

Language use of Frisian bilingual teenagers on social media

Ús de la llengua en els mitjans socials per part dels adolescents bilingües de Frísia

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ABSTRACT

This paper explores the use of Frisian – a minority language spoken in the Dutch province of Fryslân – on social media by Frisian teenagers. Frisian is the mother tongue of 54% of the 650,000 inhabitants and is predominantly a spoken language: 64% of the Frisian population can speak it well, while only 12% indicate that they can write it well. However, in recent years Frisian contributions have frequently shown up on social media, an important development as active use on the Internet is essential for a language to survive into the next century. In this study, more than 2,000 Frisian teenagers aged between 14 and 18 years filled in a questionnaire about their language use, language preferences, language attitudes and language proficiency. Results show that, on social media, Frisian is mainly used by mother tongue speakers, 87% of whom use it to some extent. The study indicates that the teenagers' peer group, language attitudes and writing proficiency are reliable explanatory factors for the use or non-use of Frisian on social media. Although teenagers do not always follow its official spelling rules, Frisian has conquered a presence on social media. Social media thus seem to have introduced Frisian into the written domain for an extended group of people, which is a positive sign of the vitality of the Frisian language.

KEYWORDS: Frisian, social media, teenagers, bilingualism, attitudes, minority languages, linguistic vitality.

RESUM

Aquest estudi explora l'ús del frisó, una llengua minoritària parlada a la província neerlandesa de Frísia, en els mitjans socials per part dels adolescents frisons. El frisó és la llengua materna del 54 % dels 650.000 habitants de la província i és, predominantment, una llengua parlada. El 64 % de la població frisona el sap parlar bé, mentre que només el 12 % indica que el sap escriure bé. Tanmateix, en els darrers anys el frisó ha començat a aparèixer amb certa freqüència en els mitjans socials, una evolució important, ja que l'ús actiu a la Xarxa és fonamental perquè un idioma pugui sobreviure més enllà d'aquest segle. En el marc d'aquest estudi, més de dos

mil joves frisons d'entre catorze i divuit anys van respondre a un qüestionari sobre l'ús que fan de la llengua, les seves preferències lingüístiques, la seva actitud envers la llengua i el seu nivell de competència en les diferents llengües. Segons els resultats, són principalment els joves que tenen el frisó com a llengua materna els qui utilitzen aquest idioma en els mitjans socials. El 87 % d'aquest grup el fa servir en certa mesura. L'estudi indica, també, que el grup d'iguals entre els adolescents, l'actitud envers la llengua i el nivell de competència en l'idioma són factors que expliquen amb fiabilitat el fet que es faci servir o no el frisó en els mitjans socials. Malgrat que aquests adolescents sovint no en segueixen l'ortografia oficial, el frisó ha assolit una certa presència en els mitjans socials, que d'aquesta manera han introduït el frisó en el domini escrit per a un grup extens de població, la qual cosa és un senyal positiu de la vitalitat de la llengua frisona.

PARAULES CLAU: frisó, xarxes socials, joves, bilingüisme, actituds, llengües minoritàries, vitalitat lingüística.

1. INTRODUCTION

Social media such as Twitter, Facebook and WhatsApp are becoming increasingly important in daily life. For minority languages, the Internet and social networking sites are seen as both a threat and an opportunity. On the one hand, unlimited opportunities have become available on the Internet to preserve and distribute written and audio(visual) content in a minority language and to connect minority language speakers all over the world. The Internet and other electronic technologies can connect and strengthen linguistic communities and revive threatened languages (Cunliffe, Morris and Prys, 2013). On the other hand, only a few languages dominate the Internet: over half of the world's websites have English content and over 75% are in either English, Russian, German, Japanese, or Spanish (http://w3techs.com/technologies/overview/content_language/all, data from March 2015).

To what extent languages function, exist and survive is often expressed in terms of the vitality of a language. Since the 1970s, this has played an important role in sociolinguistic research. UNESCO (2003) developed a Language Vitality Index which, on the basis of nine factors, estimates the vitality of a language; still, the factor "Response to new domains and media" remains an unexplored part of the index. In his article "Digital language death", Kornai (2013) states that 95% of the world's languages are threatened with extinction because they are not well represented on the web. Three generally accepted signs which predict the extinction of a language are loss of function, i.e. the extent to which a language is replaced over time by another language; loss of prestige, i.e. the rise of negative attitudes, usually from younger generations, towards the minority language, and loss of competence, the ability of younger generations to communicate in the minority language. When one wishes to consider language vitality through social media, these elements are of particular relevance.

