the study of peri-urban and rural EVKB. Nonetheless, existing research retains an urban bias which ought to be addressed in future studies, especially given growing ethnic diversity in rural areas of the Minority World.

IV The process of acculturation as having disruptive or solidifying potential

As noted in section II, the process of acculturation (or enculturation), usually measured via time spent in the destination country, has been seen as significant for EVKB, and has been used as a variable in quantitative studies (Johnson et al., 2004b; Leung and Rice, 2002). Findings have been diverse, with some concluding that ethnicity plays a more important role than acculturation, and thus that certain environmental norms are retained across migrant generations (Deng et al., 2006; Lovelock et al., 2013). Others argue that, 'broadly speaking, migrant groups and their descendants follow a pattern of ecological assimilation, becoming less concerned about the environment over time and generations'

(Macias, 2016: 15; see also Adeola, 2007; Hunter, 2000), in part because their socio-economic position improves. The process of change can go in multiple directions, for better or worse with respect to sustainable practices.

There is a risk in using examples of pro-environmental behaviours linked to migrant frugality that poverty is valorised or advocated (author refs.), and we are not arguing that socio-economic disadvantage should be entrenched to benefit the environment. However other studies have found that some migrant groups retain less resource-intensive practices even when they do not have low-incomes. For example, Author et al. (2015) found that rates of car ownership and use amongst ethnic minority migrants in Sydney and Wollongong (Australia) were lower than those of Anglo-Australians. These trends were particularly strong amongst survey respondents of Chinese ancestry, and held true after controlling for gender, generation, income, employment status, the presence of dependent children and place of residence. Tal and Handy (2010) and Modarres (2013) made similar observations in relation to East Asian migrants and Latino/as in the US, respectively. The conclusions drawn in such studies have been that migrants bring pre-migration transport practices and preferences (e.g. for public transport) with them, shaping their post-migration behaviours. In a broader study of environmental concern involving US and foreign-born Whites, African Americans, Mexican Americans, Latinos and 'Other', Macias (2016) found that foreign-born Mexicans were more likely than native-born Mexicans or White Americans to engage in sustainable practices and express a willingness to make sacrifices to protect the environment. The study controlled for household income and described it as 'remarkably insignificant' (p. 11) as a driver of sustainable behaviours, and insignificant with regards to willingness to make sacrifices.

Qualitative studies provide much more detail about the process of change, and the ways in which ethnicity and/or migration history intersect with other processes such as change in socio-economic status. There is a well-established thread of research that examines the ways in which migrants develop a sense of belonging through the use of 'natural environments', such as beaches, parks and the countryside (Peters et al., 2016; Thomas, 2001). This literature can be particularly useful in helping identify the basis of environmental or social conflicts over the use of different spaces (Flemsæter et al., 2015). A further set of studies show that understanding acculturation as a process can alert us to opportunities to disrupt less sustainable practices and embed more sustainable ones (potentially in ways that bring together the best of both worlds). In the examples below, change or transition is not a simple matter of time spent, rather 'acculturation is a complex, nonlinear, and variable process, [that] can be understood, in part, as the adjustment to a new set of social norms' (Carter et al., 2013: 137). Carter et al. showed how Mexican migrants in central Iowa adopted new social norms about maintaining clean public spaces, in particular not littering. They simultaneously 'expressed ambivalence' about the material improvements that had come with the migration process. On one hand they had experienced an improved standard of living, in material terms. On the other they worried about the harms of excessive materialism, seeing themselves 'on a consumption treadmill' through living in the USA (p. 140). Echoing themes from the previous section, these migrants did not speak in the idiom of middle-class environmentalism; that is, equating environmental action with individualised decisions to recycle, buy compact

fluorescent light bulbs, plant trees, or drive hybrid cars, i.e., a "green consumer" subject position (Carter et al., 2013: 143).

Maller and Strengers (2013) theorised processes of change in migrant households using social practice theory. Based on their research with migrants in Australia (Maller, 2011), they advanced three concepts that can combine and add complexity to understandings of acculturation with regards to EVKB. *Carriage* is when people 'continue to enact a practice or a practice memory from another time and space in a new environment' (Maller and Strengers, 2013: 246). For example an elderly Vietnamese woman in their study continued to wash herself with a bucket of water, and wash dishes by hand 'the Vietnamese way'. *Integration and disintegration* occur when components of pre-existing practices interact with new practices and/or material infrastructures. An example here was Sri Lankan migrants who carried a strong ethic of not wasting resources into new modes of drying clothes. Refusing to buy a clothes dryer, they used line drying in summer and in winter positioned a clothes horse, covered in a sheet, over a central heating duct. The third concept, *transferral*, described the active transmission of practices (for example, gardening and food preparation processes in Italian migrant families) across generations.

