

Investigating the impact of personality and early life experiences on intercultural interaction in internationalised universities

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Abstract: *Qualitative studies from a range of nations suggest that students studying in their own country exhibit a range of responses towards the international students with whom they share social and academic spaces, although the tendency is towards passive avoidance. Little work has yet been focused on understanding why students in similar situations react differently to the cultural diversity of the contemporary university.*

This paper reports the findings of a study of 755 young second year undergraduates from three universities in the UK. The participants completed an online questionnaire containing measures of ethnocentrism and 'cultural intelligence', as well as an inventory of personality traits and original questions about their early life cultural experiences.

The study finds that both ethnocentrism and cultural intelligence were predicted by agreeableness and openness, as well as a multicultural upbringing, foreign language ability and an international orientation. Gender was also a predictor for ethnocentrism.

Keywords : intercultural interaction, ethnocentrism, cultural intelligence, higher education, internationalisation, multiculturalism.

Research highlights:

- * Prior research suggests limited contact between home and international students
- * Study investigates possible individual factors for intercultural avoidance
- * Quantitative study of 755 young home students in the UK
- * Dependant variables are ethnocentrism and cultural intelligence
- * Study identifies several significant predictors from personality and early life

1. Introduction

Globalisation has provided a wealth of new opportunities for higher education. International flows of students have increased, with more students each year studying in universities in countries other than their own. One of the results has been the evolution of the globalised university, with a student body drawn from a wide range of countries, ethnic groups and cultural traditions. Today's universities are among the most diverse organisations in the world, with dozens of nationalities typically being represented among students, teaching staff and support staff.

In many Anglophone countries, the growth of inbound international students has been particularly marked as students seek tuition in English, provision that is perceived to be of high-quality, and qualifications that are globally-recognised. These English-speaking countries also tend to have a imbalance between outbound and inbound transfers, with more students entering for higher education than leaving to other countries. For example, approximately 153,000 international undergraduates were studying in the United Kingdom in 2008/09, comprising 11% of the UK undergraduate student population, and as much as 35% in those universities with a particularly strong global mission and higher still in specialist institutions and for postgraduate provision (Higher Education Statistics Agency, 2010). Conversely, no accurate figures are collected for outbound mobility by UK nationals, but a 'best estimate' of 22,000 in 2005/06 has been calculated (Findlay & King, 2010). In other words, there are roughly seven international students entering the UK for every one that leaves. A similar trend is also seen in the United States, with 690,923 incoming students and 260,327 outgoing students (Institute of International Education, 2010).

This rapid growth in diversity throws up many new challenges for educators, including pedagogical approaches, assumptions of prior knowledge, classroom management, the provision of support services and language standards (Carroll & Ryan, 2005; Jones & Brown, 2007; Jones, 2009). The specific issue that this paper seeks to address is the intercultural interaction between 'international' (i.e. incoming from other countries) and 'home' (i.e. those studying in their own country) students,

specifically from the perspective of the latter group. It focuses primarily on the UK, but it draws supporting evidence from across a range of countries and its findings have global relevance. There is an extensive literature about the parallel experiences of international students, but this is beyond the scope of this study.

1.1 Intercultural interaction in the internationalised university

Generally speaking, home students are unwittingly plunged into a cultural milieu that they could scarcely anticipate. There are few comparable situations where such diversity exists and where the individual is expected to interact across so many different cultural boundaries on a daily basis, in both social and academic settings. Spencer-Rodgers (2001, p. 640) notes that “*international [students] constitute one of the most diverse collections of individuals that may be encountered by another group of social perceivers.*” The sheer range of nationalities, ethnicities, and cultures represented is beyond the experience of the average young person even in a multicultural country like the UK, except perhaps those living in the largest cities. Of course, not all this diversity originates in the international student body, with many home students themselves being drawn from minority ethnic communities. This leads to a complex web of intercultural interactions – within the home student body, between home students and international students and within the international student body. It is the second of these categories on which this study focuses.

The interactions between home and international students first reached significant academic attention in the mid 1990s as universities began to more rapidly internationalise their student bodies. In Australian studies, Nesdale and Todd (1993) found that home students were less interested in intercultural contact than international students, while Volet and Ang (1998) observed that multicultural groups presented new opportunities for learning, but that these were not being capitalised upon due to limited social interaction between home and international students. Shortly after, work in the US (Spencer-Rodgers, 2001; Spencer-Rodgers & McGovern, 2002) reported that

home students generally had positive, if stereotypical, views about international students, but that they also perceived a range of threats and anxieties. These could sometimes be heightened by intercultural contact (also see Pritchard & Skinner, 2002), contrary to the findings of Levin, van Laar and Sidanius (2003) and van Laar, Levin, Sinclair and Sidanius (2005), who found that contact between ethnic groups generally improved relations and reduced anxiety. Also in the US, Halualani, Chitgopekar, Morrison and Dodge (2004) found that intercultural interactions were limited and “*occur between strangers in forced settings and are deemed fleeting, rare, and separate from [students’] everyday lives*” (Halualani, 2008, p. 2 – original emphasis). In non-Anglophone contexts, Sanchez (2004) found similar results in Spain, with barriers to interaction deriving from language and cultural differences while Groeppel-Klein, Germelmann and Glaum (2010) reported that even an university with a specific intercultural ethos and mission did not see increased interaction over time.

Approaching the issue with a large-scale study, Ward et al.’s (2005) government-sponsored report in New Zealand found again that home students tended to have positive views about international students, but that actual interactions and intercultural friendships were relatively rare. In addition, they identified a tipping point where the proportion of international students reached around 15%, when home students views became less positive and more anxiety emerged.