The youngest generations are digital natives, they grew up surrounded by digital technologies and are “native speakers of the digital language of computers, video games and the Internet” (Prensky, 2001), and spend many hours a day online. Previous research has shown that these generations are of significant importance for the preservation of a language (Ó Riagáin, Williams and Moreno, 2008): the attitudes that people develop towards a minority language during their teenage years can be decisive for their language choices later in life (Morris, 2010; Cunliffe et al., 2013). As we observe that social media have become one of the main means of communication for teenagers, we may conclude that social media can play an important role in maintaining the vitality of a language. However, which languages are used on social media, and more specifically which languages are used in bilingual communities, remains a largely unexplored area of research (Cunliffe et al., 2013).

Cunliffe (2007) found evidence that the unequal balance of power between the majority and minority language that exists in offline society is usually maintained in online situations: it is perceived to be impolite to use a minority language when not everyone understands it, especially when someone is also proficient in the majority language, and it can be considered to be a political statement to choose the minority language instead of the majority language. Carroll (2008) reported that language behaviour of bilinguals on social networks is very complex and that it varies from one network to another. This is confirmed by Cunliffe, Morris and Prys (2013). In their research on the use of Welsh on social networks, they concluded that Facebook was one of the few areas on the Internet where communication took place in Welsh. When researching the differential use of Welsh in young speakers’ social networks, they also found that language use on social networks largely reflects the language of their real-world communities. Cunliffe, Morris and Prys (2013) expect social networks to play an important role in maintaining the Welsh language.

In his studies on the language use of German teenagers with Greek backgrounds, Androutsopoulos (2013 and 2014) shows that the online use of a minority or migrant language is not always appreciated and that pressure is exerted to switch to majority languages. The use of a minority language is therefore generally limited to genres that are closely related to the respective minority culture, more in particular for formulaic discourse purposes and citations.

Marwick and Boyd (2011) propose the term *context collapse*: in an online social network, different social groups come together who would normally not meet simultaneously in offline situations. The more linguistically heterogeneous the contacts on such a social network are, the more complex it will be for the owner of the network to properly address the audience in terms of language choice and style. According to Androutsopoulos (2014), there are three strategies which are used to maximise the audience:

1. The language of choice is the language that everyone can understand;
2. Several languages are used in one or several consecutive messages to address the audience;
3. Language use is avoided and only pictures, video and/or emoticons are used.

The above-mentioned studies demonstrate that it is a challenge for any minority language speaker to adhere to their minority language on social media. To study minority language use on social media, Fryslân, a bilingual province in the Netherlands, is an excellent laboratory. Besides Dutch, the official language of the Netherlands, people also speak Frisian. Since 2014, both Frisian and Dutch have been recognised as official languages in Fryslân and have enjoyed equal legal status. However, in practice, Dutch is the dominant language in many domains, and education in Frisian is rather limited. Almost 650,000 people live in Fryslân; two-thirds of the population in rural areas, and one-third in one of the four major cities, of which the capital, Leeuwarden, with almost 100,000 inhabitants, is the largest. Frisian is the mother tongue for 54% of the inhabitants; the majority of the inhabitants can understand the language (very) well (85%), 64% can speak it (very) well, and only 12% indicate that they can write it (very) well. In the home domain, 45% speak Frisian with their partner and 48% speak Frisian with their children. Generally, in the countryside, Frisian is used more than in the cities (Province of Fryslân, 2011). The attitudes in Fryslân towards the Frisian language are mixed: while most Frisian speakers have a positive attitude towards their language, there are also inhabitants of Fryslân (usually those not speaking Frisian) who have negative feelings towards the Frisian language (Gorter, Riemersma and Ytsma, 2001). More background information about the Frisian language and its use can be found in De Graaf, Van der Meer, and Jongbloed-Faber (2014). According to the UNESCO Interactive Atlas of the World's Languages in Danger (UNESCO, 2010) the Frisian language is vulnerable. While Frisian is mainly a spoken language, only a small proportion of the population actually uses Frisian in written communication (Gorter et al., 2001). As we observe that social media have become an important part of life and in some instances have even replaced spoken communication with written communication, the upswing of social media could threaten the use of the Frisian language.

A study that analysed 6,000 tweets of 50 Frisian teenagers showed frequent phonetic writing as well as the incorporation of lexical and syntactic Dutchisms (the integration of Dutch words or Dutch grammatical constructions) in Frisian tweets (Jongbloed-Faber, 2014). It seems as if the informal writing used on social media lowers the barriers to use the Frisian language, even when one's proficiency is not considered to be well enough for formal purposes.