Processes of integration and disintegration can provide insights into the potential for change. For example Author B has argued that Majority World migrants' transport patterns provide an opportunity to identify 'fissures in the logic of automobility' in highly car-dependent societies such as Australia (Author ref.). Authors conducted qualitative interviews with 14 individuals of Chinese ancestry in Sydney, Australia, many of whom displayed a persistent propensity to use public transport more, and drive less, than Anglo-European Australians. They showed how Chinese migrants brought their pre-migration transport habits and preferences with them, and intentionally oriented their lives in Sydney around train lines to enable continued public transport use. Yet, while most did not even have a drivers' licence prior to migration, all but one had acquired one post-migration, and owned a car in Sydney. Nonetheless, their acculturation (towards Sydney's car dependent transport norms) was reluctant. Many of the Chinese migrants interviewed feared and disliked driving but the structure of this 'automobilised city' made it difficult to cope entirely without a car. Female interviewees in particular noted the pressure to become regular car drivers 'to meet the demands placed on them as "modern" working women, and as mothers' (Author ref.). The study participants expressed frustration with Sydney's public transport system, which made trips with multiple stops (like grocery shopping or activities involving children) impractical. However, most continued to travel to work by public transport thus the acculturation process towards more carbon intensive forms of transport was a complex and partial one.

Another example of the acculturation process is provided by Waitt and Welland's (2017) research with Burmese migrants in Sydney, which sought to explore how the water-frugal practice of bucket bathing persisted or diminished after migration. For some, the ease associated with the ready availability of hot mains water facilitated a transition to regular showers. Others preferred the feel of bucket bathing with cold water, also associated with Buddhist cleansing rituals. Their study provides evidence of complex interactions

between ethnicity, religion, gender and age, along with the material infrastructure of washing spaces. In many of these studies then, the interest starts with ethnicity as a point of difference, but it rarely takes expression in straightforward ways. In both the transport and bathing examples discussed here, the acculturation process occurs not only in the engagement with different environmental norms, but also with infrastructures that constrain choices and, over time, force changes in practice. So too, in both instances the pro-environmental actions of the migrants are inadvertent ones, enacted for reasons other than a desire to be 'green'.

Amenity migration of wealthy westerners to poorer areas reminds us that this process can also go in the opposite direction. Kordel and Pohle (2016) argued that lifestyle migrants from the USA to the Andes of Ecuador perform their privileged status through everyday practices, and by transferring western understandings of the rural idyll. These practices include performing a healthy way of life through food consumption, being involved in eco-farming, and establishing juice factories and massage practices. In Costa Rica, migrants from the USA, Canada and Western Europe have different approaches to environmental issues compared with the locals (Matarrita-Cascante et al., 2015). These amenity migrants emphasise large-scale processes, such as rebuilding natural ecosystems, while local residents are more interested in recycling and trash collection. Differentials based on the power of wealth mean that environmental influences are often unidirectional, in this case from Minority World migrants to locals but not the other way around. However, caution should be exercised around any straightforward interpretation of 'environmental' behaviours; in this example the migrants have much more heavily consumptive practices than the locals.

V Concluding implications

We have argued that the cultural specificity of most of the EVKB literature (white, western, affluent, urban) is exposed by its encounter with ethnicity and migration history. We have identified an emergent body of research that is paying attention to the environmental knowledge and practices of ethnic minority migrants in countries where the broader population is of Anglo-European ethnicity. This research, both quantitative (survey-based) and qualitative, is making two particular contributions to the ways environmental issues are understood; it broadens the conceptualisation of environment and environmental behaviour in productive ways, and offers a deeper understanding of the processes of acculturation. In this concluding discussion we consider the broader implications for ongoing research.

Broadening the conceptualisation of EVKB has a number of methodological implications for environmental research. Both quantitative and qualitative studies need to pay attention to the challenges of going beyond western logics in research design. Qualitative studies in particular can capture diverse, culturally-specific environmental practices that go well beyond those typically included in standardised western questionnaires. Where appropriate, the results of such studies can then serve to develop surveys suited to particular countries and cultural contexts, and that are encompassing of migrants' EVKB.