Peacock and Harrison (2009) used interviews and focus groups with UK home students to explore the barriers to intercultural interaction in greater depth. The participants reported that language difficulties and fears about making an inadvertent racist faux pas required a mindfulness that made interaction wearing and fraught with danger, passively leading to avoidance. Similar findings emerged from a comparable study in Ireland (Dunne, 2009), where a fear about negative judgements from international students (about lifestyle or academic commitment) was also an important factor in limiting contact. Le Roux (2001) had previously identified a fear of accidental offence as an issue in South Africa, while Hyde and Ruth (2002) noted that students in multicultural contexts tend to self-censor.

Another thread of research has focused on multicultural workgroups in the classroom. Wright and Lander (2003) noted that both home and international students in their Australian study tended to speak less in mixed groups than in monocultural ones. Also in Australia, Summers and Volet (2008) found that international students were more positive than home students about mixed group working, but that those home students with a mixed cultural heritage were more positive than their peers. However, they also found that all students were less positive about mixed group working after they had experienced it. Li and Campbell (2008) found that international students in New Zealand valued groupwork more, but that they often deferred to home students or allowed them to complete a disproportionate amount of the work. More encouragingly, they found some evidence for enduring intercultural friendships after the end of group exercises. Ippolito (2007) reports that language barriers, cultural indifference and time pressures are barriers to successful multicultural groupwork, while Harrison and Peacock (2009) found that home students were anxious that working within multicultural groups could compromise their access to staff time and their assessment marks, though latter may well be a misguided fear (De Vita, 2002). Le Roux (2001) and Kelly (2007) conclude that diversity in the classroom is a two-edged sword, offering opportunities for more creativity and breadth of experience, but risking dissatisfaction, conflict and difficulties with coordination.

Thus, the literature from a range of countries suggests that interaction between home and international students remains limited and a source of anxiety for students, teachers and policy makers alike. In a recent work, Leask (2010, p. 15) warns that *“even when institutional strategies are developed that support interaction students do not necessarily engage meaningfully across cultures on campus or in class”*. Montgomery (2010) does see improvements over the last ten years, albeit within a rather rarefied student sample, but questions remain about why the separation exists and what can be done to address it.

Placing the literature in a theoretical context, Spencer-Rodgers and McGovern (2002) and Harrison and Peacock (2010) draw on the 'integrated threat theory' of intergroup relations (Stephan & Stephan, 2000). This posits that a similar range of responses are found when any two groups interact and it has been successfully applied to a range of comparable situations (see Riek, Mania & Gaertner, 2006 for a meta-analysis). These are broadly categorised into four areas: realistic threats (to access to resources), symbolic threats (to established cultural norms), intergroup anxiety (arising from actual encounters) and negative stereotyping. Integrated threat theory holds that these factors will generally lead individuals to prefer interaction with members of their ingroup, however this is constructed, over members of any outgroups that they might encounter. A mixture of 'mindless ingroup favouritism' (Brewer, 2003), where similarities within the ingroup and differences compared to the outgroup are stressed, and 'homophily' (McPherson, Smith-Lovin & Cook, 2001, cited in Dunne, 2009), where there is a social preference for similar people, appears to be at the heart of understanding relations between home and international students.

Harrison and Peacock (2010) go on to hypothesise that 'cultural distance' (Zeitlin, 1996; Ward, Bochner & Furnham, 2001) works to highlight ingroup-outgroup distinctions, such that individuals from more familiar cultures pose less threat and cause less anxiety than individuals from those that seem more remote or 'alien' (Fritz, Chin & DeMarinis, 2008). Suggested bases of cultural distance include relative collectivism and gender dominance, the strength of social hierarchies, the role of family, attitudes to politeness and time and the fixedness of rules (Hall & Hall, 1990; Triandis, 1995; Gudykunst & Kim, 1997; Hofstede, 2001). For home students in some Anglophone countries, the highly collectivist cultures of East and Southeast Asia typify one extreme of cultural distance; highly visible 'others' whose language skills are often seen as deficient, whose social patterns differ and with whom few popular culture artifacts are shared. Indeed, Hofstede (2001) places the UK and East Asian cultures near opposite poles in terms of cultural distance and McCrae et al. (2005) do the same for personality traits.

The literature to date on intercultural interaction between home and international students could be seen to paint a rather bleak picture, although educators have repeatedly extolled the virtues of the internationalised university as a site for enhanced learning and skills development opportunities (Wächter, 2003; Otten, 2003; Teekens, 2006; Teekens, 2007). Indeed, globalisation provides a clear demand for workers who are skilled at interacting across cultures and these traits now frequently appear in employers' 'wish lists' for university graduates (Leggott & Stapleford, 2007) and in management manuals. However, the literature explored above tends to suggest that the majority of home students are not following the path that educators and employers want.

Nevertheless, there is also evidence in the literature for the existence of home students who do embrace the opportunities of the internationalised university, interacting easily across cultural boundaries and forging intercultural friendships and academic collaborations. Peacock and Harrison (2009) dubbed these individuals '*informed cosmopolitans*' and outlined some apparent markers; they tended to be older (Dunne, 2009), to be studying arts and to have a family history with an intercultural component, such as a parent of a different nationality or time spent overseas (Montgomery, 2010). These students described close intercultural friendships and a desire to seek out new experiences and opportunities to learn about culture and diversity, even if this caused occasional discomfort. Montgomery (2010) finds an even higher proportion of such students on courses that use a managed approach to groupwork.