The objective of this study was twofold. First of all, the study had an explorative character: we examined to what extent the Frisian language is used on social media. As teenage years are considered to be important for the use of a minority language later in life (Morris, 2010; Ó Riagáin et al., 2008; Cunliffe et al., 2013), we focused our study on teenagers between the ages of 14 and 18 years. Second, we aimed to identify the factors that influence the use of Frisian on social media by Frisian teenagers. We expect that mother tongue strongly influences language choice. Furthermore, we expect that also in Fryslân one's peer group will influence language choice on social media. Since "an individual's own attitudes and preferences will influence their choice of language" (Baker, 2006: 6), we also investigated whether or not a positive attitude to-

wards Frisian leads to an increased use of Frisian on social media. Finally, we considered the fact that, on average, writing skills demonstrated by Frisians in their mother tongue lagged far behind their writing skills in Dutch. Because this often inhibits the use of Frisian in writing, the Dutch language has become the common language of writing in many domains in Fryslân. We therefore also studied the effect of writing skills on the use of Frisian on social media. In the next sections the study's methodology and results are presented. In the paper's concluding sections, the research questions will be answered and the implications of this study for other minority languages will be addressed.

2. METHODOLOGY

To answer the research questions, a questionnaire containing a maximum of 56 questions was developed. To get access to the teenagers, all over Fryslân, schools providing secondary general and vocational education were invited to participate. To recruit the schools we deployed our personal network, made many phone calls and sent many e-mails. In total, 22 of the 29 contacted schools cooperated, of which 10 schools are established in one of the four major cities of Fryslân and 12 schools in the countryside. The questionnaires were filled in during class, as this would ensure the participation of all pupils in a class, with both positive and negative attitudes towards the Frisian language. The questionnaires could be filled in online, through the tool *www.surveymonkey.com*, or on paper if no computer facilities were available. The data were collected between October 2013 and January 2014.

2.1. *Questionnaire construction*

The following elements were included in the questionnaire:

1. Personal information
2. Attitudinal questions about the Frisian language
3. General language use
4. Social media use and language use on social media
5. School situation
6. General information

Please refer to the appendix for the complete questionnaire.

2.2. *Elaboration of the measured factors*

With regard to mother tongue, when talking about all Frisian teenagers the complete sample has been used for analysis. The teenagers choosing "both parents Frisian" represent the group L1 teenagers, the teenagers selecting "two parents Dutch" repre-

sent the group L2 teenagers, and the teenagers, who answered “one parent Frisian, one parent Dutch” represent the group L1-2 teenagers (refer to question 7 in the appendix).

The self-reported proficiency in Frisian is measured on a five-point Likert scale (not at all, with difficulty, reasonably, well, very well) in four different categories: understanding, speaking, reading and writing (question 15).

To all reported residences the inhabitant figures (CBS, 2013) were added manually. Then we divided the residences into five categories – small rural village (<500 inhabitants), middle-sized rural village (500-1,500 inhabitants), large rural village (1,501-5,000 inhabitants), town (5,001-15,000 inhabitants) and large town (>15,000 inhabitants) – to get the factor “rurality of residence”.

The personal attitude of subjects has been based on the scores of eight word pairs (question 16) expressed on a five-point semantic differential scale: ugly-beautiful, does not-does belong to me, not useful-useful for later, formal-informal, whiny-hip, dull-cool, strange-familiar, not useful-useful with friends. The scales have a high reliability (Cronbach’s alpha = 0.95).

The scores of all teenagers from one particular school were used to calculate an average attitude per school. This average was used to represent the attitude of a teenager’s peer group.

The teenagers were asked to indicate the frequency (never, sometimes, often, all the time) of speaking Frisian and Dutch with friends. These answers were used for the factor language use with peer group (question 10).

In the questionnaire, we asked the teenagers about their use of Frisian, Dutch, English and other languages on three different social media platforms, namely WhatsApp, Facebook and Twitter, asking for both group/public posts and private messages (questions 27, 28, 31, 32, 35 and 36). Per social media activity, the teenagers were asked to indicate how often they use a language (never, sometimes, often, all the time).

2.3. Research sample

In total, 2,367 pupils filled in the questionnaire. Of these, 2,267 were selected for analysis: we excluded the questionnaires of teenagers younger than 14 years old (n=17), older than 18 years old (n=60) or questionnaires with clear indications that the teenagers did not fill in the questionnaire seriously (n=23). 73% (n=1,656) of the questionnaires were filled in online and 27% (n=611) were completed on paper. Of the sample, 48% were boys (n=1,090) and 52% were girls (n=1,170). With regard to education, 40% attended lower level education (n=903), 34% attended middle level or vocational education (n=766) and 26% higher level education (n=598). The economic status of the teenagers were divided into the following proportions: low 27% (n=614), middle 36% (n=813) and high 32% (n=720).