Conversely, trends identified when surveys are analysed by ethnicity and/or migration history can be explored in greater depth with detailed case studies. When studying particular ethnicities, (co-)researchers from within the community in question can greatly facilitate the incorporation of non-western perspectives, and minimise language and other implementation issues. For example, they can help to develop culturally appropriate research questions and methodologies, recruit participants, improve the flow of an interview, choose and phrase relevant survey items, and interpret results. This applies irrespective of both the methodology used (qualitative or quantitative), and the scale at which cultural groups are studied (e.g. national level or minorities within a broader population, including migrants).

If the 'pro' in pro-environmental behaviour cannot be assumed, we need a broader conversation about diverse ways of doing things. There are a number of reasons why decisions about the sustainability of different behaviours are complicated (Gibson et al., 2013). The lens we have used in this paper, of Majority World migrants into the Minority World, throws some dilemmas into starker relief. Practices associated with poverty and frugality challenge notions of pro-environmental behaviour that depend on high levels of wealth and green consumption. But nor are we arguing that all migrant practices discussed here are necessarily pro-environmental. Rather this is an empirically open question that can be carefully considered in studies that pay close attention to local contexts. We do consider that a culturally broader range of EVKB provides important resources with which to approach uncertain Anthropocene futures.

Deeper understanding of the processes of acculturation helps identify potential levers for sustainable transitions, or barriers thereto. That is, this work addresses O'Brien's (2012) challenge about understanding the process of change, in multiple directions. Future research can productively focus on cases where migrants in general have managed to not only hold on to some of their environmental practices post-migration, but in so doing have managed to influence the host population in productive ways. Thus, for instance, in contexts where large-scale industrialised agriculture is coming under increasing scrutiny for its environmental implications; and in which adaptation to climate change necessitates greater crop diversity, migrants from subsistence farming backgrounds are an underexplored source of different EVKB – a circuit-breaker for group think (Author ref.).

We do need to be aware of separationist framings of 'values' or 'preferences' that deny the broader political context of migration. There is always the risk of defaulting to static understandings of migrant or ethnic 'cultures', without consideration of the broader structural processes at play around migration, including colonial histories, global capitalism and persistent racial power hierarchies. Many of the examples used here are well-attuned to this risk. There is a broader challenge, to be addressed in ongoing work, to rethink environmental scholarship more broadly as deeply embedded in questions of power. Studies of Majority World migrants to the Minority World are well-placed to throw further light on this.

Nevertheless, the frictions and encounters of the migration process provide real-time experiments in alternative ways of doing things. The post-colonial literature is discussing

how Majority World practices have a capacity to inform how we do things in the Minority World. For example, drawing attention to 'ongoing initiatives to strengthen or create post-capitalist worlds (or "niches of sustainability") by indigenous and peasant communities in the Americas [that] are extremely important and encouraging' (Barkin and Lemus, 2016: 574), Barkin and Lemus (2016: 569) argue that 'many other worlds are possible, AND they are already under construction'. The contention of this paper is that Majority World knowledges do not just exist 'over there' – migration brings them to the Minority World. But we are not tapping into the capacity of Majority World migrants to contribute to environmental thinking and practice in western contexts. The emergent literature reviewed in this paper does not do these things exclusively, nor yet very thoroughly, and it would be premature to claim the paradigm shift sought by O'Brien (2012). However, we see considerable potential.

Notes

1. We follow Punch (2000) by using the terms 'Minority World' and 'Majority World' (rather than North/South, developed/developing world, First World/Third World) because they do not contain embedded geographical inaccuracies (as in North/South) and avoid the implication of inferiority (as in First/Third and developed/developing). Further, Minority and Majority World provide scope to think beyond economic factors to global patterns of cultural dominance. They act as a reminder that the privileged (economically and culturally dominant) lifestyles of the Minority World are experienced by a minority of the world's population. We use 'western' in relation to environmental thought and scholarship influenced by Enlightenment approaches, while also being aware that that term is subject to critique.
2. We acknowledge that in some places the terms ethnic majority and ethnic minority are not straightforward. For instance, in California where the culturally dominant white population is no longer a numerical majority (given a large and growing Latino population).

