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Seeing is believing? Public exposure to Gaelic and language attitudes

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Abstract

In language planning for minority languages, policy often aims to positively influence attitudes towards the language by increasing its salience in key areas of public life such as broadcasting and signage. This is true for Gaelic in Scotland, where recent national initiatives have included the establishing of a Gaelic language television channel in 2008, and the launch, in the same year, of a bilingual brand identity for ScotRail (Rèile na h-Alba), resulting in Gaelic-English signage at railway stations across Scotland. However, there is a lack of empirical evidence on the *effects* of such an increase in national visibility of Gaelic on public attitudes towards the language. The present paper explores this using a national survey of public attitudes conducted in Scotland in 2012. Exposure to Gaelic broadcasting was found to be positively associated with attitudes towards the status of the Gaelic language (as a language spoken in Scotland, and as an important element of cultural heritage), and with attitudes towards the greater use of Gaelic (in public services and in the future). However, exposure to Gaelic signage was often negatively associated with such broader attitudes to the language and culture. The implications of the results for Gaelic language planning, and for future academic studies of language attitudes in Scotland, are explored.

Key Words

Scottish Gaelic; language planning; language policy; broadcasting; public signage; language attitudes.

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Seeing is believing?

Public exposure to Gaelic and language attitudes

1. Introduction

The visibility of the Gaelic language in public space in Scotland has increased significantly since Scottish devolution in 1999. The new Scottish Parliament building, opened in 2004, boasts extensive Gaelic-English signage; the national rail network introduced Gaelic-English signage at train stations across the country in 2010; and the Gaelic television channel BBC ALBA launched on Freeview in 2011, giving access to the Gaelic language and culture to all in Scotland. Such an increased public presence for Gaelic in Scotland is supported and facilitated by Governmental recognition of the language as an 'official language of Scotland, commanding equal respect to the English language' within the *Gaelic Language (Scotland) Act 2005*. Bòrd na Gàidhlig, the national development body for Gaelic, intend that the increased public visibility of the language will serve two primary functions: (i) raising the status of, and normalising, Gaelic as a language of Scotland, and (ii) encouraging support for its continued use as a living language (BnG, 2007). However, very little empirical evidence exists to evaluate the effects of increased public visibility of Gaelic on broader attitudes to the language and its use. The evidence that does exist tends to focus on *speakers* of the language, leaving a knowledge gap in relation to the general public. It is this gap that the present article addresses by exploring the effects of exposure to two key initiatives to increase the public visibility of Gaelic – Gaelic broadcasting and bilingual public information (including road signs) – on broader attitudes to the status and usage of the language.

Language planning for Gaelic in Scotland

The granting of 'official' status for Gaelic in the *Gaelic Language (Scotland) Act 2005* is significant both in the global context, as only around 100 of the world's 6000 languages are recognised as official by national governments (Spolsky, 2009: 148), and in the national context, as Gaelic is spoken by only 1.1% of the Scottish population. This socio-linguistic dynamic distinguishes Scotland from many other nations whose minority languages have official status, such as Wales and Ireland, where Welsh and Irish are spoken by 19% and 41% of the population respectively.[1] Such a socio-linguistic context presents a potential challenge for Bòrd na Gàidhlig, the national language planning body charged by the *Gaelic Language (Scotland) Act* with 'securing the status' of Gaelic as 'an official language of Scotland', as the Bòrd must exercise its functions to encourage the use and understanding of Gaelic, and to facilitate access to the Gaelic language and culture (Section 1[3]) in relation to at least two different communities in Scotland: the minority who speak Gaelic, and the majority who do not. In sociolinguistics, the first group (Gaelic-speakers) would be called a 'language community' – referring to those who speak a common language. The Scottish public, including both Gaelic-speakers and non-Gaelic speakers living in Scotland, would be called a 'speech community,' which Romaine (1994: 22) defines as 'a group of people who do not necessarily share the same language, but share a set of norms and rules for the use of language.' A speech community is thus a social rather than a linguistic construct, a concept reflected in Gumperz' definition of it as 'a

system of organised diversity held together by common norms and aspirations.' (1982: 24)

Fishman (1991) notes that the establishment of such common societal norms and aspirations for a minority language is a key element in language planning for a minority language. The establishment of common norms was a key focus of the first phase of Gaelic language planning efforts (1960s to c.2005) in which language activists worked to reframe Gaelic from being a language and culture of regional importance (the language having been associated with the Gàidhealtachd, in the North-West of Scotland, since the 14th Century), to being of relevance to all people and all areas of Scotland. The success of such attempts – which included television broadcasting of the annual Gaelic music and literature competition the *National Mòd* (watched by 1.1 million in 1968)[2], opportunities to learn Gaelic through popular television programmes such as 'Can seo' [*Say this*] in the late 1970s and 1980s, and 'Speaking our Language' in the 1990s, and the establishing of Gaelic-medium education outwith the Gàidhealtachd from 1985 – has been effectively charted in national public surveys. For example, a survey in 2003 showed 87% of respondents to view Gaelic as relevant to Scotland nationally (as compared with 70% in a survey conducted in 1981), and showed 68% to perceive Gaelic to be important to the Scottish people and Scottish culture (as compared to 41% in 1981) (MacKinnon, 2013: 16).[3] The reinforcing of such 'common norms' amongst the speech community in Scotland is an explicit focus of the second phase of Gaelic language planning (2005 - present), by means of attention to increasing the visibility and audibility of Gaelic in public spaces in Scotland. Bòrd na Gàidhlig note in *The National Plan for Gaelic 2007-12*:

> The visibility and audibility of Gaelic in Scotland is an important aspect of the promotion of Gaelic. They *confirm* that the language belongs in Scotland. An increased presence of Gaelic in signage and audible discourse *confirms* not only that Gaelic is intimately linked to Scottish heritage and geography but also that Gaelic is a feature of contemporary Scottish public life.