3. RESULTS

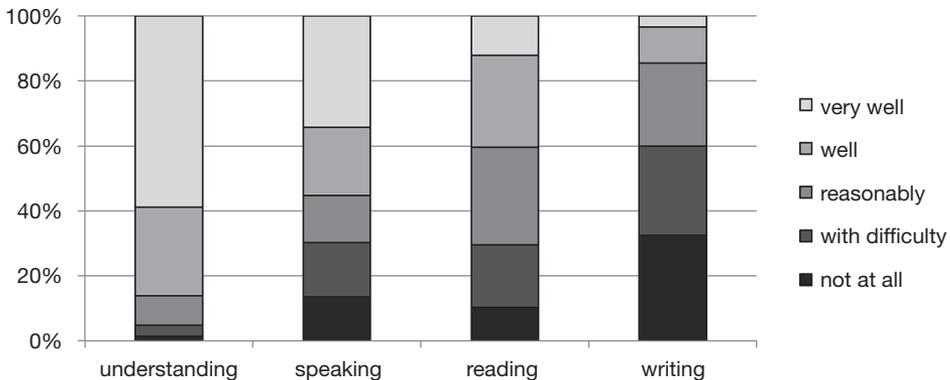
3.1. *Mother tongue*

Of the participants, 45% were raised by their parents exclusively in Frisian, 12% reported having one Frisian and one Dutch-speaking parent, and 36% were raised in Dutch by both parents; 3% were partially raised in another language variety spoken in Fryslân, and another 3% were (partially) raised in foreign or immigrant languages.

3.2. *Proficiency in Frisian*

Figure 1 presents the reported Frisian language proficiency of the teenagers, split up on the basis of the following language skills: understanding, speaking, reading and writing. 86% of the teenagers understand the Frisian language (very) well, 55% speak the language (very) well, 40% can read it (very) well, and 15% can write (very) well in Frisian.

FIGURE 1
Self-reported proficiency in Frisian



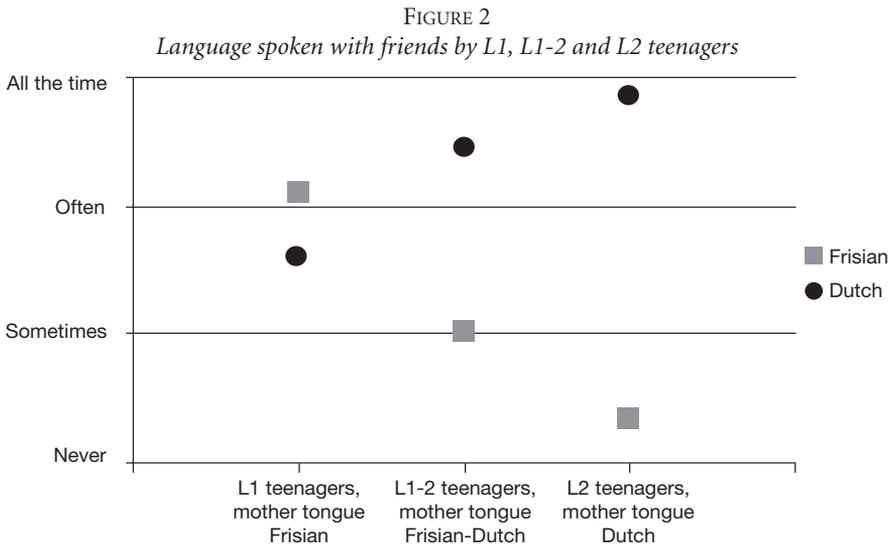
3.3. *Attitudes*

On a scale from 1 to 5 (1 being negative and 5 being positive), the average attitude was 3.24 with a standard deviation of 1.21. To measure the effect of mother tongue on attitude, we classified the teenagers according to mother tongue: group L1 (with Frisian as exclusive input from their parents), group L1-2 (with mixed Frisian-Dutch input from their parents) and group L2 (with Dutch as mother tongue). The effect of mother tongue proved to be significant ($F(2,2089)=863.96$, $p=.001$) and post-hoc tests revealed significant differences between all groups. Teenagers with solely Frisian

as their mother tongue were found to be positive about the Frisian language ($M=4.01$, $SD=0.84$) while teenagers with solely Dutch as their mother tongue were found to be more negative ($M=2.26$, $SD=0.94$). Teenagers with one Frisian-speaking and one Dutch-speaking parent were shown to have an attitude that is just above neutral ($M=3.32$, $SD=0.98$). Results revealed that greater exposure to Frisian at home generally leads to a more positive attitude on the part of the teenager to the language.

3.4. Use of Frisian and Dutch with peers in offline situations

We found that the teenagers included in the study more frequently speak Dutch to their friends rather than Frisian. However, when we classified the teenagers according to their mother tongue, we found that L1 teenagers more often use Frisian rather than Dutch in oral communications with their friends. Figure 2 demonstrates that all other groups, including group L1-2, use Dutch more frequently than Frisian. L2 teenagers hardly ever use Frisian. The effect of mother tongue on the use of Frisian with friends was found to be significant in all cases ($F(2,1983)=1391.65$, $p=.001$). Post-hoc tests revealed significant differences between all groups.



