A Survey Report of the Deaf People of Northern Ireland

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Abstract

In January of 2010, our sign-language-assessment survey team did fieldwork in Belfast, Northern Ireland. At a preliminary research level, our primary focus was to investigate the variation of sign language varieties in Northern Ireland compared to Britain and Ireland sign language varieties. We gathered language attitudes among the deaf community in Belfast toward local sign varieties, British Sign Language (BSL), and Irish Sign Language (ISL) through interviews and online questionnaires. We investigated similarity among sign language varieties through wordlist comparisons using the Levenshtein distance metric.

Our results indicate that, although both BSL and ISL are formally recognized as official languages in Northern Ireland, more of the Northern Ireland deaf community identifies with and uses a sign variety that is more similar to BSL than ISL. There may be greater identification with ISL and more similar sign varieties with ISL among deaf people from the western and southern parts of Northern Ireland. Initial results suggest that there is a vibrant local deaf identity; there may be considerable variation between Northern Ireland sign varieties and sign varieties from Britain. In light of this information, we recommend that, prior to distribution in the Northern Ireland deaf community, both BSL and ISL sign language materials be tested for acceptance and that local deaf leadership is consulted in any adaptations of materials that may be needed.
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References
1 Introduction

In this rapid appraisal survey report, we present information about the deaf\(^1\) communities and sign language(s) in Northern Ireland gathered from previously published linguistics articles, websites, and email correspondence. Fieldwork was conducted in January 2010.

1.1 Country overview

For an introductory overview of Northern Ireland, some geographic, economic, religious, and ethnic characteristics are highlighted. Geographically, Northern Ireland is located in the northeast section of the island of Ireland. The northern coast borders the North Atlantic Ocean, and the eastern coast borders the North Channel and the Irish Sea. The Republic of Ireland borders Northern Ireland on the west and south. Northern Ireland is part of the United Kingdom (UK) which is comprised of England, Scotland, Wales, and Northern Ireland. However, according to the Belfast Agreement of 1998, residents of Northern Ireland can claim either Irish or British citizenship, or both. See figure 1 for a map of Northern Ireland’s context in the United Kingdom and Europe; modified from the CIA World Factbook images (Central Intelligence Agency 2011).

\(^1\) Some deaf people identify themselves as capital-D “Deaf,” in order to focus on their cultural identity, rather than a lower-case d “deaf,” focusing on audiological status. We recognize the diversity of perspectives and conventions for referring to deaf and hard-of-hearing people around the world. For this report, we have chosen to use a lower-case “deaf” with the goal of being most inclusive of all deaf and hard-of-hearing people in Northern Ireland, regardless of their cultural and linguistic identification.
The 2001 census of Northern Ireland reported a population of approximately 1.7 million. The 2009 population estimate is 1.79 million, just under 3 percent of the total UK population of 61.1 million (Northern Ireland Statistics and Research Agency 2010, 1). Northern Ireland occupies about 14,000 square km (5,400 sq. mi.) which is an area similar in size to Connecticut or Puerto Rico. Comparatively, the Republic of Ireland has an estimated total population of 4.5 million with a land area of 70,000 sq. km (27,000 sq. mi.). The largest city is the capital, Belfast, with a district population near 277,400. Including the surrounding Nomenclature of Territorial Units for Statistics (NUTS) codes of the United Kingdom Level III region of Outer Belfast, the Belfast metropolitan area has a population of approximately 646,600. Outside of the capital metropolitan region, the next largest city is Londonderry (or Derry) in the northwest with a district population of approximately 105,100. Including Derry district, the NUTS Level III North region has a population of approximately 274,900, East region has a population of approximately 396,900 (Northern Ireland Statistics and Research Agency 2001, 8–9). See figure 2 for a map of Northern Ireland that marks the location of cities referred to in this report.

Figure 2. Northern Ireland map.

Economically, the UK has a gross domestic product (GDP) at purchasing power parity (PPP) per capita of around 36,000 international dollars. This places the UK among the top 15 to 25 countries of the world in the various rankings that compare country economies (International Monetary Fund 2010). The ethnicity of Northern Ireland is estimated to be 99 percent white. The major religious affiliations are Protestant denominations (46%) and Catholic (40%), followed by residents who identified with no religion (14%). English, Irish, and Ulster Scots are recognized as official languages and/or languages that are part of the cultural heritage of Northern Ireland (Northern Ireland Office 1998, 24).

A survey of national identity in Northern Ireland resulted in respondents identifying most often with British (37%), Northern Irish (29%), and Irish (26%). Protestant respondents identified themselves most often as British (57%) and Northern Irish (32%). In contrast, Catholic respondents identified themselves most often as Irish (61%) and Northern Irish (25%) (ARK 2009). According to Gilchrist Ó hEopra (personal communication), Catholics tend toward identifying as Nationalists and Protestants as Unionists,
although there is definite overlap between religious and political affiliations. He also indicates that people in Northern Ireland may respond differently to the question of identity, based on where they are when asked or the identity of the person asking them. Thus, identities are fluid and context dependent.

### 1.2 Survey research questions and methodology

The SIL International sign language survey team coordinated fieldwork in Northern Ireland from January 12–20, 2010. Because of the limited time and scope of this rapid appraisal survey, we focused on the location with the largest deaf community and the only deaf school in Northern Ireland located in the capital city of Belfast.