> (BnG, 2007: 33; [our emphasis])

In addition to the normalisation of Gaelic as a language of Scotland, the greater visibility of Gaelic in public spaces is also intended to contribute to increased language use amongst Gaelic-speakers and the building of shared 'aspirations' (Gumperz 1982: 24) amongst the Scottish public (speech community) with regard to the future use of the Gaelic language in Scotland (BnG, 2007: 33). Key initiatives in the second phase of language planning (2005 - present) have included the expansion of Gaelic broadcasting from what Fraser (1998) termed 'a collection of programmes randomly scheduled across several channels' to the provision of 7-8 hours of daily Gaelic broadcasting on BBC ALBA - a Gaelic television channel which received viewer figures of 515,000 in its first year on Freeview in 2011-12 (MG ALBA 2012:19) - and the extension of Gaelic-English bilingual public signage and information from the Highlands and Islands to the whole of Scotland. The former development was the culmination of 30 years of campaigning and of incremental increases both in the amount of Gaelic broadcasting, and in the recognition of the role of minority language broadcasting in the maintenance of a minority language and

culture (Dunbar, 2012). The latter development, of bilingual signage, was facilitated by means of a language planning mechanism established by the *Gaelic Language (Scotland) Act 2005* – whereby Bòrd na Gàidhlig can require public bodies to plan for the increased visibility and use of Gaelic in the exercise of their functions. Language plans have been prepared by over 50 bodies including the Scottish Government, Scottish Parliament, Police Scotland, Visit Scotland, National Parks and the majority of Scottish local authorities. These have served to increase the visibility of Gaelic on public signage, on logos, and in public information, and have increased opportunities for Gaelic language use in these public services. In addition, some private franchises offering a public service also choose to use Gaelic-English bilingual signage – including ScotRail, some airports and ports, and some supermarkets and banks (particularly in the most densely Gaelic-speaking areas of the North-West of Scotland).[4] There is an assumption in language policy that such broadcasting and signage initiatives to raise the visibility of Gaelic will have positive effects on public attitudes to the cultural relevance and use of the Gaelic language (BnG, 2007: 33, 43, 50), an assumption reflected in the discourse of language activists (MacIlleathain, 2011; see also Dunbar 2012) and some academics. For example Chhim & Belanger (2017: 931) argue Gaelic-English bilingual signs to be 'an example of unobtrusive, subtle and everyday identity-reinforcing cues of Scotland's distinctiveness from the rest of the UK.' The latter would position Gaelic-English bilingual signage as an example of what Billig (1995:3) would term 'banal nationalism' – routine, taken-for-granted symbolic representations of a nation that reinforce a shared sense of belonging amongst people.

However, there is a paucity of *evidence* on the effect of such signage and broadcasting initiatives on attitudes to the status and use of the Gaelic language – particularly amongst the general Scottish public (Puzey, 2008; Cormack, 2007; Milligan, 2011; Dunbar, 2012). Previous studies of public attitudes to the increased visibility of Gaelic have typically focused on areas marked by controversy – for example the introduction of Gaelic-English signage in Caithness (Rosie, 2012) and Edinburgh (Puzey, 2012) – or have focused on public attitudes as expressed in letters to newspapers (Chalmers et al., 2011; MacKinnon, 2012). Such studies, although informative, have limitations in terms of the national representativeness of the sample. The present paper uses data drawn from a survey with a representative sample of the Scottish population (see Section 2) to explore whether there is a relationship between exposure to (i) Gaelic broadcasting and/or (ii) bilingual public information (including signage) and broader attitudes to the status and usage of Gaelic in Scotland. The paper focuses on the 'speech community' – the public in Scotland – but draws on concepts and methodological approaches used in previous research with *speakers* of Gaelic and other minority languages; research which will be outlined below.

Minority language media, bilingual signage and the language community

A seminal piece of research on the impact of public visibility on speakers' perceptions of a minority language's status and usage was conducted by Landry & Bourhis (1997) with 2,010 16-17 year old Francophone students from across Canada. They found exposure to French media to be strongly associated with students' affiliations to the Francophone community, and with increased French language use – particularly in media contexts, but also with friends, family, in the community and in social institutions within the public sphere. Exposure to French in public signage and

information was found to be strongly associated with a belief in the strength of the Francophone community in Canada, and with French language use within social institutions in the public domain, in the community and with friends (ibid.: 43). Landry and Bourhis (1997: 23) thus posited the existence of a 'carryover effect' of the public visibility of minority languages on language use.

Such a 'carryover effect' has been explored in relation to Gaelic language media in the Irish and Scottish contexts. In a questionnaire and interview study of the attitudinal and language use effects of exposure to Irish television channel TG4 with 130 university students (who speak Irish as a second language), Moriarty (2009) reported a positive effect on students' attitudes towards the cultural and linguistic value of the Irish language in contemporary Irish life, and also reported a 'carryover effect' amongst 1 in 8 of her sample in relation to increased Irish language use socially. In the Scottish context, Sproull & Chalmers (1998) conducted a regional survey, which explored the impact of exposure to Gaelic broadcasting amongst 2,028 residents of the Western Isles, Skye & Lochalsh (in the North-West of Scotland). 58% of the sample were Gaelic speakers (ibid.: 5). The study found exposure to Gaelic broadcasting to have a 'carryover effect' (Landry & Bourhis, 1997: 23) on language status and usage. 46% of respondents reported a consequential increase in support for the greater inclusion of Gaelic in other areas of public life (e.g. in local business) from exposure to Gaelic television, with 35% reporting such an increase in support from exposure to Gaelic radio (ibid.: 37). With regard to language use, 21% reported a consequential increase in their own Gaelic language use as a result of exposure to Gaelic television, with 26% reporting such an increase from exposure to radio (ibid.: 42). The explorations of such a 'carryover effect' in relation to Gaelic signage have received less research attention. Existing studies (Puzey, 2009; 2012) have effectively outlined the theoretical and conceptual underpinnings for such a study, but have not provided empirical data. Puzey (2009, 2012) notes the potential for such signage to enhance the status and use of Gaelic amongst speakers of the language, but also notes national bilingual signage to hold the potential to 'polarize' (2012: 129) opinion amongst the speech community. He notes that whilst some members of the public may support Gaelic-English signage, others may not perceive Gaelic to be an important part of national identity, may feel that such signage does not reflect the linguistic heritage of their community, or may view the inclusion of minority language signage as a threat to their own personal identities and attachments in relation to place.