3.5. Use of the Frisian language on social media

Figure 3 shows the average use on social media of Frisian, Dutch and English by all Frisian teenagers, irrespective of their mother tongue. It becomes clear that the Dutch language is used the most on social media, with averages varying between “often” and “all the time” (average scores on a scale from 1 to 4 between 3.28 and 3.45). In

WhatsApp messages, both group and private messages, Frisian is sometimes used by the teenagers (average scores of 1.84 and 1.94 respectively). For Facebook and Twitter, the average use of Frisian lies between “never” and “sometimes”. In tweets and status updates on Facebook, English is used slightly more often than Frisian. All standard deviations are approximately one step removed from the average (between 0.70 and 1.04). In total, 56% of the teenagers use the Frisian language to some extent on one of the three social media platforms.

FIGURE 3
Average use of Frisian, Dutch and English on social media

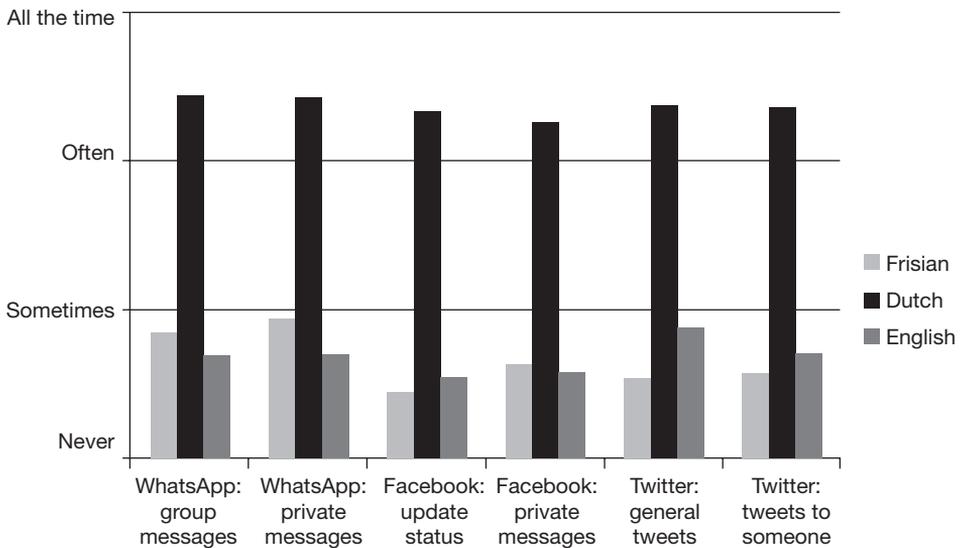


Figure 4 lists the average use of Frisian on social media by the teenagers investigated in this study, split up by mother tongue. The effect of mother tongue is significant in all cases (WhatsApp-group messages: $F(2,1960)=484.38$, $p=.001$; WhatsApp-private messages: $F(2,1956)=678.62$, $p=.001$; Facebook-status updates: $F(2,1756)=193.09$, $p=.001$; Facebook-private messages: $F(2,1753)=313.94$, $p=.001$; Twitter-public tweets: $F(2,1561)=204.60$, $p=.001$; Twitter-direct messages: $F(2,1555)=244.85$, $p=.001$). Post-hoc tests revealed significant differences between all groups.

Especially L1 teenagers use Frisian on social media, 87% of them use Frisian to some extent on one of the social media platforms; however, also in this group and on average, Dutch is used more frequently than Frisian. The averages of the L1-2 group lie between the L1 and L2 averages. Teenagers belonging to group L1-2 do not use the minority language as much as the teenagers who only speak Frisian at home: the dominant language Dutch seems to hamper the use of the Frisian language by these teenagers much more than is the case with L1 teenagers. Of the L1-2 teenagers, 57% use Frisian to some extent on one of the social media platforms. Among L2 teenagers, the proportion is only 19%.

WhatsApp is the platform where Frisian is used the most: in private messages slightly more than in group messages. Frisian is used the least in status updates on Facebook.