This survey was prompted by information shared with the SIL Eurasia Area sign language coordinator by deaf linguist Gilchrist Ó hEopra 2101 (personal communication). He indicated that there is a sign variety in Northern Ireland called “Northern Ireland Sign Language” (NISL) that is distinct from British Sign Language (BSL) and Irish Sign Language (ISL), although there is lexical overlap between the sign varieties in Northern Ireland and both BSL and ISL. The goal of this survey was to find out more about the viability of NISL, including attitudes toward its presence and use by other members of the Northern Ireland deaf community. We also investigated whether sign language development projects would need to be initiated in NISL, separate from BSL or ISL projects. Our research questions (RQ) were as follows:

- **RQ #1**: Is there a NISL that is distinct from ISL and BSL?
- **RQ #2**: What are the language attitudes of the Belfast deaf community toward ISL, BSL, and the reported NISL sign varieties?
- **RQ #3**: Is there a high amount of lexical variation among the sign varieties used in Northern Ireland, the Republic of Ireland (ISL), and England (BSL)?
- **RQ #4**: Is it possible for ISL or BSL sign language development projects to be acceptable and useable in the Northern Ireland deaf community?

The following tools were used to answer the research questions:

- Interviews of deaf and hearing leaders of deaf associations, churches, and organizations regarding deaf identity and language use (see appendix A for a list of interview participants that are referenced in this report).
- Wordlist comparisons of sign varieties elicited in Northern Ireland, the Republic of Ireland, and England (see appendix C for the complete wordlist).
- An online sociolinguistic questionnaire composed of ten questions related to deaf identity, language use, and language perceptions (see appendix B for a copy of the online questionnaire). The online questionnaire was sent to all available contacts approximately one month before our scheduled fieldwork and was left open for participants until one month following.

Nine participants completed the online questionnaire: there were five females and four males; four participants who identified themselves as deaf, four hearing, and one hard-of-hearing. They ranged from just learning to sign to being fluent signers and represented the cities of Belfast, Bangor, Dungiven, Mallusk, and Newtownabbey. See table 1 for the online questionnaire participant metadata.
Table 1. Online questionnaire participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>City</th>
<th>Gender</th>
<th>Hearing status</th>
<th>Sign skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dungiven</td>
<td>Female</td>
<td>Hearing</td>
<td>Okay</td>
</tr>
<tr>
<td>2</td>
<td>Belfast</td>
<td>Male</td>
<td>Deaf</td>
<td>Fluent</td>
</tr>
<tr>
<td>3</td>
<td>Mallusk</td>
<td>Female</td>
<td>Hearing</td>
<td>Learning to sign</td>
</tr>
<tr>
<td>4</td>
<td>Belfast</td>
<td>Male</td>
<td>Hard-of-hearing</td>
<td>Learning to sign</td>
</tr>
<tr>
<td>5</td>
<td>Belfast</td>
<td>Male</td>
<td>Deaf</td>
<td>Fluent</td>
</tr>
<tr>
<td>6</td>
<td>Bangor</td>
<td>Female</td>
<td>Hearing</td>
<td>Fluent</td>
</tr>
<tr>
<td>7</td>
<td>Newtownabbey</td>
<td>Female</td>
<td>Deaf</td>
<td>Fluent</td>
</tr>
<tr>
<td>8</td>
<td>Belfast</td>
<td>Female</td>
<td>Hearing</td>
<td>Fluent</td>
</tr>
<tr>
<td>9</td>
<td>Belfast</td>
<td>Male</td>
<td>Deaf</td>
<td>Fluent</td>
</tr>
</tbody>
</table>

2 Deaf community

In the following section, some social aspects of the deaf communities in Northern Ireland are presented in the areas of population estimates, education, associations and organizations, interpreting services, and religious ministries.

2.1 Population

Deaf populations are very difficult to determine because numbers often differ dramatically, based on a counting methodology which includes all people with hearing loss (which generally leads to high numbers) as compared to one that only includes deaf people who use sign language as their primary means of communication (which leads to much lower deaf populations). McClelland indicates that, according to the Department of Education and Health and Social Services over 25 years ago, the adult population with hearing loss in Northern Ireland included 500 who could speak, 600 who were deaf and could not speak, and 2,500 who were hard-of-hearing (McClelland 1987). According to Gilchrist, the Royal National Institute of the Deaf (RNID) indicated a more current number of approximately 219,000 deaf and hard-of-hearing people in Northern Ireland. He approximates 7,000 users of sign language in Northern Ireland, approximately 2,000 that use ISL and 5,000 that use the Northern Ireland sign variety that is referred to by various groups as BSL, BSL-NI, NI-BSL, and NISL. According to Carberry (2010, personal communication), there are 5,000 deaf people in Northern Ireland, 3,000 who use BSL and 2,000 who use ISL and, according to Young and Young (2010, personal communication), the Northern Ireland signing deaf community is comprised of approximately two-thirds BSL users and one-third ISL users. Clarke (2010, personal communication) indicates that there are 1,500 signing deaf people in Northern Ireland and an additional 3,000 hard-of-hearing people who do not use sign language. The Department of Culture, Arts, and Leisure estimates that there are 17,000 severely or profoundly deaf individuals in Northern Ireland. Of this deaf population, there are 5,000 who use sign language as their preferred means of communication: 3,500 who use BSL and 1,500 who use ISL (Department of Culture, Arts, and Leisure 2011a).