There would appear to be a strong contrast in the reaction of home students to the internationalised university, with some finding the experience alien and anxiety-causing, while others fit in readily and with apparent enjoyment. Qualitative research has helped to reveal the existence of this dichotomy, but it has not yet been able to assist with understanding why some students have more positive experiences of this cultural milieu than others and whether there are specific individual factors which define the extent to which they feel comfort or discomfort within a highly diverse student body; it is this question that this paper seeks to address.

1.2 Personality, ethnocentrism and ‘cultural intelligence’

The most readily apparent individualised factor that could impact on intercultural interaction is personality, which “*can influence to whom individuals are attracted and how often they interact in social situations [and] even how successful people are at getting along with other people*” (Jensen-Campbell, Knack & Rex-Lear, 2009, p. 506). Personality has been a vibrant field of enquiry within psychology since at least the 1930s, when specific traits were first identified. The model used in this study is the so-called ‘Big Five’ (otherwise known as the ‘Five Factor Model’) of personality traits (Digman, 1990), comprising:

- *Conscientiousness* – personal order, self-discipline, long-term goal setting and diligence
- *Agreeableness* – positive relations with others, altruism, trust and empathy
- *Neuroticism* – proneness to anxiety, impulsiveness, negative emotions or depression
- *Openness* – comfort with new experiences, interest in aesthetics and positivity towards change
- *Extraversion* – outgoingness, assertiveness and high levels of personal activity

The existence of these five traits has been replicated repeatedly across a wide range of situations and cultures, leading McCrae (2009, p. 148) to describe the Big Five as “*the dominant paradigm in personality research, and one of the most influential models in all of psychology*”. The model is not without challenge, however. Block (1995) criticises it for being atheoretical and the five-factor division as being arbitrary, while others propose different structures and typologies (see De Raad, 2009 for an overview). More recently, DeYoung (2010) has offered an emerging theoretical basis from evolutionary psychology and neuroscience. Nevertheless, even without a firm theoretical foundation, the Big Five continues to enjoy widespread support as a means of measuring personality traits and their connection to culture (Matsumoto & Juang, 2008) and other phenomena (Carver & Scheier, 2004; John, Naumann & Soto, 2008; McCrae, 2009).

This study also uses two established concepts from the field of social psychology – ethnocentrism and cultural intelligence – as possible factors in an individual’s propensity to interact with people from other cultures:

- Ethnocentrism describes a preference for one’s own cultural group (the ‘ingroup’) over members of other cultural groups (‘outgroups’). Stephan and Stephan (1996) view it as a natural consequence of a child’s upbringing, where they learn the norms and expectations of their own culture, which become cemented as ‘normal’ compared to the alien practices of other cultures. Brewer (2003, p. 129) uses ethnocentrism to mean “*the tendency to perceive the ingroup as defining what is positive, correct and good*” and places it as an extension of social identity where an individual’s sense of self is partially constructed through their perception of group memberships and differences (Tajfel & Turner, 1986). Gudykunst and Kim (1997) argue that ethnocentrism is a block to effective intercultural communication, limiting the scope for mutual comprehension.

Ethnocentrism was introduced by Sumner (1906), initially as a concept in social anthropology to illuminate intergroup relations, particularly in non-Western cultures. Crucially, he posited that ingroup preference would be reflected in outgroup prejudice. It remained primarily a tool for conflict analysis until Adorno, Frenkel-Brunswik, Levinson and Sanford (1950) reported that it was closely associated with individuals who scored highly on an authoritarian personality construct, suggesting an individual component to ethnocentrism, such that members within a culture might hold a more or less positive attitude to outgroups. Furthermore, Allport (1954) found that people with prejudiced or hostile views towards one outgroup tended to have similar views about all outgroups (confirmed more recently by Ekehammar, Akrami, Gylje and Zakrisson, 2004), leading to the opportunity to isolate and measure an individual’s general propensity to ethnocentrism. LeVine and Campbell (1972) attempted to marry the anthropological and psychological

approaches, concluding that there are both social and individual components interacting to construct ethnocentrism according to a range of competing and partially contradictory theories.

Adorno et al.'s work has come under sustained theoretical and methodological criticism (see Forbes, 1985 and Duckitt, 2005 for an overview), especially focusing on weaknesses in their formulation of the authoritarian personality which was arguably more a description of strongly conservative views than a personality type. Nevertheless, the concept that personality may be a component of ethnocentrism has escaped unscathed. Pratto, Sidanius, Stallworth and Malle (1994) suggested that 'social dominance orientation' – a personality variable describing a preference for strong social hierarchies – was a predictor for attitudes related to ethnocentrism. However, Duckitt, Wagner, du Plessis and Birum (2002) and Duckitt (2005) argue that authoritarianism and social dominance orientation are not true personality variables, but rather ideological attitudes, and posit possible underlying personality traits including social conformity, belief in competition and 'toughmindedness'; Cunningham, Nezlek and Banaji (2004) add rigidity of thinking. Similarly, Ekehammar et al. (2004) found that right-wing authoritarian views and social dominance orientation are mediating variables between personality and prejudice, reporting from empirical data that the traits of agreeableness and openness are particularly influential.

At the macro level, Stephan and Stephan (1996) assert that different cultures may have different average levels of ethnocentrism and suggest, despite equivocal evidence, that collectivism might be one basis for difference. Indeed, in Hooghe, Reeskens, Stolle and Trappers' (2006) survey of European countries, the UK was found to have among the highest scores for ethnocentrism, while women, younger people and better educated people tended to be less ethnocentric across all 21 nations studied. Neuliep, Chaudoir and McCroskey (2001) also report that men had higher level of ethnocentrism than women in their US and Japanese samples. Interestingly, they also found that foreign travel had no

impact on ethnocentrism and that contact with foreign nationals only diminished it in their US sample. Groeppel-Klein, Germelmann and Glaum (2010) found that a form of ethnocentrism (expressed as 'cultural openness') was negatively correlated with the propensity to interact with students from other cultures.