The present research aims to explore whether exposure to bilingual public signage or Gaelic broadcasting is associated with broader attitudes to the status of the Gaelic language or its usage. In so doing, we will investigate whether there exists any evidence for 'carryover effects' (Landry & Bourhis 1997: 23) from exposure to Gaelic onto attitudes amongst the speech community in Scotland. As the research relates to the Scottish public (only 1.1% of whom speak Gaelic), the indexes of language status and language use will necessarily differ from those used in the studies conducted with speakers of minority languages outlined above. Our sample, and measures of language status and language use, are outlined in Section 2 below.

2. Data

Sample

The data were collected as part of the Scottish Social Attitudes Survey of 2012 (ScotCen 2013), a large-scale survey administered by face-to-face interviewing in respondents' homes, with computer-based self-completion for questions that were particularly sensitive. In 2012, the survey contained 40 questions on Gaelic, which were available to respondents in English or Gaelic. The survey aimed to provide a representative sample of adults aged 18 or over who were living in Scotland by means of careful geographical sampling, and by the use of statistical weighting to match characteristics of the achieved sample with the target population (ibid. 2013). The sampling frame was the Postcode Address File, a list of postal delivery points. The survey used a three-stage sampling process. Stage 1 involved the selection of postode sectors from a list of all postcode sectors in Scotland. These postcode sectors had been stratified according to the Scottish Government urban-rural classification, by region and by percentage of household heads in non-manual occupations (Socio-Economic Groups 1-6 and 13, taken from the 2001 Census). 87 postcode sectors were selected, with a probability proportional to the number of addresses in each postcode sector for urban areas, and with a probability of twice the number of addresses in each sector for rural areas. Stage 2 of sampling involved the random selection of 28 addresses within each postcode sector, and Stage 3 involved the random selection of one adult at each address. 1,229 interviews were conducted, a response rate of 54%. The achieved sample was weighted to match the age and sex structure of the population; all the descriptive statistics in the tables and text below use weighted data. This weighted sample was representative of the population in terms of educational attainment (as compared to the Scottish Household Survey 2011), and in terms of Gaelic language competence (as compared to the 2011 census) – with 1% of the achieved sample reporting the ability to speak Gaelic.

Measures of exposure to Gaelic and of attitudes

In order to investigate the effects of exposure to Gaelic broadcasting and bilingual public information on broader attitudes to the language, we needed to specify measures of such exposure as our explanatory variables, and to specify measures of attitudes to the status and usage of Gaelic as our dependent variables. The questions asked of respondents, and the distribution of responses, are outlined below. We excluded from the analysis respondents who had missing data on any of the measures that we used, leaving 1,133 cases (92% of the full sample). Some of the perecentages noted below do not add to 100 because of rounding error.

Explanatory variables: exposure to Gaelic signage or broadcasting

(i) Exposure to Gaelic signage

Respondents were asked how often they had seen Gaelic used on road signs or other public signs over the last twelve months. Responses were: never (41%), less often than once a month (29%), less than once a week but at least once a month (11%), about once a week (5%), more than once a week (14%).

(ii) Exposure to Gaelic broadcasting

Respondents were asked how often they had heard Gaelic on the television or radio over the last twelve months. Responses were: never (29%), less often than once a

month (31%), less than once a week but at least once a month (16%), about once a week (13%), more than once a week (10%). Respondents who had reported exposure to Gaelic broadcasting were then asked what types of television programmes, if any, they had watched during the last 12 months. Of the 797 respondents who reported exposure to Gaelic broadcasting, 36% had watched football, 32% culture, music and heritage programmes, 11% children's programmes, 9% news and current affairs and 2% other.

Dependent variables: attitudes to the status and usage of Gaelic

Language status

As noted in the introduction, language planning for Gaelic in Scotland aims to build the status of the language by means of 'normalising' Gaelic – both as a language spoken in Scotland, and as an aspect of cultural heritage (BnG 2007; Dunbar 2010; Milligan 2011). These two aspects of language status were indexed as follows:

Attitudes measure (1):

Comfort hearing Gaelic spoken

Respondents were asked to report, within the confidential computer-based self-completion part of the survey, how comfortable they feel when hearing people in Scotland speaking to each other in Gaelic. Responses were very comfortable (19%), comfortable (28%), neither comfortable nor uncomfortable or can't choose (42%), uncomfortable (5%), very uncomfortable (1%), and never heard Gaelic (6%). This variable was intended to index the extent to which respondents view Gaelic as 'appropriate' (Spolsky 2010: 3) within the speech community. Thus, for the purposes of analysis, these categories were dichotomised into 'very comfortable and comfortable' against the rest.

Attitudes measure (2):

Views on the importance of Gaelic to cultural heritage

Respondents were asked for their views of the importance of Gaelic to their own heritage, to the heritage of the Highlands and Islands (the most densely Gaelic-speaking areas in the North West of Scotland), and to Scottish heritage. They were also asked how important they believed the ability to speak Gaelic to be for 'being truly Scottish'. All responses were recorded on a five-point scale from 'not at all important' to 'very important,' with response distributions shown in Table 1.

<< TABLE 1 ABOUT HERE >>

The mean of the four items for each respondent was taken to form a scale of perceived importance of Gaelic to cultural heritage, with high values indicating strong support (standardised to have mean 0 and standard deviation 1). This dimension aimed to measure the perceived cultural importance of Gaelic holistically, in two ways. Firstly by taking account of the 'relational' (Fairclough, 2001: 106) aspects of cultural affiliation – in which people's perceptions may vary in relation to the frame of reference (one's own regional or national identity) – and secondly by exploring

respondents' views of the communicative role of Gaelic in cultural identity, as well as the symbolic role (Edwards, 2009).