2.2 Education

According to McClelland, deaf education prior to 1960 was offered exclusively through Jordanstown Schools (2011), then called “Ulster Society for Promoting the Education of the Deaf and Dumb and the Blind” or the “Old Lisburn Road School” (McClelland 1987). This deaf school was located in Belfast from 1846 to 1960 and in Jordanstown after 1961. In 1960, there were 164 students enrolled, but ten years later, the enrollment was under 100. Since 1979, the Jordanstown site has also offered educational and vocational support for deaf students over the age of 16. In 1987, the Total Communication philosophy of education was adopted, incorporating both sign and speech into the classroom. Also in that year, hard-of-hearing students began to be placed in 27 special classrooms outside of Jordanstown Schools where...
signing was not allowed. Teachers of deaf students may have gone through a one-year program for deaf education in England or Ireland in order to teach at Jordanstown School.

Jordanstown Schools is now located approximately eight miles north of central Belfast. It currently provides specialist education for deaf and blind children between four and 19 years of age. They enroll both males and females, are a non-denominational school, and have both day students (who commute to school) and those who board at school during the weekdays. Students come from all over Northern Ireland and some parts of the Republic of Ireland. According to the Jordanstown Schools website, the school focuses on meeting the specific needs of each student and adapting to “what works best.” For communication, the school staff use “Total Communication, Sign Supported English, [and] BSL” (Jordanstown Schools 2011).

Although Jordanstown Schools is a self-professed, non-denominational school, it was historically a privately-run school that focused its attention on the Protestant communities of Northern Ireland and Catholic deaf students who moved to Dublin for their education. The parents of one deaf person worked for four years to convince Jordanstown Schools to accept their child because of their family’s Catholic affiliation. Before acceptance, the family felt their only option was to send their child to school in Dublin because that was the only deaf educational option available to Catholic families. Beck (2010, personal communication) indicated that Protestant schools often only accepted 10–20 percent of their students from Catholic backgrounds. Gilchrist Ó hEopra (2010, personal communication) estimated there were 27 students at Jordanstown Schools, ranging between the ages of 4 and 18, and Young and Young indicated that the students tend to have multiple disabilities or have fallen behind academically in mainstream settings.

Increasing numbers of deaf people in Northern Ireland are going to England for advanced educational opportunities in Boston Spa, Yorkshire at St. John’s Catholic School for the Deaf, and in Newbury, Berkshire at the Mary Hare School. Graduates from St. John’s Catholic School for the Deaf and Mary Hare School have higher academic credentials than most of the deaf community and often obtain higher paying and more desirable jobs. While the rest of the deaf community respects them for their credentials, their signing ability may not be high because the Mary Hare School “teaches using an auditory/oral approach, without the use of sign language” (Mary Hare School 2011). Many of these graduates are in leadership positions at the British Deaf Association (BDA) and other deaf events since they hold prestige in the community.

As of 2001, the Northern Ireland Deaf Youth Association reported that deaf youth in Northern Ireland still considered having quality deaf education in Northern Ireland a primary concern as approximately 40 percent of the deaf population attend special schools in Dublin or England, instead of remaining in Northern Ireland. In their opinion, this causes unneeded separation between the young students, family, and friends (Campbell et al. 2001).

2.3 Associations and organizations

There are many associations, clubs, and organizations serving and organized by the Northern Ireland deaf community. Some of these are deaf-led organizations (such as the Northern Ireland Deaf Youth Association and the British Deaf Association (BDA), also called the Northern Ireland Deaf Association and the Deaf Association of Northern Ireland) and others are hearing-led organizations (such as the Royal National Institute for Deaf People Northern Ireland (RNID)). The BDA and RNID are the two largest organizations serving the Northern Ireland deaf population. According to Symington (personal communication), deaf clubs are decreasing in size, and deaf people are choosing to gather informally in small groups, rather than in organized club meetings.

Deaf youth indicate that in their social networks almost all of their friends are deaf and from diverse religious backgrounds. Although the government has provided significant recognition and support to the Northern Ireland deaf community, deaf youth still report that they experience barriers in finding adequate
employment, due to discrimination, negative attitudes toward deaf people, linguistic isolation, and exploitation (Campbell et al. 2001). Many of these groups are taking steps to address these issues.

2.4 Religious ministries

According to religious leaders in the deaf community, there are no known weekly deaf religious ministries outside of Belfast. Christian Fellowship Church, Kinghan Church, the Deaf Christian Fellowship, St. Joseph’s Centre for Deaf People, and Church of Ireland Ministry to Deaf People are the primary Christian ministries in Belfast, with some interpreted services being provided in other locations, such as at Christ Church.

Christian Fellowship Church has three congregations; one is a sign language congregation in Belfast and the other two are hearing groups in Belfast and Antrim. The sign language group meets the second and fourth Sundays of each month. During all other Sunday mornings, the group joins the main hearing congregation in the Strandtown building. There are also three smaller sign language groups meeting throughout the week. All meetings are held in sign language.

Kingham Church, formerly the Kinghan Mission to the Deaf, is associated with the Presbyterian denomination. It was founded in 1857 and offers Sunday services in cooperation with a local Church of Ireland (sharing teaching responsibility every other week). There have been many ministers at Kingham Church since its founding; the current minister indicated that they and the Church of Ireland minister use Sign Supported English and the English Good News Bible in their services, in order to help the hard-of-hearing attendees who would not understand BSL well. Some of the deaf community members criticize her for not using BSL. According to the current minister, church attendance dropped drastically when fewer students boarded at the deaf school because they had no way to get to the deaf services without support (and transportation) from their hearing parents or family.