Despite being in existence for over one hundred years, there is still no formal consensus about the nature of ethnocentrism. For example, Ekehammer et al. (2004) view it as an expression of 'generalised prejudice', particularly towards minority or marginalised groups, while Raden (2003) identifies different types of ethnocentrism that may have contrasting ingroup and outgroup manifestations. Cunningham, Nezlek and Banaji (2004) separate implicit (unconscious) from explicit (conscious) ethnocentrism as distinct, but related, phenomena, highlighting that implicit ethnocentrism is more extensively found in their student sample than self-reported explicit negativity towards outgroups. In a recent contrary view, Reynolds et al. (2007) argue from social identity theory (Tajfel & Turner, 1986) that it is ingroup membership that is most predictive of the negative treatment of outgroups, finding no evidence from their experimental studies for a role for personality. Bizumic, Duckitt, Popadic, Dru and Krauss (2009) argue that the term 'ethnocentrism' should be confined to 'ethnic group self-centredness', as distinct from ingroup positivity or outgroup negativity, and composed of six sub-constructs of preference, superiority, purity, exploitativeness, group cohesion and devotion.

The conceptualisation of ethnocentrism used in this paper draws on Bizumic et al.'s (2009) sub-constructs of preference, superiority and purity to reflect the experience of home students as they encounter the diversity of the internationalised university. These were selected as the situation is not one where ingroup is strongly activated and where there are no direct and significant opportunities for exploitation of outgroups.

- Cultural intelligence is a relatively new term pioneered by Earley and Ang (2003, p. 9), who defined it as “*a person’s capability to adapt effectively to new cultural contexts*”. They argue that it replaces earlier hard-to-define concepts such as ‘intercultural competence’ (Deardorff, 2006) and ‘intercultural effectiveness’ (Stone, 2006) through a more rigorous and coherent theoretical foundation. It originally comprised three distinct but linked components (cognitive, motivational and behavioural), with a fourth (metacognitive) being added later (Ang & Van Dyne, 2008) as a result of empirical studies. It is argued that together these components structure an individual’s ability to learn about other cultures, their ability to learn about how to learn about culture, the desire to interact across cultures and the ability to modify behaviour to do so successfully. Thomas et al. (2008, p. 127) propose a slightly different formulation of “*a system of interacting knowledge and skills, linked by cultural metacognition, that allows people to adapt to, select, and shape the cultural aspects of their environment*” (original emphasis).

There has been interest since at least the 1960s in the question of why some individuals enjoy more success in intercultural interactions than others. The majority of the literature has focused on those spending time in other countries as employees, students or volunteers (see Ward, Bochner & Furnham, 2001 for an overview). Attrition rates for such individuals are often high as a result of culture shock and an inability to master effective interaction with members of the host culture. There is a clear parallel here with home students within an internationalised university; while the depth of cultural immersion is less than for someone working abroad, the breadth of cultures encountered poses additional challenges. Latterly cultural intelligence has also been applied more generally to those working in multicultural teams (Moynihan, Peterson & Earley, 2006; Shokef & Erez, 2008), where the evidence suggests that experience of such teams increases cultural intelligence.

One of the early challenges for cultural intelligence was to develop an empirical base of support. Lee and Templar (2003) argued that the underpinning markers for cultural

intelligence lent themselves to measurement, but recognised that there were methodological challenges to doing so. Thomas (2006) proposed a five-stage hierarchy of cultural intelligence, with individuals passing from blissful unawareness through curiosity and context-specific understanding, on through to effortless intercultural comfort. However, he demurred from proposing an assessment methodology and expressed doubts that a single approach could be employed. A particular concern, voiced by Thomas et al. (2008), is that those individuals who have low cultural intelligence are not in a position to appreciate their shortcomings, potentially undermining self-assessment as a measurement tool; Pritchard and Skinner (2002) found that some students only begin to realise their inability after sustained intercultural contact. Nevertheless, Ang et al.'s (2007) Cultural Intelligence Scale, based on a self-completion inventory, is showing positive signs of validity (Van Dyne, Ang & Koh, 2008), reporting that it is robust across samples and cultures and that it is positively and significantly correlated with peer assessment of cultural intelligence; although, with a correlation coefficient of just 0.16, there is clearly more investigation needed on this point.

Thomas et al. (2008, p. 129) suggest *“that cultural intelligence is related to, yet distinct from, personality”*, and personality has been investigated as a possible predictor for cultural intelligence. Ang, Van Dyne and Koh (2006) report that all of the Big Five personality traits are related to one or more components of cultural intelligence, while Ward and Fischer (2008) add empathy, openmindedness and flexibility as factors underpinning the motivational component.

Drawing on the concept that cultural intelligence can be ‘learned’ through experience, Shannon and Begley (2008) identify foreign language abilities and international work experience as predictors, though not general social contact with individuals from other cultures. Tarique and Takeuchi (2008) suggest that the number and length of international experiences undergone by students prior to starting university also have a positive impact

on cultural intelligence, also drawing attention to the growing trend for children to spend considerable portions of their early lives overseas, where they become “*open-minded and flexible, with positive attitudes towards other systems and cultures, respect for others, tolerance of others’ behaviors and views, and fluent in multiple languages*” (ibid., p. 58; Pollock & Van Reken, 1999). In contrast to ethnocentrism, no evidence has yet been found that gender is a factor in defining cultural intelligence.