Language use

In terms of language use, we noted in the introduction that initiatives to promote the public visibility of Gaelic aim to both increase Gaelic usage by members of the language community within the public sphere, and to create shared 'aspirations' (Gumperz, 1982: 24) amongst the speech community (the Scottish public) with regard to the future use of the Gaelic language in Scotland (BnG, 2007: 33). The following measures were used to index these two aspects of language use:

Attitudes measure (3):

Views on granting Gaelic-speakers the right to use Gaelic in public services

Respondents were asked for their views of whether Gaelic speakers should have the right to use Gaelic in five areas of Scottish public life: when dealing with a local council, when appearing as a witness in a law court, when speaking to a health professional, when speaking at a public meeting about a local issue, and when writing to their bank. In 2012, none of these existed as rights across Scotland. Rather, opportunities to use Gaelic in these situations was dependent on place of residence, with such opportunities more likely in the more strongly Gaelic-speaking areas of the Highlands and Islands.[5] Respondents' views of providing such language rights in relation to each of the five areas of public life were recorded on a three-point scale, with response distributions shown in Table 2.

<< TABLE 2 ABOUT HERE >>

The mean of the five items for each respondent was taken to form a scale of support for the right to use Gaelic (standardised to have mean 0 and standard deviation 1), with high values indicating stronger support both for the provision of such rights, and for their geographical spread. This dimension aimed to measure the extent to which respondents' supported increased Gaelic usage by the language community in public services in Scotland.

Attitudes measure (4):

Preferences for the future use of Gaelic in Scotland

Respondents were asked how many people they would like to be speaking Gaelic in 50 years' time. Response categories were: more people than now (44%), about the same number of people as now (38%), fewer people than now (11%), and no opinion (8%). This question aimed to measure respondents' support for the growth of the Gaelic language community. For the purposes of analysis, these categories were dichotomised into 'more people than now' and 'the same, fewer or no opinion.'

Attitudes measure (v):

Predictions for the future use of Gaelic in Scotland

Respondents were asked how many people they expect to be speaking Gaelic in 50 years' time. Response categories were: more people than now (14%), about the same

number of people as now (31%), fewer people than now (54%), and no opinion (2%). This dimension aimed to gauge public opinion on the future vitality of the Gaelic-speaking language community in Scotland. For the purposes of analysis, the responses dichotomised into 'more people than now' and 'the same, fewer or no opinion.'

3. Methods

The analysis used linear and binary logistic regression to explore the effects of exposure to Gaelic broadcasting and bilingual public signage on attitudes to the status of the language and its use. That is, we model variation in each of the five attitude variables in terms of factors measuring exposure to public signs and broadcasting. The models control for respondents' Gaelic competence and for recent or childhood home or community-based exposure to the language. We controlled for these variables because exploratory modelling showed our data to replicate the findings of national Scottish survey research conducted over the last 30 years which found positive relationships between Gaelic language competence and attitudes to the language both as a means of communication and as a cultural symbol (MacKinnon 1981, MRUK 2003, Scottish Government 2011), and which found positive associations of home or community exposure to Gaelic and broader attitudes to the language (MacKinnon, 1981, Scottish Government 2011). Specifically, in our study, a regression model showed regular (weekly or more frequent) exposure to Gaelic in the home or street in the last year, visiting the Highlands and Islands of Scotland at least once in the last year, understanding at least the odd word of Gaelic, and having heard Gaelic spoken as a child all to be positively associated with comfort when hearing Gaelic spoken, the importance of Gaelic to cultural heritage and preferences for more Gaelic speakers in 50 years' time (attitudes measures 1, 2 and 4), at the 5% significance level.[6] The statistical models presented in Section 4 thus control for these measures of personal experience of Gaelic in order that we can be more confident that any associations found between frequency of exposure to Gaelic signage and broadcasting and broader attitudes to Gaelic are the result of exposure to such public policy initiatives to increase the visibility of the Gaelic language in Scotland, rather than the result of exposure by more informal means.

The explanatory variables (exposure to Gaelic signage or broadcasting) are categorical variables – that is to say that the statistical effect of each category (of frequency of exposure) on the attitudinal variable is measured by comparison with a reference category, as shown in Table 3. The aim of the models is not to *explain* variation in the attitude variables, but rather to assess whether there is reliable evidence that exposure to Gaelic signage or broadcasting is associated with them. However, we do also report summary measures which assess how well the models predict (or explain) the attitudinal variables. These are R^2 values for the two attitudinal variables measured on continuous scales (views on granting Gaelic speakers rights to use Gaelic in public services, and views on the importance of Gaelic to cultural heritage). For the three dichotomous attitudinal variables (comfort hearing Gaelic spoken, preferences & predictions for the future of Gaelic), these summary values represent the increase in correct classification which the model offers over and above random classification, in other words the difference between 50% and the actual percentage of cases correctly classified on the relevant dichotomy. The modelling was done in the statistical computing environment R using the package

'lm' for the two continuous scales and the package 'glm' for the binary variables. The modelling did not use weights but did control for respondents' personal experiences of Gaelic (exposure to Gaelic in childhood, or recently in the home, street or Gàidhealtachd, and language competence), and whether or not the respondent lived in the three most strongly Gaelic-speaking local authority areas – Comhairle nan Eilean Siar, Highland Council or Argyll and Bute Council – which also controls for the survey's over-sampling of rural areas. Versions of the models shown in Table 3 which included further controls for sex and age – the two variables which constitute the sample weights – produced results that were very close to those reported below, and, in particular, which led to the same inferences about the relationship between the exposure variables and the attitude variables (summarised in Table 4 below).

4. Results

Table 3 shows the results of assessing the associations between frequency of exposure to Gaelic public signage or broadcasting and the five measures of attitudes to the language, controlling for the effects of personal experience of Gaelic and their area of residence (see Methods).[7] The table shows two very different patterns: one is for broadcasting, where attitudinal effects of exposure are overwhelmingly positive, and the other is for signage, where effects of exposure are mixed, and often negative.