Deaf Christian Fellowship at Beersbridge Road meets on Sundays, with prayer and Bible study on Thursdays and Fellowship on the first Saturday of each month. The Roman Catholic Diocese of Down and Connor (St. Joseph’s Centre for Deaf People) is reported to have four priests; all know and use the NISL variety, and one of them also knows and uses ISL. Monthly mass is also offered by the Catholic Diocese of Derry and the Catholic Diocese of Dromore in Derry, Armagh City, and Newry.

3 Sign language use

In this section, the history of sign language in Northern Ireland, reported similarities and variation, and the current status of sign-language development and acquisition is discussed. According to the Northern Ireland Deaf Youth Association, the majority of the deaf community prefers sign language to meet their communication needs (rather than speech), although signing proficiency varies by the deaf individual (Campbell et al. 2001). According to Brown and Clarke (2010, personal communication), most deaf people in Ireland have fairly low English literacy, not enough to easily access the Internet or have high computer skills. However, because of text messaging and some use of the Internet, Clarke reports that deaf people can type much better than they can write.

3.1 History and background of sign language varieties

In March 2004, both BSL and ISL were formally recognized in Northern Ireland as official languages. BSL is more prevalent and is the primary sign language in Belfast, because services offered by the UK are in BSL and mostly based out of Belfast. ISL is, according to deaf and interpreter contacts, mostly located in areas of Northern Ireland with stronger Catholic ties where students may have previously attended Catholic deaf schools in Dublin. Londonderry is considered to be the largest ISL-using segment of the Northern Ireland deaf population; Gilchrist indicated that most ISL users are located in the four districts farthest from Belfast. Most of our Belfast contacts also indicated that, although most native BSL users are not bilingual in ISL, most native ISL users are proficient in BSL, so they can access the better
services (e.g. interpreters) that are available in BSL. In addition, BSL tends to have greater prestige in Northern Ireland than ISL because it is the language of the majority. Questionnaire participants indicate that they interact with deaf people from England more than deaf people from the Republic of Ireland and interview responses during fieldwork indicated that this could be a national trend.

One quick way to see the difference between BSL and ISL users is their varying fingerspelling systems, with BSL using a two-handed variety and ISL using a one-handed variety. See figure 3 for BSL and ISL alphabet charts:

![BSL Fingerspelling](image1)

![ISL Fingerspelling](image2)

Figure 3. BSL and ISL fingerspelling.

BSL had approximately 40,000 users in 1984, out of a total 900,000 deaf people reported in the UK (Deuchar 1984); it is believed to have begun its development as early as the 1600s. Regional variations are present in each of the nations that make up Great Britain (England, Wales, and Scotland) and, reportedly, there is even higher variation in Northern Ireland. This increased variation is due to Northern Ireland being geographically separated from Great Britain. Deaf schools were established in the mid-1800s; now there are many regional associations and organizations in the UK serving the deaf population. Recently, there has been an increased movement in the UK toward using BSL in deaf education.

ISL is reportedly related to both French Sign Language and BSL. Quite a bit of research has pointed to significant variation in ISL, based on a deaf person’s gender and related school background (because of gender-segregated schools in the Catholic deaf school system in Dublin, Ireland). ISL is believed to have originated between 1846 and 1857, when deaf schools were established with students numbering as many as 800. Since that time, the development of ISL has generally followed two paths, with the female deaf students using a sign language more influenced by English rather than what the male deaf students are using. According to Beck, the ISL variety used in Northern Ireland does have some differences from the ISL currently used in Dublin because time has caused language shift in both communities. More information about the history of deaf education and ISL as used in the Republic of Ireland can be found in the following two books:

A third sign language reported by some members of the Northern Ireland deaf community and objected to by others is Signed English, also called Signed Supported English (SSE). This signing system heavily relies on English word order and includes signs for English words (e.g. articles) that would not be found in BSL and ISL. This sign variety is used by deaf people who have more oral education influence, especially those who attended school in England.

### 3.2 Sign variety identification in Northern Ireland

Members of the deaf community in Northern Ireland were quick to relate and identify with American Sign Language (ASL) influence on their sign language. They expressed pride that a founding member of their community, Francis Maginn (1861–1918), attended Gallaudet University and worked to establish deaf education and increase deaf employment in Northern Ireland. More information about the history of the Northern Ireland deaf community can be found in Rachel Pollard’s book: “The Avenue: A History of the Claremont Institute.”

According to Gilchrist Ó hEopra (personal communication), there is some debate in Northern Ireland regarding whether the sign variety used by the Northern Ireland deaf community should be called NISL, BSL, or BSL-NI. When we inquired about NISL, some of the deaf community members said that there is no such thing (only ISL and BSL). This debate appears to spring out of two main factors: political/religious affiliation and sign language variation.

As described in section 1.1 of this report, Northern Ireland is primarily divided into two religious and political groups. One group is primarily Protestant and identifies itself with the UK; the other is Catholic and primarily identifies itself as Irish. Because Protestants make up the majority of the population, many Catholics feels discriminated against and fight to retain their own identity as Irish Catholics. In the deaf community, even though most deaf people indicate that they put their deaf identity before any political affiliations, some may feel reluctant to accept the naming of their sign variety as “British” because of their desire to politically distance themselves from Britain and associated Protestant roots. This leads to some people wanting to call their sign variety NISL.