References

Adams M (2005) Beyond Yellowstone? Conservation and Indigenous rights in Australia and Sweden. In: Cant G, Goodall, A and Inns J (eds) *Discourses and Silences: Indigenous Peoples, Risks and Resistance.* Christchurch: Department of Geography, University of Canterbury, pp. 127-138.

Adams WM and Mulligan M (2003) *Decolonizing Nature: Strategies for Conservation in a Post-colonial Era*. London: Earthscan.

Adeola FO (2007) Nativity and environmental risk perception: An empirical study of native-born and foreign-born residents of the USA. *Human Ecology Review* 14(1): 13-25.

Agyeman, J, Schlosberg D, Craven L and Matthews C (2016) Trends and directions in environmental justice: From inequity to everyday life, community, and just sustainabilities. *Annual Review of Environment and Resources* 41(1): 321-340.
Ando K, Yorifuji K, Ohnuma S, Matthies E and Kanbara A (2015) Transmitting pro-environmental behaviours to the next generation: A comparison between Germany and Japan. *Asian Journal of Social Psychology* 18(2): 134-144.
Barkin D and Lemus B (2016) Third world alternatives for building post-capitalist worlds. *Review of Radical Political Economics* 48(4): 569-576.
Bashford A (2016) *Global Population. History, Geopolitics, and Life on Earth*. New York: Columbia University Press.
Bawaka C, Wright S, Suchet-Pearson S, Lloyd K, Burarrwanga L, Ganambarr R, Ganambarr-Stubbs M, Ganambarr B, Maymuru D and Sweeney J (2016) Co-becoming Bawaka: Towards a relational understanding of place/space. *Progress in Human Geography 40*(4): 455-475.
Bellwood P (2014) *First Migrants: Ancient Migration in Global Perspective*. Oxford: John Wiley & Sons.
Blaser M (2013) Ontological conflicts and the stories of peoples in spite of Europe: Towards a conversation on political ontology. *Current Anthropology* 54: 547-568.
Boivin NL, Zeder MA, Fuller DQ, Crowther A, Larson G, Erlandson JM, Denham T and Petraglia, MD (2016) Ecological consequences of human niche construction: Examining long-term anthropogenic shaping of global species distributions. *Proceedings of the National Academy of Sciences* 113(23): 6388-6396.
Bong Ko S and Jin B (2017) Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China. *Journal of Fashion Marketing and Management* 21(1): 70-87.
Bradley K (2009) Planning for eco-friendly living in diverse societies. *Local Environment* 14(4): 347-363.
Brick C and Lewis GJ (2014) Unearthing the "green" personality: Core traits predict environmentally friendly behavior. *Environment and Behavior* 48(5): 635-658.
Brook I (2003) Making here like there: Place attachment, displacement and the urge to garden. *Ethics, Place and Environment* 6(3): 227-234.
Buijs AE, Elands BHM and Langers F (2009) No wilderness for immigrants: Cultural differences in images of nature and landscape preferences. *Landscape and Urban Planning* 91(3): 113-123.
Burn SM, Winter PL, Hori B and Silver NC (2012) Gender, ethnic identity, and environmental concern in Asian Americans and European Americans. *Human Ecology Review* 19(2): 136-145.
Cabannes Y and Raposo I (2013) Peri-urban agriculture, social inclusion of migrant population and right to the City: Practices in Lisbon and London. *City* 17(2): 235-250.
Carney JA (2009) *Black rice: The African origins of rice cultivation in the Americas*. Cambridge, Massachusetts: Harvard University Press.
Carter ED, Silva B and Guzman G (2013) Migration, acculturation, and environmental values: The case of Mexican immigrants in central Iowa. *Annals of the Association of American Geographers* 103(1): 129-147.