FIGURE 4
Use of Frisian on social media by L1, L1-2 and L2

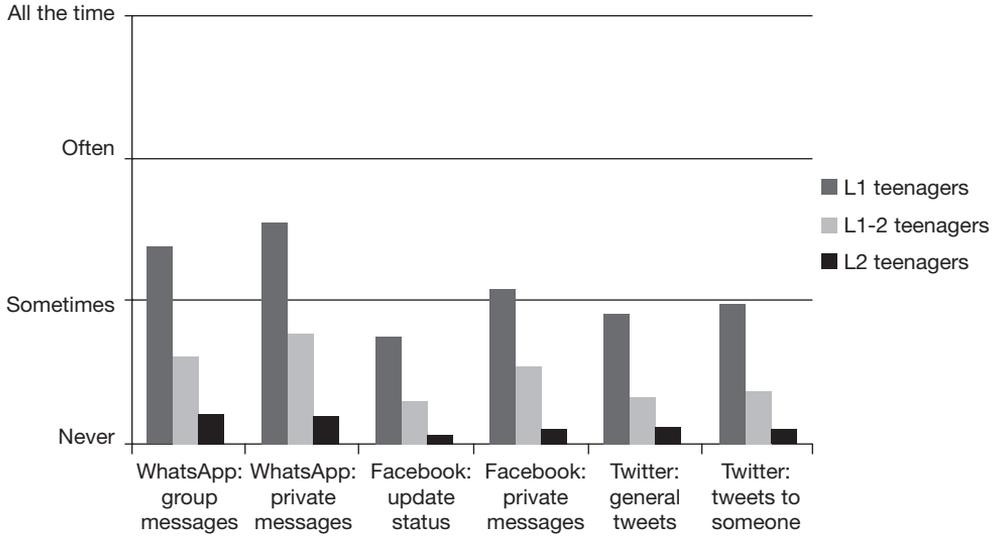
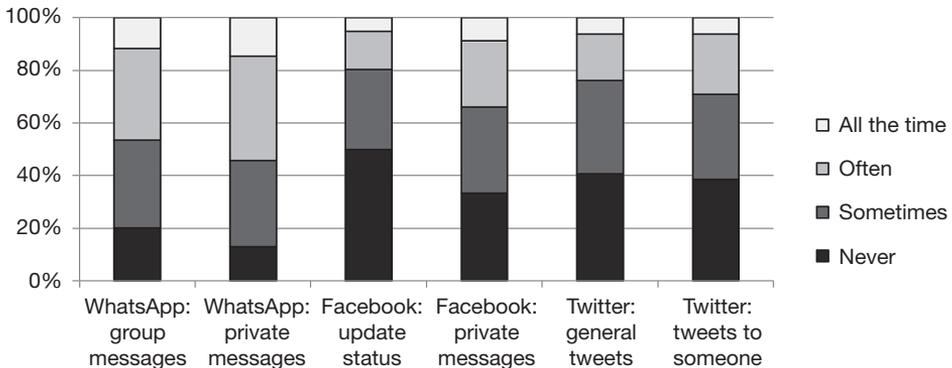


Figure 5 shows the variance within the native speakers of Frisian (group L1). For all but one type of social media, the group that never uses Frisian on social media is larger than the group that uses Frisian all the time; the group that uses Frisian on social media all the time fluctuates between 5 and 15%, and the group of non-users varies from 13 to 50%. The differences in the use of Frisian on the various social media platforms are substantial: while 87% of the L1 teenagers use Frisian to some extent in private messages on WhatsApp, in status updates on Facebook the proportion is only 50%.

FIGURE 5
Use of Frisian on social media by L1 teenagers



There is a general lack of interest among the teenagers to spell Frisian correctly on social media: 55% of the teenagers using Frisian on social media say they write the Frisian language phonetically, 52% think it is too much work to write diacritics and 47% (not necessarily overlapping) do not know where to put diacritics.

3.6. Factors of influence on the use of Frisian on social media

We hypothesized that one's mother tongue, one's peer group, language attitudes and writing proficiency would influence language choice. To measure the correlation between one's peer group and the use of Frisian on social media we used both the language spoken with friends, Frisian and Dutch, as well as the average attitude of one's peer group (by calculating the average attitude at a teenager's school). In addition, we also included the variable rurality of one's residence, as the Frisian language is used much more in the countryside than in the large cities of Fryslân. Table 1 shows the correlations between the use of Frisian on social media and these factors, and between these various factors. The strongest correlation (-0.78) is observed between speaking Frisian with friends and speaking Dutch with friends. The negative value indicates that the more Frisian one speaks with friends, the less Dutch one speaks with friends, and vice versa. Speaking Dutch with friends is negatively correlated with all included variables, except for rurality of residence. The latter indicates that the smaller the size of the town, the more Frisian is used, both in terms of speaking Frisian with friends and the use of Frisian on social media. Furthermore, in rural areas people are more likely to have Frisian as their mother tongue, to have better writing skills, and to have a more positive attitude than people living in larger towns. The correlations largely confirm assumptions about the use of Frisian, both in offline and online situations.

Language use with friends, one's attitude and one's writing skills are more strongly correlated with the use of Frisian on social media than one's mother tongue. In other words: although mainly L1 teenagers use Frisian on social media, the extent to which L1 teenagers use Frisian on social media varies largely and therefore the correlation is lower than with the other factors mentioned. Furthermore, the attitude of the peer group and the rurality of one's residence are also correlated with the extent to which teenagers use Frisian on social media. The observation that the majority of variables are highly correlated will have to be taken into account to avoid multicollinearity when using the variables in a regression analysis.