The other main factor affecting the discussion of what to name the sign variety in Northern Ireland is the perception of variation between their sign variety and the sign languages used in Great Britain and, in particular, England. According to an informal wordlist analysis performed by Gilchrist of 210 signs as used in Northern Ireland and England, there is only 54 percent shared similarity between the two sign varieties, with primary differences due to the influence of ASL on the Northern Ireland sign variety. In comparison, only 20 percent of the Northern Ireland sign variety is similar to ISL. According to Symington, director of the RNID at the time of this research, there is a 20 percent difference in regional varieties of BSL among England, Scotland, Wales, and Northern Ireland. According to Clarke (2010, personal communication), Scotland’s sign variety is probably more similar than Northern Ireland’s variety is to England’s BSL variety. Many of our participants indicated that the most obvious differences are in lexical items for numbers, colors, family, and days of the week. Clarke indicated that she believes that the NISL variety has never been considered a distinct language because the UK wanted to keep a single standardized language, despite a variation level that may be high enough for the two varieties to be considered as distinct languages, based only on linguistic factors.

When questionnaire participants were asked about what location and what sign language most influenced their identity, over one-half responded that Northern Ireland and NISL were the biggest influencers, while one-third indicated that Britain and BSL most impacted their identity; only one participant chose the Republic of Ireland as having the biggest impact on their identity.
When these same participants were asked how well they personally use BSL, ISL, NISL, and ASL, they indicated that they were most proficient in BSL, followed by NISL, ISL, and, finally, ASL. In comparison, when asked how frequently those same languages were used in the Northern Ireland deaf community, they generally indicated that NISL is used most frequently, followed closely by BSL, ISL, and, finally, ASL. Table 2 shows the participants’ self-rating of their signing skill levels in the various languages and their rating of each language’s frequency of use in the Northern Ireland deaf community.

<table>
<thead>
<tr>
<th>Language</th>
<th>Personal average skill rating (1: fluently to 4: not at all)</th>
<th>Community-use rating average (1: most frequent to 4: least frequent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSL</td>
<td>1.9</td>
<td>1.8</td>
</tr>
<tr>
<td>NISL</td>
<td>2.6</td>
<td>1.2</td>
</tr>
<tr>
<td>ISL</td>
<td>3.9</td>
<td>2.4</td>
</tr>
<tr>
<td>ASL</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Two deaf participants commented that answering these questions was very difficult because of confusion about the distinction between BSL and NISL.

3.3 Similarity of lexical items among sign language varieties

One of our research questions probed the amount of lexical similarity that exists among sign language varieties of Northern Ireland, the Republic of Ireland, and Britain. Since this is a preliminary study that compares only a few sign language varieties from each location, the results should not be interpreted as a definitive and comprehensive analysis of the similarity of the sign languages used in these countries; however, the relative relationships of sign language varieties can be used to guide further research into variation studies and planning for language development projects.

Nine sign language varieties, representing four countries, are included in the analysis: two from Belfast, Northern Ireland; two from Dublin, Ireland; one from England; and four from the United States. Participants from Belfast represented Northern Ireland sign varieties (not ISL); Dublin’s participants represented ISL varieties, England’s participant indicated the use of BSL, and participants from the United States used ASL. Metadata for the nine participants is shown in table 3.

<table>
<thead>
<tr>
<th>Country</th>
<th>Variety identifier</th>
<th>Date elicited</th>
<th>City</th>
<th>Age</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>Eng-01</td>
<td>2008</td>
<td>na</td>
<td>29</td>
<td>male</td>
</tr>
<tr>
<td>Ireland</td>
<td>Ire-01</td>
<td>2010</td>
<td>Dublin</td>
<td>50</td>
<td>male</td>
</tr>
<tr>
<td>Ireland</td>
<td>Ire-02</td>
<td>2008</td>
<td>Dublin</td>
<td>~38</td>
<td>female</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>Nlre-01</td>
<td>2010</td>
<td>Belfast</td>
<td>22</td>
<td>male</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>Nlre-02</td>
<td>2010</td>
<td>Belfast</td>
<td>28</td>
<td>female</td>
</tr>
<tr>
<td>United States</td>
<td>USA-01</td>
<td>2007</td>
<td>Hartford</td>
<td>32</td>
<td>female</td>
</tr>
<tr>
<td>United States</td>
<td>USA-05</td>
<td>2008</td>
<td>Los Angeles</td>
<td>21</td>
<td>female</td>
</tr>
<tr>
<td>United States</td>
<td>USA-06</td>
<td>2008</td>
<td>Los Angeles</td>
<td>42</td>
<td>male</td>
</tr>
<tr>
<td>United States</td>
<td>USA-07</td>
<td>2008</td>
<td>Los Angeles</td>
<td>23</td>
<td>male</td>
</tr>
</tbody>
</table>

We used a wordlist comparison methodology that measures the similarity of lexical items using the Levenshtein distance metric (Parks, in progress). With the EUDICO Linguistic Annotator (ELAN) software, the signs that were elicited for each wordlist item were identified and coded for four parameters: initial handshape, initial location, final handshape, and final location (Max Planck Institute for Psycholinguistics, 2011). The four parameter values for each wordlist item were compared for similarity among the nine sign language varieties using the SLLED and Rugloafer software (White, 2011). The Levenshtein distance calculations for wordlist comparisons were developed by Kleiweg (2011). A total of
2,185 signs were identified and compared in the analysis. The wordlist contained lexical items from a variety of grammatical word classes and semantic domains. A subset of 215 items from the 243 initially elicited items were selected for comparison, based on a recommended set of items according to Parks (in progress). The entire set of wordlist items are listed in appendix C, table C.1.

To calculate Levenshtein distance, the number of differences between parameter values for each lexical item are tallied and then normalized (divided by four). In the comparison of two signs for one wordlist item, the Levenshtein distance could range from zero (identical parameter values for all four parameters) to one (different parameter values for all four parameters). If a participant gave more than one sign for one item, the Levenshtein distance is the average distance of all possible combinations of signs between sign varieties. The Levenshtein distance between two sign language varieties for the complete set of wordlist items is the average of the distances calculated for each item.