Castree N (2015) *Making Sense of Nature*. London: Routledge.
Chatterjee DP (2008) Oriental disadvantage versus occidental exuberance: Appraising environmental concern in India - A case study in a local context. *International Sociology* 23(1): 5-33.
Commonwealth of Australia (2016) Australian migration trends 2014-15. Canberra: Department of Immigration and Border Protection. Available at: http://www.border.gov.au/ReportsandPublications/Documents/statistics/migration-trends-14-15-full.pdf (accessed 10 October 2017).
Cronon W (1995) The trouble with wilderness: Or, getting back to the wrong nature. In: Cronon W (ed) *Uncommon Ground: Toward Reinventing Nature.* New York: WW Norton and Co, pp.69–90.
Crosby AW (1986) *Ecological Imperialism: The Biological Expansion of Europe, 900-1900.* Cambridge: Cambridge University Press.
de Guttry C, Döring M and Ratter B (2016) Challenging the current climate change–migration nexus: Exploring migrants' perceptions of climate change in the hosting country. *DIE ERDE–Journal of the Geographical Society of Berlin* 147(2): 109-118.
Deng J, Walker GJ and Swinnerton G (2006) A comparison of environmental values and attitudes between Chinese in Canada and Anglo-Canadians. *Environment and Behavior* 38(1): 22-47.
Dietz T, Fitzgerald A and Shwom R (2005) Environmental values. *Annual Review of Environment and Resources* 30: 335-372.
Dunlap RE (2008) The new environmental paradigm scale: From marginality to worldwide use. *The Journal of Environmental Education* 40(1): 3-19.
Dunlap RE, Van Liere KD, Mertig AG, Jones RE (2000) Measuring endorsement of the new ecological paradigm: A revised NEP scale. *Journal of Social Issues* 56(3): 425-442.
Eden S (1998) Environmental issues: knowledge, uncertainty and the environment. *Progress in Human Geography* 22(3): 425-432
Flemsæter F, Setten G and Brown KM (2015) Morality, mobility and citizenship: Legitimising mobile subjectivities in a contested outdoors. *Geoforum* 64: 342-350.
Gibson C, Farbotko C, Gill N, Head L and Waitt G (2013) *Household Sustainability: Challenges and Dilemmas in Everyday Life*. Cheltenham: Edward Elgar.
Gifford R and Nilsson A (2014) Personal and social factors that influence pro-environmental concern and behaviour: A review. *International Journal of Psychology* 49(3): 141-157.
Gould RK, Phukan I, Mendoza ME, Ardoin NM and Pannikker B (2017) Seizing opportunities to diversify conservation. *Conservation Letters* DOI: 10.1111/conl.12431
Hitchings R, Collins R, Day R (2015) Inadvertent environmentalism and the action–value opportunity: Reflections from studies at both ends of the generational spectrum. *Local Environment* 20(3): 369–385.
Hunter LM (2000) A comparison of the environmental attitudes, concern, and behaviors of native-born and foreign-born US residents. *Population and Environment* 21(6): 565-580.

Johnson CY, Bowker JM, Bergstrom JC and Cordell KH (2004a) Wilderness values in America: Does immigrant status or ethnicity matter? *Society and Natural Resources* 17(7): 611-628.
Johnson C, Bowker J and Cordell H (2004b) Ethnic variation in environmental belief and behaviour: An examination of the new ecological paradigm in a social psychological context. *Environment and Behavior* 36(2): 157-186.
Jones R (2002) Blacks just don't care: Unmasking popular stereotypes about concern for the environment among African-Americans. *International Journal of Public Administration* 25(2): 221-251.
Kempton W, Boster SJ and Hartley J (1995) *Environmental Values in American Culture*. London: MIT Press.
Kerr GN, Hughey KF and Cullen R (2016) Ethnic and immigrant differences in environmental values and behaviors. *Society and Natural Resources* 29(11): 1280-1295.
Kloek ME, Buijs AE, Boersema JJ and Schouten MGC (2013) Crossing borders: Review of concepts and approaches in research on greenspace, immigration and society in northwest European countries. *Landscape Research* 38(1): 117-140.
Kordel S and Pohle P (2016) International lifestyle migration in the Andes of Ecuador: How migrants from the USA perform privilege, import rurality and evaluate their impact on local community. *Sociologia Ruralis*. Epub ahead of print 6 July 2016. DOI: 10.1111/soru.12133.
Kovács J, Pántya J, Medvés D, Hidegkuti, I, Heim O and Bursavich JB (2014) Justifying environmentally significant behavior choices: An American-Hungarian cross-cultural comparison. *Journal of Environmental Psychology* 37: 31-39.
Krange O and Bjerke T (2011) A walk in the woods: The effects of ethnicity, social class, and gender among urban Norwegian adolescents. *Nordic Journal of Social Research* 2: 17-34.
Krueger R and Agyeman J (2005) Sustainability schizophrenia or actually existing sustainabilities? Towards a broader understanding of the politics and promise of local sustainability in the USA. *Geoforum* 36(4): 410-417.
Lane SN, Odoni N, Landstrom C, Whatmore SJ, Ward N and Bradley S (2011) Doing flood risk science differently: An experiment in radical scientific method. *Transactions of the Institute of British Geographers* 36(1): 15-36.
Larson L, Whiting J and Green G (2011) Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse sample. *Local Environment* 16(1): 67-86.
Leiserowitz AA, Kates RW and Parris TM (2006) Sustainability values, attitudes, and behaviors: A review of multinational and global trends. *Annual Review of Environment and Resources* 31: 413-44.
Leung C and Rice J (2002) Comparison of Chinese-Australian and Anglo-Australian environmental attitudes and behavior. *Social Behavior and Personality* 30(3): 251-262.
Litina A, Moriconi S and Zanaj S (2016) The cultural transmission of environmental values: A comparative approach. *World Development* 84: 131-148.