<< TABLE 3 ABOUT HERE >>

Attitudinal effects of exposure to Gaelic television and radio broadcasting

Table 3 shows regular exposure to Gaelic broadcasting (once per week or more) to be strongly associated with positive attitudes to the language on all five measures of attitude here explored – (i) comfort on hearing Gaelic spoken, (ii) importance of Gaelic to cultural heritage, (iii) rights for Gaelic-speakers to use Gaelic in public services, (iv) preferences for the future vitality of Gaelic and (v) predictions for the future vitality of the language. Infrequent exposure to Gaelic broadcasting (once per month or less) is also associated with positive attitudinal effects on measures (ii), (iii) and (iv), though at a lower level of statistical significance. Looking down the top half of Table 3, one can see that the statistical strength of the positive association with attitudes to Gaelic increases with increased frequency of exposure to Gaelic broadcasting. These results cannot be explained by any tendency for those with Gaelic language competence or those who have had childhood or recent exposure to Gaelic to be more likely to watch or listen to Gaelic broadcasts, since we have controlled statistically for such measures.

In analysis not shown in the table, the effects of watching particular genres of Gaelic television were explored by adding these to the statistical models. Watching 'culture, music and heritage' programmes was positively associated with comfort on hearing Gaelic, with perceived importance of the language to cultural heritage, and with hopes and predictions for the future of Gaelic (models 1, 2, 4 & 5). Watching children's programmes was positively associated with views that Gaelic speakers

should have the right to use Gaelic in public services and with a preference for a greater number of Gaelic speakers in 50 years' time (models 3&4), whilst watching football in Gaelic was positively associated with support for Gaelic speakers' rights to use Gaelic in public services (model 3). Such positive attitudinal associations with these genres of television programming served to enhance the attitudinal effects of general exposure to Gaelic broadcasting (displayed in Table 3). One genre – 'news and current affairs' – was negatively associated with attitudes to Gaelic, specifically with a preference for a future increase in the number of Gaelic speakers in Scotland (model 4). However, such a genre-specific effect served to lessen, but not eliminate, the positive effect of regular general exposure to Gaelic broadcasting on preferences for the future number of Gaelic speakers in Scotland shown in Table 3. The present study had insufficient data to investigate the attitudinal effects of the interaction of programme genre and frequency of exposure, but our findings indicate this to be worthy of future research.

Attitudinal effects of exposure to Gaelic road and public signage

In contrast to the overwhelmingly positive attitudinal effects of exposure to Gaelic broadcasting, the attitudinal effects relating to exposure to Gaelic on road signs and other public signs are mixed, and often negative. Table 3 shows that although infrequent exposure to Gaelic on signs (monthly or less frequently) is positively associated with comfort when hearing Gaelic spoken (model 1), it is also negatively associated with a perception that Gaelic is important to cultural heritage (model 2). No statistically significant associations existed between infrequent exposure to bilingual signage and measures of support for increased language use of Gaelic (models 3-5). Frequent exposure to Gaelic signage (once per week or more) is not statistically associated with comfort hearing Gaelic spoken, or with predictions for the number of Gaelic speakers in 50 years' time (models 1 and 5), but is negatively associated with the perceived importance of Gaelic to cultural heritage (model 2), and, with weaker evidence, with support for rights for Gaelic-speakers to use Gaelic in public services (model 3), and with preferences for an increase in the number of Gaelic speakers in Scotland (model 4). These findings on regular exposure cannot be due to any distinctive attitudes of people who live in, or frequently visit, the Highlands and Islands, where public signs in Gaelic are most common, because these geographical factors have been controlled for in the models.

Looking down the bottom half of Table 3, one can see that although infrequent exposure to Gaelic signage is associated with comfort when hearing Gaelic spoken, increased exposure to Gaelic signage is negatively associated with the perceived importance of Gaelic to cultural heritage, with views of rights for Gaelic speakers to use the language in public services and with preferences for the number of Gaelic speakers in 50 years' time. Possible reasons for such findings will be discussed in Section 5 below.

Summary results table
A summary version of results for the attitudinal associations of exposure to Gaelic broadcasting and signage is provided in Table 4 below.

<< TABLE 4 ABOUT HERE >>

5. Discussion

The results show exposure to Gaelic broadcasting and to bilingual signage to have markedly different associations with broader attitudes to the status and usage of the Gaelic language amongst the Scottish public. This section will discuss the findings in relation to existing theory and research on initiatives to increase the public visibility of a minority language, and will then explore the implications of the findings for language planning and policy in Scotland, and for future research.

With regard to broadcasting, the results show exposure to Gaelic television or radio broadcasting to be positively associated both with attitudes to the status of the Gaelic language (as an accepted language within the speech community, and as an important element of cultural heritage), and with attitudes to the use of the Gaelic language (by Gaelic speakers in public services, and by a greater number of speakers in the future). Moreover, increased exposure to Gaelic broadcasting increases the strength of the positive associations with such attitudinal variables. One interpretation of such results would be to claim a 'carryover effect' (Landry & Bourhis, 1997: 23) of exposure to Gaelic broadcasting on language status and usage amongst the speech community, a finding that would replicate evidence for such 'carryover effects' amongst speakers of Gaelic in Scotland (Sproull & Chalmers, 1998), and amongst speakers of Irish in Ireland and French in Canada (Moriarty, 2009; Landry & Bourhis, 1997).