The Levenshtein distances between each sign language variety pairing is shown in table 4. The Levenshtein distance calculations among the wordlist data set of nine varieties have a very high Cronbach’s Alpha of 0.988 (a reliability measure of the internal consistency of the data). The Levenshtein distances range from 0.294 as the most similar sign language variety pairing (USA-01 and USA-05) to 0.758 as the least similar variety pairing (USA-06 and Eng-01).

<table>
<thead>
<tr>
<th>Nire-02</th>
<th>0.491 Eng-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.724</td>
<td>0.715 Ire-01</td>
</tr>
<tr>
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The Rugloafer program also calculates similarity groupings of sign language varieties. The clustering algorithm used for this study is the unweighted pair-group method (UPGMA). The Levenshtein distance similarity groupings of the nine wordlists are shown in figure 4. The vertical line connecting a pair or grouping of sign language varieties corresponds to the Levenshtein distance of that grouping shown on the x-axis. The colors are a visual aid to help distinguish groupings based on a user-defined number of groups and are not meant to indicate the identification of distinct sign languages.

When comparing wordlist varieties within a single location, the pair of sign language varieties from the Republic of Ireland is the most similar grouping of varieties with a Levenshtein distance of 0.311. The grouping of four sign varieties from within the United States is next in similarity with a distance of 0.352. The two Northern Ireland sign varieties have a distance of 0.413 from each other. When comparing wordlists between locations, the sign variety from England groups with the Northern Ireland varieties at a distance of 0.498; these three varieties are grouped with the two Republic of Ireland varieties at a distance of 0.708. The United States varieties are grouped with the other varieties at a distance of 0.732.
Figure 4. Dendogram of Levenshtein distance similarity groupings.

While interpreting results, it is best to focus on the relative relationships of varieties, rather than absolute distances. Based on these results, the sign varieties of the Republic of Ireland are quite distinct from the varieties of both Northern Ireland and England; only slightly more similar to them than the four United States varieties. The Northern Ireland sign varieties are much more similar to the sign variety from England than they are to the other sign varieties from the Republic of Ireland and the United States. However, at a Levenshtein distance difference of 0.085, the sign variety from England is somewhat distinct from the pair of varieties from Northern Ireland. More sign varieties from England and Northern Ireland would need to be compared to evaluate the extent of this difference. In addition, future research may investigate how much the phonetic difference of lexical items may affect other questions about intelligibility or language classification.

3.4 Factors affecting sign variation

When questionnaire participants were asked about the causes of variation in sign language use in the Northern Ireland deaf community, they indicated that the school environment to be the biggest influence on variation in the community, followed by age, geographical region, education level, religion, and gender. See figure 5 for a graph displaying the percentage of participants who indicated that particular factor as impacting sign variation in Northern Ireland.

Figure 5. Perceived sociolinguistic factors affecting sign variation.

Interviews echoed these questionnaire results. As previously described, deaf schools are not located next to each other but are actually in different cities and separate countries. While there are particular religious affiliations with Catholics attending schools in Dublin and Protestants in Belfast, there is some crossover
and not a complete one-to-one relationship between a person or family’s religion and their school choice. In addition, our contacts indicated that those deaf people who want to pursue secondary education typically do so in England, and their signing changes with that transition to an increased use of Signed English/SSE and decreased use of BSL or ISL.

One factor that seems surprising, however, is that age was ranked second as having influence on sign variation in Northern Ireland. Some deaf leaders we spoke with described a clear split between generations and a significant change in signing from what was a unique Northern Ireland sign variety in the older generation to a sign language that looks much more similar to the BSL used in England by the younger generation. Language attitudes of the younger generation tend toward looking down on the older deaf generation’s signs as archaic and their English skills as poor. According to Clarke, the younger deaf generation’s sign language has more influence from spoken English, leading to an increased amount of mouthing in English and fingerspelling. Beck indicates that the younger generation has a much more rapid pace of signing than the older generation. Janet Young said that the younger generation uses a sign variety closer to England’s BSL than to the older generation’s unique Northern Ireland signs, which leads to greater amounts of initialization in the younger generation. A few of our contacts indicated that members of the deaf community sometimes refer to the older generation’s signing language as NISL, while referring to the younger generation’s signing as BSL.

Some younger deaf leaders are taking steps to document these older signs so that they will not be lost, even if they do not continue in widespread use. One such documentation project is found in a DVD produced by the Deaf Association of Northern Ireland (Deaf Association of Northern Ireland 2009).

3.5 Interpreting

There were only four registered interpreters in Northern Ireland in 2001 (Campbell et al. 2001). Currently, there are many more who are members of the Association of Sign Language Interpreters Northern Ireland group (ASLI NI), the professional sign language interpretation organization in Northern Ireland. ASLI NI covers all of Northern Ireland and meets approximately six times a year to talk about relevant issues to the field of interpreting. They hold various social events, training days, and discussion meetings; they also have an e-group to keep members up-to-date between meetings. A complete list of interpreters is listed by a regional directory in the ASLI website (Association of Sign Language Interpreters 2008).