It is noteworthy that many studies of cultural intelligence to date have been focused around travelling businesspeople, for whom rapid cultural integration in a professional context is an imperative to success. This is a qualitatively different experience to students, for whom the purpose of the intercultural experience is to learn and to develop skills. However, the theory underpinning cultural intelligence asserts that the skills and behaviors needed would exist on the same continuum, albeit likely at a different level. At the lower level of intercultural immersion experienced by home students in an internationalised university, there is a closer parallel with businesspeople in a multinational company, with both being expected to undertake groupwork of various forms with culturally-diverse colleagues.

These two concepts thus provide a useful means of framing issues around intercultural interaction, measuring both the degree to which an individual is predisposed to seek to interact (ethnocentrism) and also their ability to do so successfully (cultural intelligence). The theoretical model used in this study, therefore, sees them as predictors for the level of intercultural interaction that students voluntarily undergo at university. It is hypothesised that these two factors are themselves negatively correlated, although the direction of causality, if any exists, is moot. Drawing on the literature reviewed above, it is further hypothesised that personality, gender and early life experiences – such as social contact with people from other cultures, time spent overseas, foreign language acquisition and social class background – are predictive factors for both ethnocentrism and cultural intelligence. Due to previous findings (Peacock & Harrison, 2009; Dunne, 2009) that age is a likely confounding factor in determining intercultural interaction, it has

been excluded from this study by limiting the sample to a single age group. An initial theoretical model is displayed diagrammatically in Figure 1 below.

[Figure 1 here]

Five specific hypotheses are tested:

- **Hypothesis 1:** That ethnocentrism and cultural intelligence will be negatively correlated and impact on intercultural interaction
- **Hypothesis 2:** That one or more of the Big Five personality traits will be predictors for ethnocentrism and cultural intelligence
- **Hypothesis 3:** That early life contact with people from other cultures will be a predictor for ethnocentrism and cultural intelligence.
- **Hypothesis 4:** That other features of early life experiences and attitudes will be predictors for ethnocentrism and cultural intelligence.
- **Hypothesis 5:** That gender will be a predictor for ethnocentrism, but not cultural intelligence.

2. Methodology

After a wide appeal via the mailing list of a professional association dealing with international education issues, three universities were recruited to participate in the project. All three have broadly similar intakes by demography for their young undergraduate populations (see Table 1) and are teaching-intensive institutions; a broader range of institution types was sought, but it was not possible to achieve this.

[Table 1 here]

An online questionnaire was prepared and an e-mail directing students to it was sent out to all home undergraduates aged under 21 on entry who were in their second year of degree studies in each of the three universities. A reminder e-mail was sent two to three weeks later. Students were incentivised to complete the questionnaire by a prize draw into which all respondents were entered. The questionnaire comprised six sections:

1. Demographic information: sex, ethnic group and parental occupation (subsequently coded into 'higher' and 'lower' socio-economic groups according to the National Statistics Socio-Economic Classification; Office for National Statistics, 2005).
2. The 44-item 'Big Five Inventory' of personality traits (John, Donahue & Kentle, 2001).
3. An 8-item ethnocentrism inventory, comprising a subset of context-relevant items on the preference, superiority and purity sub-constructs in Bizumic et al.'s (2009) inventory.
4. A 10-item inventory, comprising a subset of context-relevant items from across all four components of the Cultural Intelligence Scale (Ang et al., 2007).
5. A bank of original questions relating to the early life experiences of the student, including the area where they grew up, the cultural mix of the school attended, family friendships, foreign travel, foreign language abilities, whether they deferred entry to university or moved directly from school and general interests.
6. A single question on the extent to which the student now has friends from other cultures, acting as a proxy for their level of intercultural interaction.

All the inventories were realised through a five-point Likert scale. Reduced inventories for ethnocentrism and cultural intelligence were pragmatically used to achieve an acceptable survey length. The order of questions was automatically randomised by the survey software.

A total of 718 valid responses were received once those from minority ethnic groups (37 individuals) had been removed. Given that ethnicity is a likely confounding factor in issues around culture, it was felt that the study would have greater internal consistency by focusing only on white students, who form a significant ethnic majority (around 90%) of the overall UK home student population. Conversely, the students from minority ethnic groups were very diverse in terms of their ethnic origins and so the relatively small numbers precluded analysis of how different ethnicities might impact on ethnocentrism and cultural intelligence. Of the remainder, 29% of responses were from men and 20% were from lower socio-economic groups. These two categories were thus somewhat underrepresented in the sample compared to the overall population from the three universities in the study. As this study does not report estimated population statistics, but rather examines the relationship between variables, this underrepresentation is not considered to be a significant shortcoming.

In order to prepare the data for analysis, the bank of questions about the students' early life experiences was reduced into a smaller number of usable variables using factor analysis. Factors were extracted using principle component analysis and three were rotated using the varimax method following a scree test – full details are available on request. Standardised scores were calculated for each:

1. Multicultural upbringing: the extent to which the individual was exposed to ethnic diversity in their home neighbourhood, at school and through family friends. An item for living in a large city also loaded on this factor.

2. Language ability: the extent to which the individual reported having foreign language skills, as well as their confidence in using languages and in communicating with people whose first language is not English.
3. International orientation: the extent to which the individual considered themselves aware of current affairs, world geography and the arts.

Two questions relating to an interest in fashion and brands and the propensity to have been on foreign holidays were not loaded on any factor.

Two additional dichotomous variables were also isolated relating to whether respondents had spent three months or more (a) living with their families, or (b) travelling for leisure.