TABLE 1
Pearson correlations: correlations between independent factors

<i>Frisian on social media</i>	<i>Speaking Frisian with friends</i>	<i>Speaking Dutch with friends</i>	<i>Attitude</i>	<i>Writing skills</i>	<i>Mother tongue</i>	<i>Peer group's attitude</i>	<i>Rurality of residence</i>
Frisian on soc. media	.708*	-.669*	.650*	.600*	.592*	.395*	-.326*
	Sp. Frisian w. friends	-.776*	.728*	.641*	.762*	.429*	-.384*
		Sp. Dutch w. friends	-.651*	-.563*	-.699*	-.397*	.383*
			Attitude	.630*	.671*	.346*	-.351*
				Writing skills	.588*	.321*	-.342*
					Mother tongue	.312*	-.358*
						Peer group's attitude	-.259*
							Rurality of residence

* Correlation is significant (2-tailed significance <0.01).

As the aim of this study is to identify the factors which help us to understand why and to what extent Frisian teenagers use Frisian on social media, we also performed a regression analysis. The regression model (see Table 2), in which we included all above-mentioned factors, explains 56% of the variance ($R^2=0.56$); however, two of the seven factors, namely mother tongue and rurality of one's residence, have very little predictive power and are not significant. One's offline language use, one's attitude and one's writing skills do have strong betas and show high predictive power. The effect of attitude of one's peer group is significant, but not very strong. For easier comparison, we used the standardized regression coefficient β in tables 2 and 3. The tolerance for all factors was >0.1 and the VIF <10 .

TABLE 2
*Preliminary full regression model, explaining the variance
 in the use of Frisian on social media*

<i>Independent factors</i>	β	<i>Significance</i>
<i>Speaking Frisian with friends</i>	.275	.000
<i>Speaking Dutch with friends</i>	-.243	.000
<i>Attitude</i>	.175	.000
<i>Writing skills</i>	.163	.000
<i>Peer group's attitude</i>	.070	.000
<i>Mother tongue</i>	.017	.514
<i>Rurality of residence</i>	-.005	.766

When we consider the four most influential and least overlapping factors from this preliminary full regression model, the selected factors (speaking Frisian with friends, attitude, writing skills and peer group's attitude) still explain 56% of the variance. An overview is shown in Table 3.

TABLE 3
*Final regression model, explaining the variance in the use
 of Frisian on social media, all groups together*

<i>Independent factors</i>	β	<i>Significance</i>
<i>Speaking Frisian with friends</i>	.405	.000
<i>Attitude</i>	.206	.000
<i>Writing skills</i>	.168	.000
<i>Peer group's attitude</i>	.100	.000

The above-mentioned regression model explains the variance in the use of Frisian on social media by teenagers, regardless of their mother tongue. We also investigated how the variance can be explained within the three separate language groups.

Within group L2, a regression model with solely two factors can explain 30% ($R^2=0.30$) of the variance. These factors are "speaking Frisian with friends" ($\beta=0.43$) and "writing skills" ($\beta=0.23$). We can raise R^2 to 0.35; however, eight factors are needed to accomplish that.

For group L1-2, "speaking Frisian with friends" ($\beta=0.39$), "attitude" ($\beta=0.28$) and "writing skills" ($\beta=0.16$) taken together explain 48% of the variance in the use of Frisian on social media ($R^2=0.48$).

To explain the variance in the use of Frisian on social media by L1 teenagers, several competing models can be composed with almost identical shares of variance explained. For the sake of comparison, we chose the model which showed the greatest consistency with the preceding models. The variance in the use of Frisian on social

media by L1 teenagers can be explained for 35%. The factors explaining the variance include “attitude” ($\beta=0.24$), “speaking Frisian with friends” ($\beta=0.24$), “peer group’s attitude” ($\beta=0.20$) and “writing skills” ($\beta=0.17$).

4. CONCLUSIONS AND DISCUSSION

This paper explored the use of Frisian on social media by Frisian teenagers. The results show that on social media the Frisian language is used by 56% of the Frisian teenagers. However, on average, Dutch is used much more frequently than Frisian and the Frisian language is mainly used by teenagers with Frisian as their sole mother tongue. Of the L1 teenagers, 87% use Frisian to some extent on one of the social media platforms, while this proportion is 57% for L1-2 teenagers and 19% for L2 teenagers. The use of Frisian on social media differs considerably depending on the medium concerned: WhatsApp is the social medium where Frisian is used the most (87% of L1 teenagers use it to some extent), and in Facebook status updates Frisian is rarely used (50% of the L1 teenagers never use Frisian in status updates on Facebook).