Interpreters in Belfast indicate that there are only a couple of ISL interpreters present in Northern Ireland, located near Londonderry. Interpreter credentials in ISL may be gained in Dublin while only two levels of ISL classes are offered in Northern Ireland, without any official credentials being offered. Most interpreters in Northern Ireland receive training in Belfast and learn BSL up to four levels (as approved by the organization “Signature” which has been in place for approximately 20 years and is the primary leader of sign language interpreting in the BSL world). Although interpreters are being trained by deaf people in Northern Ireland that would use the Northern Ireland variety of sign, their final testing (the National Vocational Qualification (NVQ)) is done by people from England; they need to know England’s BSL variety in order to successfully pass the test. This is done to discourage favoritism in the testing process, bringing in a neutral third party. It also ensures further standardization of BSL by requiring interpreters to learn a standard BSL to be able to practice professionally. This requirement is also causing an increase of England’s BSL use in the Northern Ireland community.

According to Clarke, interpreters who move to Northern Ireland from England are not automatically able to easily interpret for the Northern Ireland deaf community. She believes that this is because, while BSL in England may have 60 percent manual components and 40 percent facial components, BSL in Northern Ireland is flipped with 60 percent facial components and 40 percent manual ones. However, transplanted interpreters that are willing to learn Northern Ireland signs are quickly integrated and welcomed into the deaf community.
3.6 Acquisition and development

The Department of Culture, Arts, and Leisure (DCAL) has a focus on increasing the number of sign language interpreters and tutors in Northern Ireland. One of their projects involved linguistic training in the deaf community that was held from January 2010 through January 2011 in Belfast. The course was taught in both BSL and ISL and the course was held for deaf people who want to become future sign language teachers in Northern Ireland. There were 14 places available for students and two trainers from England. In 2006, DCAL also published a document on best practice guidance for providing public services to deaf people (Department of Culture, Arts, and Leisure 2011b).

According to Gilchrist Ó hEopra, sign language is gaining prestige in the Northern Ireland community and educational boards are supporting teaching hearing children sign language in primary schools. By October 2005, Gilchrist Ó hEopra estimates that 2,500 hearing children were taught sign language in school on a weekly basis. In addition, medical students are being trained in sign language so they can communicate in sign with their patients. A specialist language module is being offered during their medical training at Queen's University in Belfast by the RNID. Signs are being developed through this course to have a specialized medical sign language dictionary. This is being done in response to a survey by RNID in 2004 that indicated that more than one-third of deaf and hard-of-hearing patients were unclear about their medical condition because of communication issues. Since 2003, 60 students have successfully completed the course at Queen's University.

According to questionnaire participants, when asked to rank a list of language development goals or provide their own (ranking with one being the most important and five being the least important), they indicated that interpreter training materials are most important with a score of 2.0, followed by sign language health materials (e.g., sex education, HIV/AIDS information, etc.) at 2.5, sign language dictionaries at 2.9, sign language literature (e.g., recorded poetry and stories) at 3.1, and, finally, sign language religious materials at 3.6. Two participants indicated that there is also a need for greater amounts of deaf education materials for teachers and tutors and a third indicated a need for materials that provide in-depth linguistic descriptions of the sign languages used in Northern Ireland. There are quite a few books, pamphlets, and DVDs that have been published about the Northern Ireland deaf community and its sign language situation. For a list of further resources, see appendix D.

4 Conclusion

Based on this survey, we make the following tentative conclusions, as guided by the following four research questions:

RQ #1: Is there a NISL that is distinct from ISL and BSL?

Based on preliminary interview and lexical similarity analysis, the Northern Ireland sign variety does appear to have differences from the BSL variety that is used in England and even greater differences with ISL varieties.

RQ #2: What are the language attitudes of the Belfast deaf community toward ISL, BSL, and the proposed NISL?

Deaf people in Belfast predominantly associate with BSL and not ISL, but they readily recognize ISL as being a language of their community, primarily used in the western parts of Northern Ireland. Although BSL has more prestige and resources, ISL is recognized by the government and is not discouraged in the community. It does not appear that the majority of the Northern Ireland deaf community supports the idea of their community’s sign variety being entirely distinct from BSL or requiring a separate name of “Northern Ireland Sign Language” (NISL). Most prefer to identify their sign language as BSL or when wishing to emphasize that they have a unique Northern Ireland sign variant, using the term BSL-NI.
RQ #3: Is there a high amount of lexical variation between the sign variety used in Northern Ireland as compared to ISL in the Republic of Ireland and BSL as found in England?

Clarke and Gilchrist indicate that there is a relatively high amount of lexical variation between Northern Ireland and England’s sign varieties. We used a wordlist comparison methodology that measures similarity of lexical items among five sign language varieties from the Republic of Ireland, Northern Ireland, and England. The two sign varieties from Northern Ireland had a higher similarity with the variety from England than with the two varieties from the Republic of Ireland but showed differences with both countries. We recommend further research that includes sign varieties from Londonderry, Northern Ireland, since we were told that there is a higher similarity of sign varieties found in Derry with sign varieties from the Republic of Ireland.

RQ #4: Should current ISL or BSL language development projects promote distribution of their materials in the Northern Ireland deaf community?

Beck and Symington both indicated that, while the Northern Ireland deaf community may be able to understand BSL materials from Britain, many of them will not want to depend on these materials because they do not identify with the BSL variety from Britain and want their own materials. In addition, some members of the Northern Ireland deaf community do identify themselves more closely with ISL than BSL because, for many, ISL is their native language. We encourage ISL language development projects based in the Republic of Ireland to test materials in Northern Ireland deaf communities for extensibility and to facilitate distribution of ISL materials to be accessible to the ISL-using deaf community in Northern Ireland. In addition, we encourage BSL language development projects to take into consideration the unique identification of the Northern Ireland deaf community with their local deaf culture and the use of a distinct language variety. It would be beneficial for BSL materials to be tested for acceptance in the community and to include local community leaders in any adaptations that may be needed to make materials culturally and linguistically acceptable and easily understood by the Northern Ireland deaf community.