Scores were calculated for each of the five personality traits: conscientiousness, agreeableness, neuroticism, openness and extraversion. In keeping with the formulation of these inventories, they followed a normal distribution and the Cronbach alphas showed a high degree of internal reliability, being 0.81, 0.78, 0.82, 0.73 and 0.85 respectively. Scores were also calculated for ethnocentrism and cultural intelligence, which were also normally distributed with Cronbach alphas of 0.84 and 0.74 respectively. All seven scales were standardised for analysis.

3. Results

Table 2 shows the correlations between the ten scale variables in the model, with Table 3 showing the standardised means for the scale variables, subdivided by the categorical variables.

[Table 2 here]

[Table 3 here]

As predicted in **Hypothesis 1**, the ethnocentrism and cultural intelligence scales were negatively correlated with each other ($r=-0.506$, $p<0.001$). They were also both significantly correlated with the proxy measure for propensity to have friends from other cultures (ethnocentrism: $r=-0.308$, $p<0.001$, cultural intelligence: $r=0.244$, $p<0.001$). This gives strong support to the underpinning theoretical basis of the study – that there is a relationship between intercultural interaction, ethnocentrism and cultural intelligence – although the precise nature of this relationship is beyond the current scope.

The Big Five personality scales were highly intercorrelated with strong contrasts between men and women, though not between students from different socio-economic groups. Women and people from higher socio-economic groups reported higher language abilities, as did those who had lived abroad for a lengthy period. Men and those who had travelled abroad were significantly more likely to have scored high on the international orientation scale.

Living and travelling abroad and delaying entry to university were each related to one or more personality traits. Language abilities were strongly related to personality, being significantly correlated with all traits except neuroticism, while an international orientation was stronger among those individuals with low scores for neuroticism and high scores for openness. With each of these relationships, it cannot be deduced from the data in this study whether the individual's personality predisposed them towards either particular actions (e.g. travelling abroad) or interests (e.g. an international orientation), or whether their experiences had shaped their personalities during the youth. For example, it is that people who score more highly on the openness scale are also more likely to have an interest in international affairs due to their personality, or that people with that set of interests and associated actions (e.g. keeping abreast of events in other countries) have tended to become more open in their personality as a result? The reality may well be that there is a positive feedback loop at work, but the data in this study do not permit this to be probed further. Interestingly, having had a multicultural upbringing – something over which the young person had no individual control – was not correlated with any personality traits or categorical variables.

In terms of relationships between the categorical variables, men were significantly more likely to have travelled abroad for a period of more than three months ($\chi^2(1, N=712)=4.648, p=0.031$). Those students who delayed their entry into university were more likely to have travelled ($\chi^2(1, N=711)=12.308, p<0.001$) or lived ($\chi^2(1, N=711)=6.779, p=0.009$) abroad lengthy periods, many presumably in the context of a gap year. Unsurprisingly, students from higher socio-economic groups had a greater likelihood of having lived abroad ($\chi^2(2, N=714)=6.629, p=0.036$), but there was no pattern for travelling.

Ethnocentrism was correlated with all the scale variables except neuroticism. The strongest relationships, all negative, were with agreeableness, openness and a multicultural upbringing. Men also scored significantly higher on the ethnocentrism scale than women, but a history of travelling or living abroad were not correlated. Cultural intelligence was significantly correlated with all eight other scale variables, most strongly with openness, language ability and an international orientation. There were no trends by gender or social class, but living or travelling abroad and delaying entry to university were all positively correlated with cultural intelligence. This speaks for the complex and multifaceted nature of the cultural intelligence construct.

These correlations are consistent with **Hypotheses 2 to 5**, but it is necessary to disentangle this web of relationships to identify which variables exert individual influence when others are held constant. Linear regression models were assembled based on all the potential explanatory variables with ethnocentrism and cultural intelligence as dependent variables; these are reported in Table 4 below. Due to a relatively high proportion of incomplete responses across the range of variables, missing values were imputed from means.

[Table 4 here]

These models, which both have reasonably strong explanatory power as reflected in the R^2 statistic, show a remarkable consistency in the predictor variables for both dependent variables. Agreeableness and openness are the key personality traits, with individuals scoring highly on these scales having lower scores on ethnocentrism and higher scores on cultural intelligence. This supports **Hypothesis 2**, though only for two out of the Big Five personality traits. Extraversion approached significance as a predictor for cultural intelligence, but fell short in this study.

A multicultural upbringing, with contact with people from other cultures in the neighbourhood, school and through family, was positively associated with cultural intelligence and negatively with ethnocentrism. However, neither experience of living nor travelling abroad were significant items in the regression model, although the former approached significance for reducing ethnocentrism. This offers partial support for **Hypothesis 3**, with everyday experience of cultural diversity having an impact on the two dependent variables, but with experiences gained abroad not doing so.

High scores for language ability and international orientation were positively associated with cultural intelligence and negatively with ethnocentrism, though only marginally so in the case of language ability and ethnocentrism. However, there was no significant relationship between socio-economic group or delayed university entry and the two dependent variables. This offers partial support for **Hypothesis 4**. Finally, men continued to score more highly on the ethnocentrism scale when other variables were held constant, while gender did not have a significant impact on cultural intelligence, supporting **Hypothesis 5**.

Based on the results of the linear regression analysis, it is possible to conclude that the theoretical model proposed above holds largely true, although not all of the variables proposed formed part of the final model. A revised model is shown at Figure 2.

[Figure 2 here]

4. Discussion

As discussed above, previous studies have reported that both ethnocentrism and cultural intelligence are rooted to a greater or lesser extent in the personality of the individual. This study supports this position and finds that the two concepts are themselves closely linked, not only statistically, but also by sharing a common set of explanatory variables.