Lovelock B, Jellum C, Thompson A and Lovelock K (2013) Could immigrants care less about the environment? A comparison of the environmental values of immigrant and native-born New Zealanders. *Society and Natural Resources* 26(4): 402-419.
Macias T (2016) Ecological assimilation: Race, ethnicity, and the inverted gap of environmental concern. *Society and Natural Resources* 29(1): 3-19.
Maller C (2011) Practices involving energy and water consumption in migrant households. In: Newton PW (ed) *Urban Consumption*. Collingwood: CSIRO Publishing, pp. 237-249.
Maller C and Strengers Y (2013) The global migration of everyday life: Investigating the practice memories of Australian migrants. *Geoforum* 44: 243-252.
Matarrita-Cascante D, Sene-Harper A and Stocks G (2015) International amenity migration: Examining environmental behaviors and influences of amenity migrants and local residents in a rural community. *Journal of Rural Studies* 38: 1-11.
Mawere M (2014) Culture, Indigenous Knowledge and Development in Africa: Reviving Interconnections for Sustainable Development. Cameroon: Langaa.
McGregor J (2005) Crocodile crimes: People versus wildlife and the politics of postcolonial conservation on Lake Kariba, Zimbabwe. *Geoforum* 36(3): 353-369.
McLain RJ, Hurley PT, Emery MR and Poe MR (2014) Gathering 'wild' food in the city: Rethinking the role of foraging in urban ecosystem planning and management. *Local Environment* 19(2): 220-240.
Meadows D (2008) *Thinking in Systems: A Primer*. Vermont: Chelsea Green Publishing.
Mendoza C and Morén-Alegret R (2013) Exploring methods and techniques for the analysis of senses of place and migration. *Progress in Human Geography* 37(6): 762-785.
Minkoff-Zern LA (2012) Pushing the boundaries of indigeneity and agricultural knowledge: Oaxacan immigrant gardening in California. *Agriculture and Human Values* 29(3): 381-392.
Minton EA, Kahle LR and Kim CH (2015) Religion and motives for sustainable behaviors: A cross-cultural comparison and contrast. *Journal of Business Research* 68(9): 1937-1944.
Modarres, A. (2013) Commuting and energy consumption: Toward an equitable transportation policy. *Journal of Transport Geography* 33: 240–249.
Moore, JW (2015) *Capitalism in the Web of Life*. London and New York: Verso.
Morren M and Grinstein A (2016) Explaining environmental behavior across borders: A meta-analysis. *Journal of Environmental Psychology* 47: 91-106.
Mostafa MM (2012)Does globalisation affect consumers' pro-environmental intentions? A multilevel analysis across 25 countries. *International Journal of Sustainable Development & World Ecology* 19(3): 229-237.
Murray AG and Mills BF (2011) Read the label! Energy Star appliance label awareness and uptake among U.S. consumers. *Energy Economics* 33(6): 1103-1110.
Neumann RP (1998) *Imposing wilderness: struggles over livelihood and nature preservation in Africa.* Berkeley: University of California Press.
Newell BR, McDonald RI, Brewer M and Hayes BK (2014) The psychology of environmental decisions. *Annual Review of Environment and Resources* 39: 443-467.

O'Brien, K (2012) Global environmental change III: closing the gap between knowledge and action. *Progress in Human Geography* 37(4): 587-596.