Appendices

Appendix A. Interview participants

Many members of the deaf community in Northern Ireland provided helpful information during fieldwork. We are grateful for the helpful information they shared with us during informal meetings and interviews. The participants who shared information during interviews in Belfast or email correspondence, that we have referenced in this report, are as follows:

Beck, Janet
Carberry, John
Clarke, Paula
Gilchrist, Shane Kieran
Symington, Brian
Young, Janet
Young, Josephine

We especially appreciate Shane Gilchrist for providing the initial information about the Northern Ireland sign variety and helping us make contact with other members of the deaf community in Northern Ireland. We also thank Beth Brown for her valuable help during fieldwork.
Appendix B. Online questionnaire

This is a copy of the online questionnaire as presented through www.surveymonkey.com. It is composed of four pages: page 1 introduces the questionnaire, page 2 gathers metadata about the participant, and pages 3 and 4 have nine questions related to deaf identity, language use, and language perceptions. For questions 4, 5, 7, and 8, the program randomized the order of the possible options in order to decrease the possibility of people answering a certain way, based on the order the options were presented to them.

Page 1.

This survey is the first step of a research project designed to better understand the sign language situation of Northern Ireland. You will need approximately 10 minutes to complete the 10 questions on this survey. The information you provide will be kept strictly confidential. Your answers will be compiled with other responses and used to help focus our survey team's research during our visit to Northern Ireland in January 2010.

We hope that this study will be of great benefit to the Northern Ireland deaf community by encouraging recognition of its sign language(s) and deaf culture. The results of this study may also help in guiding future language projects to best offer linguistic support to the Northern Ireland Deaf Community.

Thank you for participating!

Page 2. Personal contact information

1. Please fill in your contact information.
   - Name:
   - City/town:
   - County:
   - Country:
   - Email address:
   - Phone/text number:
   - Deaf/hard-of-hearing/hearing:

Page 3. Sign language in Northern Ireland survey

Please answer the following questions about your personal experience with sign language and the deaf community. Remember: the information you provide will be kept confidential.

2. Which of the following statements best describes your sign-language ability?
   a. I am a fluent signer.
   b. I sign very well, but not fluently.
   c. I sign okay.
   d. I am just learning to sign.
   e. I do not sign at all.

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2 This survey was created as part of a language assessment project through SIL International. For more information about SIL International, please visit www.sil.org.
3. Rate how well you use each of the following sign languages (options of Fluently, Very well, Okay, Not well, Not at all):
   a. British Sign Language.
   b. Irish Sign Language.
   c. Northern Ireland Sign Language.
   d. American Sign Language.
   e. Comments (fill in the blank).

4. Rank how frequently the following sign languages are used by the Deaf Community in Northern Ireland (from 1–4: Most frequent to Least frequent):
   a. American Sign Language.
   b. Northern Ireland Sign Language.
   c. Irish Sign Language.
   d. British Sign Language.
   e. Other (please specify; fill in the blank).

5. Which of the following factors, if any, lead to differences in signing in Northern Ireland? Check all that apply:
   a. School attended.
   b. Religion.
   c. Geographical region.
   d. Gender.
   e. Age.
   f. Education level.
   g. Other (please specify; fill in the blank).

6. Which of the following do you feel most influences your cultural identity? Options of Northern Ireland, Republic of Ireland/Irish, and Britain/British:
   b. Sign language.
   c. Comments (fill in the blank).

7. If you have contact with deaf or hard-of-hearing people outside of Northern Ireland, which of the following places do you have contact with most frequently? Rate from 1–4: Most frequent to Least frequent:
   a. United States.
   b. Scotland.
   c. Republic of Ireland.
   e. Other (please specify; fill in the blank).
Page 3. Sign language in Northern Ireland survey (continued):

8. How important are the following types of sign language development in the Northern Ireland Deaf Community? Mark most important on the left, least important on the right:
   a. Sign language religious materials (Bible, study materials, stories, etc.).
   b. Interpreter training materials.
   c. Sign language literature (e.g. recorded poetry, stories, etc.).
   d. Sign language health materials (e.g. sex education, HIV/AIDS information, etc.).
   e. Sign language dictionary.
   f. Are there other types of sign language development that is needed in Northern Ireland? (fill in the blank).

Page 4. Sign language in Northern Ireland survey

Future visit to Northern Ireland – January 2010. Remember: The information you provide will be kept confidential.

9. We are planning to visit Northern Ireland for one week in January, 2010 (tentative dates: 14–20 January). Would you be willing to visit with us more about the sign language situation and sign-language development needs in Northern Ireland?
   a. Yes.
   b. No.
   c. If yes, thank you! What is the best way to contact you?

10. Which organizations, groups, or individuals do you think are most important to visit in order for us to best understand the Northern Ireland sign language situation? How can we best contact them? (Fill in the blank.)

Appendix C. Wordlist items

The wordlist items that were elicited are shown in table C.1. The items are listed in the order that they were elicited (the first 241 items) for six of the nine wordlists. The three other wordlists contained a reduced subset of 210 or 236 items, including the last two items in the table.
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Appendix D. List of publications

For additional information, we have compiled this bibliography of previous research and publications relating to the deaf community of Northern Ireland that are not specifically referenced in the report.


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