Evidence from theory and research can be drawn upon to support such an argument for a carryover effect from exposure to Gaelic broadcasting on language attitudes. In terms of our language status variables (Table 4), Strassoldo (1992) notes the potential for modern media to adapt traditional minority culture to enable access by mainstream society, presenting the minority language and culture as a normalised and relevant part of contemporary life (see also Dunbar, 2012; Blommaert, 2007; Moriarty, 2009). The notion of the 'adaptation' of traditional minority culture for the majority society is reflected in the Scottish context, where Cormack (1994) notes television programming in the early 1990s to have been designed to present Gaelic as a modern, vibrant, language and culture of Scotland – with English-language subtitling enabling access to all people in Scotland. The continued focus on the role of the broadcast media in giving non-Gaelic speakers access to the Gaelic language and culture is reflected in the audience targets of the Gaelic media service MG ALBA (who work in partnership with the BBC to deliver the Gaelic channel BBC ALBA). From the outset, MG ALBA has had a dual focus on the language community and the speech community – what it terms the 'Gaelic' and 'Scottish' audiences (2009: 8) – and has targeted programming for the linguistic and cultural needs and interests of the two groups. For the 'Scottish' audience, this includes opportunities to learn Gaelic (for example Speaking our Language on television or 'Beag air Bheag' [*Little by little*] on Radio nan Gàidheal), and the English-language subtitling of all programming on BBC ALBA which covers a wide range of content including current affairs, culture and music, sport, light entertainment, documentaries and soap operas. Football is a key element of such provision, with the channel broadcasting matches from the Scottish Premier League, the Scottish Challenge Cup and the Scottish Championship that are often not covered on other free-to-view television services (Ramon & Haynes 2018). Such a theory, research and policy context could support an argument that exposure to such broadcast material has a 'carryover effect' on comfort

when hearing Gaelic spoken and with the perceived importance of Gaelic to cultural heritage (our language status variables). In terms of our language use variables (Table 4), Williams (1984) argues that in addition to enhancing the status of a language, minority language television can contribute towards increased support for minority language use amongst the majority population, including an increase in the number of social domains in which the language is accepted by the speech community. He notes:

> Broadcasting … is able to portray in fantasy form the use of a minority language in domains, which in real life, it does not exist. This, over time, leads to the acceptance of the potential use of the minority language across a variety of domains within which it may not exist.

> (Williams, 1984: 89)

The language use findings of the present study – that exposure to Gaelic broadcasting is associated with increased support for the future use of Gaelic, and with the provision of rights for Gaelic-speakers to use their Gaelic in an increased range of public services – could also be interpreted as being 'carryover effects' of exposure onto language attitudes within such a theoretical frame.

However, a comparison of the findings of the present study with those of quantitative studies on the associations of exposure to broadcasting and language attitudes in other national contexts cautions against such a simplistic uni-directional interpretation of the findings. Harwood (1999: 123), based on a study of Hungarian in Romania, argued that individuals seek media depictions that 'strengthen their identification with a particular social group and/or make that identification more positive', whilst Moring et al.'s (2011: 290) study of minority language media exposure in South Tyrol, Romania and Finland concluded that 'media habits and identity iteratively interact and enforce each other.' Thus, it may be the case that some of the positive statistical associations between exposure to minority language media and increased identification with the language and culture found in the present study, and in analogous quantitative studies in other minority language contexts (Landry & Bourhis 1997, Sproull & Chalmers 1998, Moriarty 2009), result from a bidirectional relationship whereby the existence of broadcasting in the lesser used language provides people with the opportunity to more easily access the language and culture and to strengthen *existing* cultural and linguistic understanding, affiliation and support. Although the present study controlled for the impact of personal knowledge and experience of Gaelic on attitudes (Section 3), it may still have been those with an interest in the language or culture who were more likely to choose to watch or listen to Gaelic broadcasting, creating such a bidirectional effect. The findings on the attitudinal associations of watching culture, music and heritage programmes (Section 4.1) support this bidirectional hypothesis, as watching such programmes was found to be positively associated with comfort when hearing Gaelic spoken, perceived importance of Gaelic to cultural heritage, and hopes and predictions for the future vitality of the language. However, not all of the findings support such a bidirectional relationship. For example, the positive association found between watching football with Gaelic commentary and support for Gaelic speakers' use of Gaelic in public services is likely to be uni-directional: that is to say, it is likely that exposure to football in Gaelic has prompted greater support for the wider use of Gaelic in public

life by Gaelic speakers, rather than pre-existing support for the greater public use of Gaelic prompting the viewing of Gaelic-language football. The exploration of patterns of directionality between exposure to Gaelic broadcasting and attitudes towards the language would require further qualitative or mixed-methods longitudinal research, which explores both motivations for engaging with Gaelic broadcasting, and any reported effects of exposure on beliefs about, cultural identifications with, or use of Gaelic.

The present study is able to provide evidence of strong positive associations between exposure to Gaelic broadcasting and measures of the status and use of the language relating to the language planning goals to normalise Gaelic as a language and culture of Scotland, and to encourage shared 'aspirations' (Gumperz 1982: 24) about increased future use of the language (Bòrd na Gàidhlig, 2007). In providing such evidence on the broader attitudinal impacts of Gaelic broadcasting amongst the speech community, the study makes a contribution to an acknowledged gap in academic knowledge (Cormack, 2007; Milligan, 2011; Dunbar, 2012), and provides data that may inform future language policy and planning in Scotland.

The results on exposure to bilingual public signage from the present study also hold implications for language policy and planning. The findings showed that although infrequent exposure to Gaelic signage is positively associated with hearing Gaelic spoken (and thus arguably contributes to the normalisation of spoken Gaelic within the speech community), regular exposure to Gaelic on signage does not have the same positive 'carryover effect' (Landry & Bourhis 1997:23) on broader attitudes to language use or to the importance of the language to cultural heritage as has been found in research with speakers of minority languages exposed to such signage in other national contexts (Landry & Bourhis 1997, Cenoz & Gorter 2006). In their study of Basque and Frisian in the Basque Country (Spain) and Friesland (the Netherlands), Cenoz & Gorter (2006: 67) posit the existence of a 'bidirectional' relationship between minority language signage and the sociolinguistic context in which it exists, whereby the inclusion of the minority language on public signage both *reflects* the 'power and status' (ibid.: 67) of the language within the sociolinguistic context, and positively *influences* people's perceptions of such status, and their language use. Our study has not found evidence for such positive attitudinal effects on language status and use from exposure to Gaelic signage amongst the (predominantly non-Gaelic speaking) speech community in Scotland. Indeed, exposure to Gaelic road and public signage was consistently negatively associated with perceptions of the importance of Gaelic to cultural heritage, and regular exposure was additionally negatively associated with support for the increased use of the Gaelic language (in public services and in the future).