Office for National Statistics (2013) *2011 Census Analysis: Immigration Patterns of Non-UK Born Populations in England and Wales in 2011*. London: Office for National Statistics.

Peters K, Stodolska M and Horolets A (2016) The role of natural environments in developing a sense of belonging: A comparative study of immigrants in the U.S., Poland, the Netherlands and Germany. *Urban Forestry and Urban Greening* 17: 63-70.

Pew Research Center (2015) Modern immigration wave brings 59 million to U.S., driving population growth and change through 2065: Views of immigration's impact on U.S. society mixed. Available at: http://www.pewhispanic.org/2015/09/28/modern-immigration-wave-brings-59-million-to-u-s-driving-population-growth-and-change-through-2065/ (accessed 1 November 2017).

Pfeffer M and Stycos J (2002) Immigrant environmental behaviors in New York City. *Social Science Quarterly* 83(1): 64-81.

Poe MR, McLain RJ, Emery M and Hurley PT (2013) Urban forest justice and the rights to wild foods, medicines, and materials in the city. *Human Ecology* 41(3): 409-422.

Punch S (2000) Children's strategies for creating playspaces: Negotiating independence in rural Bolivia. In: S Holloway and G Valentine, eds. *Children's Geographies: Playing, living, learning*. London: Routledge, 48–62.

Reser JP and Bentrupperbaumer JM (2005) What and where are environmental values? Assessing the impacts of current diversity of use of 'environmental' and 'World Heritage' values. *Journal of Environmental Psychology* 25(2): 125-146.

Roberts JT and Thanos ND (2003) *Trouble in Paradise: Globalisation and Environmental Crises in Latin America*. Routledge: New York and London. (page refs from e-book)

Sánchez MJ and Lafuente R (2010) Defining and measuring environmental consciousness. *Revista Internacional de Sociologia* 68(3): 731-755.

Song M (2003) *Choosing Ethnic Identity*. Cambridge: Polity Press.

Statistics Canada (2013) *Immigration and ethnocultural diversity in Canada*. Catalogue no. 99-010-X2011001, Ottawa, Minister of Industry. Available at: http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-010-x/99-010-x2011001-eng.pdf (accessed 10 October 2017).

Steg L (2016) Values, Norms, and Intrinsic Motivation to Act Proenvironmentally. *Annual Review of Environment and Resources* 41: 277-292.

Steg L and Vlek C (2009) Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of environmental psychology* 29(3): 309-317.

Stevenson KT, Peterson MN, Bondell HD, Mertig AG and Moore SE (2013) Environmental, institutional, and demographic predictors of environmental literacy among middle school children. *PloS One* 8(3): 1-11.

Stodolska M, Peters K and Horolets A (2016) Changes in recreation participation in natural environments after immigration among immigrants in the US, Netherlands, Germany and Poland. *Leisure Studies*: 1-14.

Tal G and Handy S (2010) Travel behaviour of immigrants: An analysis of the 2001 National Household Transportation Survey. *Transport Policy* 17(2): 85–93.
Taylor JR and Lovell ST (2015) Urban home gardens in the Global North: A mixed methods study of ethnic and migrant home gardens in Chicago, IL. *Renewable Agriculture and Food Systems* 30(1): 22-32.
Taylor JR, Lovell ST, Wortman SE, Chan M (2017) Ecosystem services and tradeoffs in the home food gardens of African American, Chinese-origin and Mexican-origin households in Chicago, IL. *Renewable Agriculture and Food Systems* 32(1): 69-86.
Thieme TA (2017) The hustle economy: Informality, uncertainty and the geographies of getting by. *Progress in Human Geography*. Epub ahead of print 2 February 2017. DOI: 10.1177/0309132517690039.
Thomas ME (2001) *A Multicultural Landscape: National parks and the Macedonian Experience*. Sydney: NSW National Parks & Wildlife Service.
Usher PJ (2000) Traditional ecological knowledge in environmental assessment and management. *Arctic* 53(2): 183-193.
Waitt G and Welland L (2017) Water, skin and touch: migrant bathing assemblages. *Social and Cultural Geography*. Epub ahead of print 6 July 2012. DOI: 10.1080/14649365.2017.1347271.
Wilson J, Tyedmers P and Spinney JE (2013) An exploration of the relationship between socioeconomic and well-being variables and household greenhouse gas emissions. *Journal of Industrial Ecology* 17(6): 880-891.