The ethnocentrism scale used in this study was designed to capture intercultural attitudes as they relate to students from majority cultural groups within a culturally diverse university setting. It was assumed that expressions of open prejudice would be uncommon and the scale was focused on items relating to separation, difference and tolerance. At the start of this study it was uncertain whether this would attract sufficiently different views to construct a meaningful scale, but a broad range of scores were returned. At one end of the scale, these scores represent individuals who feel at home with diversity and who seek to embrace the opportunities and challenges that it presents. At the other end, the scores reflect an aversion to mixing with other cultures and a strong preference for one's own group, perhaps tinged with feelings of cultural superiority. In between are the more mixed and nuanced views that previous qualitative studies have identified; anxieties across cultural boundaries that colour the desire to interact too closely.

In common with Ekehammer et al. (2004), the two personality traits that impacted most heavily on ethnocentrism were agreeableness and openness. This is perhaps unsurprising, as these are the two traits that speak most for an individual who seeks out consensus and social harmony alongside a desire to broaden horizons and challenge prevailing paradigms. An individual scoring lowly on these scales has a predisposition to conflict and an appreciation for existing rulesets; a certain rigidity of thinking and unwillingness to empathise with others. It is a small jump from there to an ethnocentric person who keenly feels the distinction between ingroups and outgroups, even if

active prejudice is absent. This study also confirms previous ones where men have had higher average scores for ethnocentrism (Neuliep, Chadoir & McCroskey, 2001; Hooghe et al., 2006).

However, this study also adds new colour to the personality picture. When personality variables were held constant, a range of other factors added explanatory power. Perhaps most interesting among these was that individuals growing up in a multicultural environment self-reported lower levels of ethnocentrism than those whose upbringing was more monocultural. The implication of this is clear: that intercultural contact in early life reduces feelings of ethnocentrism, suggesting that it can effectively be unlearned through experience (Cushner, 2007). This is consistent with Allport's (1954) 'contact hypothesis', which holds that intergroup interaction works to break down barriers and reduce intergroup anxiety and prejudice. An alternative interpretation that families with ethnocentric beliefs avoid living in multicultural areas seems less likely, though it may explain some of the relationship and work to reinforce it. However, it was only domestic experiences that were associated with significantly lessened ethnocentrism, not living and travelling abroad.

The two other factors from early life experiences that helped to construct ethnocentrism were foreign language abilities and an interest in international affairs. It is more difficult to disentangle the direction of causality here. It is certainly possible that ethnocentric individuals might consciously or unconsciously avoid learning languages and keeping abreast of international issues. Conversely, it may be that these pursuits actively work to alert and inform individuals about the merits of cultural systems other than their own. Once again, it is likely that there is a causal loop, with certain behaviours (or avoidance thereof) working to diminish (or increase) ethnocentric attitudes.

The architects of the concept of cultural intelligence (Earley & Ang, 2003) were in no doubt that it could be learned through life experience. In contrast to ethnocentrism, which describes an attitudinal or motivational disposition, cultural intelligence includes behavioural, cognitive and metacognitive components that lend themselves to active development, especially through

reflective experiential learning. Indeed, large sums of money are invested by business in preparing their staff for overseas appointments, drawing on cultural intelligence and related concepts. It is, therefore, not surprising that ability with languages, an international orientation and a multicultural upbringing were all significant predictors for the levels of reported cultural intelligence. Effective language learning provides key tools in communication across culture; for example encouraging individuals to think about how they articulate verbal content and how it will be received by the person to whom they are speaking. However, there is also parallel learning about cultural differences between the individual's home country and that of the language that they are learning, illuminating the possible bases of difference – e.g. around social hierarchies or formality. It is hardly possible to learn the language without also learning about the culture and how cultures vary.

Similarly, there is a clear causal link between growing up in a multicultural environment or taking an interest in the wider world and developing the skills and knowledge that enable an individual to interact with people from other cultures. Everyday contact with diversity provides the opportunity for learning about culture, but also the opportunity to test out different approaches and behaviours in a familiar setting. The link with an international orientation is likely to derive from a greater knowledge of other nations and their peoples from an armchair perspective, but again this study shows that even this provides a significant boost to cultural intelligence, perhaps by providing a base of understanding of cultural differences and how they might be bridged. Perhaps surprisingly this study did not support Tarique and Takeuchi's (2008) work on international trips as a source of cultural intelligence; while tending to be positive, this study did not find them to be a statistically significant factor.

Cultural intelligence was, in this study, significantly correlated with all of the other scale variables which evidences the many components of personality and experience which can contribute to an individual's ability to function effectively across cultures, although some of these relationships did not achieve significance in the linear regression model. In particular, this study did provide confirmatory support to earlier research that identified a link between cultural intelligence and

personality traits. As with ethnocentrism, it was agreeableness and openness that played a key role, echoing the findings of Ward and Fischer's (2008) assertion of empathy, openmindedness and flexibility as predictors. It is this predisposition to question accepted ways of being and living that lies at the heart of the ability to interact comfortably and successfully across cultures. Despite some suggestion of a positive role for extraversion, this study did not support Ang, Van Dyne and Koh's (2006) in finding links for all the Big Five personality traits, although their study was considerably more focused in this respect.