The present study thus shows the broader attitudinal effects of exposure to Gaelic road and public signage to be more complex than rhetoric advocating the increased national visibility of Gaelic on signage assumes (Bòrd na Gàidhlig, 2007, 2012; MacIlleathain, 2011; Chhim & Bélanger, 2017: see Section 1).The sociolinguistic context of Gaelic in Scotland may contribute to such findings. As we noted earlier, Scottish Gaelic is spoken by only 1.1% of the Scottish population, with the most densely Gaelic-speaking areas existing in the Highlands and Islands, in the North-West of the country. The extension of Gaelic road and public signage from such areas to the whole of Scotland from 2005 – to reflect its status as an 'official language of Scotland, commanding equal respect to the English language' (Scottish Parliament,

2005) – has been met with varying public responses, recorded in consultation documents for public bodies' Gaelic Language Plans, and in paper and online media. Although many have embraced such enhanced public visibility of the language, Spolsky (2009: 75) notes that 'because of its salience, the choice of language on a public sign carries a high emotional value, helping signal territorial boundaries,' which Puzey (2009: 822) notes may 'threaten' or 'impinge upon' existing personal or community identities. Our study indicates that the nationalisation of Gaelic-English signage may be considered within such a theoretical framework, as exposure to Gaelic road and public signage is negatively associated with perceptions of the importance of Gaelic to cultural heritage (Section 4.2). An analysis of previous qualitative research and data on public attitudes to Gaelic-English bilingual signage (Aberdeenshire Council 2016; Chalmers et al., 2011; MacKinnon 2012; Rosie 2012) offers potential explanations for such a finding. One key theme in such research is that particular communities within Scotland have linguistic heritages which more strongly relate to another language. Some communities such as Aberdeenshire, which has a Scots language heritage, argue that their heritage language should also have official status or prominence on local public signage, in *addition* to Gaelic (Aberdeenshire Council, 2016). Other communities *contest* the place of Gaelic in their locality, arguing the language to have no or little sociolinguistic relevance in the area (Rosie 2012; MacKinnon 2012; Chalmers et al., 2011). In some such cases, the local community is strongly resistant to Gaelic-English signage, for example in Caithness (Rosie 2012). A second key theme in such research relates to a feeling that the increased public visibility of Gaelic in bilingual signage has been imposed on communities by top-down Government-led policy, rather than having been developed in negotiation with the communities themselves (MacKinnon, 2012; Chalmers et al., 2011; Rosie 2012).

Our findings that the increased visibility of Gaelic in public signage is not positively contributing to the language planning goal of the normalisation of Gaelic as an aspect of cultural heritage in Scotland, or to shared 'aspirations' (Gumperz 1982: 24) amongst the speech community concerning the greater future use of the Gaelic language, indicates a need for more in-depth mixed methods research on the identity and attitudinal effects of such increased Gaelic signage in different communities across Scotland. In terms of implications for language policy and planning, the combined evidence from the present research and previous qualitative research indicates the need for a greater focus on the Scottish speech community (the majority of whom are not Gaelic speakers) when extending the public visibility of Gaelic through signage. At present, signage is conceptualised in policy in relation to its impact on tourists and Gaelic-speakers (Bòrd na Gàidhlig, 2012: 42), but no mention is made of the Scottish public. The present study indicates the need to additionally consider the Scottish public when planning for the increased public visibility of Gaelic through signage. This would align work with signage with that of broadcasting, which has long had a 'dual focus' on the needs of the 'Gaelic' and 'Scottish' audiences – the language community and the speech community – when promoting the Gaelic language and culture (MG ALBA 2009: 8). One possibility would be to plan for greater public consultation and discussion in a community *before* any installation of signs. Puzey (2012:144) notes such public debate to often help to improve attitudes to Gaelic, but to typically currently follow the introduction of signage. Such consultation may lead to the acceptance of Gaelic-English signage, prompt demand for the inclusion of other community languages on signage in

addition to, or instead of, Gaelic, or result in English-only signage. Whatever the signage outcome, constructive public debate and consensual policy making could lay the basis for 'securing the status of the Gaelic language as an official language of Scotland, commanding equal respect to the English language' (Scottish Parliament, 2005) within a multilingual and multicultural Scotland.

6. Conclusion

This paper explored the relative effects of exposure to Gaelic broadcasting, and to Gaelic-English public signage, on broader public attitudes to the status and use of the Gaelic language in Scotland. In so doing, it provided an empirical basis for some key questions raised in policy and in academic literature regarding the language planning impact of such publicly-funded initiatives to increase the visibility of the Gaelic language in Scotland. The paper showed exposure to broadcasting to be more effective than exposure to signage in relation to broader impacts on attitudes to the status and use of the Gaelic language, in models which controlled for respondents' childhood and recent personal experience of Gaelic, and their knowledge of the language. Attitudes to language status were measured in terms of the normalisation of Gaelic as a language spoken in Scotland and as an aspect of cultural heritage, and attitudes to language use were measured in terms of the existence of shared 'aspirations' (Gumperz 1982: 24) for the use of Gaelic in public spaces and for the future vitality of the language. The research identified areas for in-depth mixed-methods research in the study of Gaelic signage and broadcasting, and has implications for language policy and planning activities in Scotland which aim to increase the public visibility of Gaelic.

Endnotes

[1] All percentages are derived from 2011 census data. (National Records of Scotland 2015: 6, Office for National Statistics 2012: 13, Central Statistics Office 2012: 40)

[2] Reported in House of Lords debate on *National Mòd (Scotland) Bill*, 1969.

[3] The 1981 survey included 1,117 respondents and the 2003 survey 1,020 respondents. Both surveys were sampled to be representative of geographical area (Highlands/Lowlands), gender, age and occupation. (MacKinnon, 1981; MRUK, 2003).

[4] The 2011 census showed there to be 50 civil parishes (local communities) where Gaelic is spoken by over 5% of the population. These were all in the North-West of Scotland. Gaelic is spoken by over 50% of the population in 7 of these communities, and by between a quarter and a half of the population in a further 7 communities (National Records of Scotland, 2015: 31).

[5] Court: although there is no national right to testify in Gaelic in court (McLeod, 1997), the UK Government's ratification of the European Charter for Regional or Minority Languages in 2001 enabled the use of Gaelic in civil cases in the sheriffdoms of Lochmaddy, Portree and Stornoway.

Local council & public meetings: by the end of 2012, seven local councils had developed Gaelic language plans. These covered the Highlands and Islands (Comhairle nan Eilean Siar, Highland Council, Argyll & Bute Council, Perth and Kinross Council) and also urban lowland areas (Glasgow City Council, Edinburgh City Council, North Lanarkshire Council). These created opportunities for Gaelic language use when dealing with the local council and at certain public meetings.

Healthcare: NHS Comhairle nan Eilean Siar and NHS Highland published Gaelic Language Plans in 2012, extending the possibility or Gaelic language use in healthcare in the Gaelic-speaking areas of the North West of Scotland.

Banks: as noted in the introduction, the Gaelic language plan mechanism established by the Gaelic Language (Scotland) Act 2005 does not extend to the private sector: but Gaelic signage and services may be available in banks in Gaelic-speaking areas, subject to staff availability.

[6] Reference categories were 'no understanding or exposure to Gaelic'. 14% of the sample had had home or community based exposure to Gaelic in the last year, 53% had visited the Highlands and Islands, 26% understood at least the odd word of Gaelic and 17% had heard Gaelic spoken as a child (n = 1, 133).

[7] The statistical effects of adding the personal experience of Gaelic and area of residence controls into the models of the associations between exposure to broadcasting and signage and attitudes to Gaelic was to change the strength of associations, not to change their direction, for any coefficient that was statistically significant in the models without controls.

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TABLES

Table 1: Distribution of responses on cultural importance of Gaelic (*n=1,133*)

	Very Important	Fairly important	Not very important	Not at all important	Can't choose
Importance of Gaelic to own cultural heritage	8%	17%	33%	38%	4%
Importance of Gaelic to cultural heritage of Highlands & Islands	49%	38%	7%	2%	4%
Importance of Gaelic to Scotland's cultural heritage	30%	46%	17%	4%	2%
Importance of being able to speak Gaelic to being Scottish	3%	11%	39%	45%	2%

Table 2: Distribution of responses on views of rights for Gaelic speakers to use Gaelic in public services *(n=1,133)*

	Should have the right to use Gaelic, wherever they live in Scotland	Should have the right to use Gaelic if they live somewhere Gaelic is spoken	Should not have the right to use Gaelic in this situation
Local council	39%	47%	14%
Law court	41%	32%	27%
Health appointment	35%	38%	27%
Public meeting	31%	46%	23%
Bank	33%	35%	32%

Table 3
Statistical effects of exposure to Gaelic broadcasting and signage, with statistical control for personal experience of Gaelic

		(1) Comfort hearing Gaelic spoken		(2) Importance of Gaelic to cultural heritage		(3) Rights for use of Gaelic in public services		(4) Prefer more Gaelic speakers in 50 years		(5) Predict more Gaelic speakers in 50 years	
		Coeff.	*s.e.*	*Coeff.*	*s.e.*	*Coeff.*	*s.e.*	*Coeff.*	*s.e.*	*Coeff.*	*s.e.*
Broadcasting											
Heard Gaelic on television or radio in past year (ref. Never)	Less often than once a month	0.09	0.16	0.13(*)	0.07	0.07	0.08	0.29(*)	0.17	0.32	0.25
	Less than once a week but at least once a month	0.27	0.20	0.19*	0.09	0.18(*)	0.09	0.35(*)	0.20	0.33	0.30
	About once a week	0.52*	0.21	0.42**	0.09	0.19(*)	0.10	0.95**	0.21	0.62**	0.29
	More than once a week	0.66**	0.24	0.35**	0.11	0.33**	0.11	0.87**	0.24	0.83**	0.31
Signs											
Seen Gaelic used on road signs or other public signs in past year (ref. Never)	Less often than once a month	0.28(*)	0.16	-0.18*	0.07	-0.10	0.08	0.08	0.16	-0.03	0.23
	Less than once a week but at least once a month	0.54*	0.23	-0.05	0.10	-0.01	0.11	0.10	0.23	-0.38	0.34
	About once per week	0.05	0.29	-0.36**	0.13	-0.39**	0.14	-0.19	0.30	0.26	0.37
	More than once per week	0.25	0.22	-0.29**	0.1	-0.17(*)	0.10	-0.44(*)	0.23	0.08	0.30
Increase from 0.5 of proportion correctly classified, or R^2		0.08		0.12		0.04		0.12		0.14	

Models are logistic regressions for (1), (4) and (5) (for which the last line is proportion correctly classified), and linear regressions for (2) and (3) (for which the last line is R^2).
*Key for statistical significance levels: ** p<0.01; * 0.01<p<0.05; (*) 0.05<p≤0.10.*
Table 3 shows the regression coefficients for the categories of the variables recording exposure to broadcasting and to signage in models which also contained the control variables of personal experience of Gaelic (described in Methods). The full models are available from the authors.

Table 4: Summary findings of associations between exposure to Gaelic broadcasting and signage and measures of language status and usage

Key: + = positive association - = negative association x = no association [Associations at 10% significance level or stronger: see Table 3 for full details.]		Exposure to Gaelic broadcasting		Exposure to Gaelic signage	
		Frequent (Weekly or more often)	Infrequent (Less than weekly)	Frequent (Weekly or more often)	Infrequent (Less than weekly)
Language Status	Comfort when hearing Gaelic spoken	+	x	x	+
	Perceived importance of Gaelic to cultural heritage	+	+	-	-
Language Use	Support for granting Gaelic-speakers the right to use Gaelic in public services	+	+	-	x
	Preference for more Gaelic speakers in 50 years' time	+	+	-	x
	Prediction for more Gaelic speakers in 50 years' time	+	x	x	x