One of the limitations of this study is that the measure of cultural intelligence used was entirely reliant on self-assessment by questionnaire. Whereas individuals are in a good position to analyse and score their attitudes on cultural diversity (i.e. ethnocentrism), it is less certain that they are able to accurately assess their ability to interact across cultures (Pritchard & Skinner, 2002; Thomas, 2006). There is a danger that students overestimate their ability and Thomas (2006) proposes that least culturally intelligent individuals are unable to identify even that there is a skill set that they may not possess. This methodological challenge is one that future research will need to overcome.

The considerable overlap in explanatory variables between ethnocentrism and cultural intelligence raises the wider question of the exact nature of the relationship between these two constructs. This is an issue which no research appears to have investigated in any depth previously, yet the potential for a linkage is obvious and supported by the high negative correlation identified above ($r=-0.506$). This study suggests that the type of individual whose personality positively predisposes them towards cultural diversity is also the sort of person who finds intercultural interaction the most comfortable and who is the most successful at it. Furthermore, the same range of early life experiences and behaviours are also predictors, breaking down cultural barriers and prejudice while providing additional clues about becoming a more successful cultural traveller. One could envisage an individual with high levels of both ethnocentrism and cultural intelligence, who had skills to move between cultures but nevertheless had a strong preference for their own, or the

opposite, who was positive towards diversity but lacked the skills to interact successfully. This study, however, suggests that such individuals may be rare within the student population.

It was interesting to note that while the qualitative studies discussed above have identified many sources and incarnations of anxiety surrounding home students' intercultural experiences, neuroticism was not a factor in either ethnocentrism or cultural intelligence. This clearly suggests that it is the experiences themselves that are causing the anxiety and not the predisposition of the individuals involved. This fits well within integrated threat theory (Stephens & Stephan, 2000), which sees intergroup anxiety as a natural phenomenon when cultures intersect, along with feelings of threat and a tendency to negatively stereotype members of the outgroup.

In planning this study, it was, perhaps erroneously, considered almost tautological that ethnocentrism and cultural intelligence would be significant predictors for an individual's level of intercultural interaction. As a result, only a rudimentary variable was included as a proxy for the latter. While this did have significant correlations with both ethnocentrism (in common with Groeppel-Klein, Germelmann & Glaum, 2010) and cultural intelligence, the lack of sophistication meant that it was not possible to analyse whether personality and early life experiences exerted a direct influence on interaction or whether they were effectively mediated by the two constructs. In particular, it would have been useful to distinguish between university friends and those from outside university and between social and academic interaction. This is both a limitation of the current study and a useful avenue for further work.

5. Conclusion

This study set out to understand why some home students appear to be better prepared for and better disposed towards the cultural diversity of the contemporary university than others – an observation from empirical studies in various different countries, but one not previously

investigated on an individual level. By limiting the sample to younger undergraduates, the aim was to restrict the possible explanatory factors to those relating to demographics, personality and early life experiences. It was found that all three impact on the two constructs of ethnocentrism and cultural intelligence, which, in turn, were correlated with the extent to which an individual had friends from other cultures.

This has important ramifications for the internationalised university. Incoming home students are not *tabulae rasae*, but rather have a range of personality, experiential and attitudinal influences that combine to shape their comfort with cultural diversity and their skills at navigating it. For those whose personalities are less open to ambiguity and who have grown up in monocultural areas, their predisposition will tend to be against a positive engagement with international students, because they have a strong preference for their own cultural group and/or because they feel anxious or unskilled. The role of gender in determining ethnocentric attitudes adds complexity to this picture.

This poses an issue for educators and policy makers. They value interaction between home and international students for social and educational purposes, yet qualitative studies suggest that many home students tend to shun this, while this study suggests that there is an individual basis for their behaviour. Educators need to find new strategies to overcome the deep-seated unease that is felt by many home students as a result of personality traits, gender and their early life experiences.

This potentially has far-reaching implications for universities. Many UK universities have separate induction programs for home and international students, such that they do not mix in a structured way for several weeks. Others have accommodation policies that separate the two groups. It is easy to theorise that these approaches could work to reinforce ethnocentrism. Some universities do have a more pro-active approach to seeding interaction between home and international students, including pairing and mentoring programs or academic sessions designed to support

bonding. However, these are rarely compulsory and may rely heavily on the involvement of those home students with greater cultural intelligence.

What this study speaks for are earlier interventions at the start of students' academic careers in order to challenge ethnocentric attitudes, to promote openness to new experiences, and to reduce anxiety about intercultural interactions, founded on the understanding that students will arrive at university with different dispositions. Early, positive and planned contact between home and international students, perhaps in the form of collaborative problem-solving exercises, will provide the type of interaction that demystifies diversity and increases comfort. Other positive interventions are likely to include compulsory sessions that focus on cultural intelligence and, at least, allowing students with poor skills to appreciate that there is a skill set that needs to be learned and its importance to contemporary higher education and employment.

In the longer term, more proactive management of the classroom is required, based on a better appreciation of the intergroup dynamics in terms of students' cultural backgrounds. For example, groupwork exercises need to be managed in such a way as ethnocentrism doesn't act as a barrier to successful joint working between students and that different pedagogical heritages are respected and drawn upon. In particular, cultural intelligence needs to be integrated into the curriculum, especially in those courses which have a high proportion of international students or which are aligned on global careers.

This study also gives a positive message about multiculturalism and its impact on attitudes to diversity and abilities to navigate this diversity among young people. Spending a childhood in a vibrant cultural mix equipped the students in this study with an outlook and a skill set that enhanced their intercultural experiences at university and which will probably lead to a more steady grounding for their working lives, whether or not these have a specific international flavour.

Acknowledgements

The author would like to acknowledge the help provided by Caroline Howlett and Viv Thom in arranging the data collection and Natalie Jester for her assistance with aspects of the analysis.

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