Although there is a strong correlation between mother tongue and the use of Frisian on social media ($r=0.59$), it is impossible to explain the variance in the use of Frisian on social media on the basis of one’s mother tongue. The factors which explain the variance in the use of Frisian on social media best are “speaking Frisian with friends” ($\beta=0.41$), “attitude” ($\beta=0.21$), “writing skills” ($\beta=0.17$) and “peer group’s attitude” ($\beta=0.10$). Together, they explain 56% of the variance ($R^2=0.56$). We may conclude that one’s peer group, both in terms of offline language use and group attitude towards Frisian, has a major impact on the Frisian teenagers’ use of Frisian on social media. Furthermore, one’s own attitude and one’s writing skills affect the use of Frisian on social media: more positive attitudes and better writing skills result in a greater use of Frisian.

It is very hard to prove whether or not the Frisian language is written more often than before due to the rise of social media. Our research shows that in e-mails, i.e. a more formal type of communication, the Frisian language is used less frequently ($M=1.38$ on a scale from 1 to 4, and 72% of all teenagers and 51% of the L1 teenagers never use Frisian in e-mails). The informality of social media and the idea that communication via social media feels like talking to someone might result in an increase in writing.

As was seen in the studies conducted by Carroll (2008) and Cunliffe, Morris and Prys (2013), the use of Frisian also varies from one network to another and depends on the type of activity on the network as well. In the current study, WhatsApp is shown to be the platform where Frisian is used the most. Furthermore, on all three social media investigated in our study, Frisian is used more frequently in personal messages than in more public messages. In Facebook status updates, Frisian is used the least. The presence of non-Frisian speaking contacts in the teenagers’ networks (Bell’s audience design theory, 1984) and the social pressure to adhere to the majority language as found in previous studies (Cunliffe, 2007; Androutsopoulos, 2013 and 2014) could prevent many Frisian speakers from using the Frisian language more of-

ten, but this cannot be proven with the current data. We plan to devote more questions and attention to this issue in a next study.

Our research shows that social media have included the use of the Frisian language in the written domain. As these media have become one of the most important means of communication in modern life, the use of a minority language such as Frisian in that domain will thus increase the vitality of this language.

Coming back to the three processes identified by Kornai (2013) for languages to become digitally extinct, we may conclude that the threat named “loss of function” currently applies to the larger cities in Fryslân. However, this is not the case in rural areas where Frisian is the mother tongue for a large proportion of the population and where generally a relatively positive average attitude towards Frisian predominates. As a result, in rural areas Frisian has gained substantial importance on the Internet.

The second process, “loss of prestige”, also threatens the Frisian language. First of all, although Frisian speaking teenagers generally show a positive attitude towards the Frisian language, Dutch speaking teenagers tend to feel negative towards Frisian. If this negative attitude prevails, the use of the Frisian language will decrease further. Furthermore, our research shows that only a small proportion of the teenagers with one Frisian speaking and one Dutch speaking parent prefers to use the Frisian language and that in practice they barely use it on social media.

The third threat, “loss of competence”, is certainly applicable in Fryslân. Only a small proportion of the Frisian population writes Frisian well. However, increased attention for Frisian in education and an increasing number of multilingual schools might counter this threat. Another phenomenon linked to loss of competence is the gradual language change that takes place as the Frisian language is often spelled phonetically and Dutch words and grammatical constructions are regularly adopted in Frisian tweets (Jongbloed-Faber, 2014). The current study also shows that there is a general lack of interest among teenagers to spell Frisian correctly. One can wonder whether or not this interest recovers when these teenagers reach a more mature age.

Generalising the conclusions of this research and considering that in Fryslân “speaking Frisian with friends”, “attitude”, “writing skills” and “peer group’s attitude” explain 56% of the variance in the use of Frisian on social media, we propose that it would be extremely valuable to compare our results with research on other minority language regions. Most probably, the impact of writing skills is similar in regions where education in the minority language lags behind education in the majority language. In regions such as Catalonia and Wales, for example, where sufficient education in the minority language is provided, the effect of writing skills may be minimal or perhaps even non-existing.

Furthermore, it is clear that in measuring language vitality, the use of a particular language on social media should be included in the analysis as an important factor. Social media have become such an inalienable part of daily life, especially for younger generations, that the use of a particular language on these media may imply an increased vitality of the language concerned. In addition, we believe that new technologies such as digital dictionaries and autocorrect functions can actually remove some of the barriers hindering the use of a minority language online and stimulate an

increased use of the language. Facilitating the use of minority languages online by means of new technologies should therefore be an important area of attention for those who wish to ensure the survival of a language into the next century.

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APPENDIX: QUESTIONNAIRE

Welcome to the survey about language use of Frisian teenagers on social media. Your participation is anonymous. There are no right or wrong answers. For our research, it is only important that you are honest! Thank you very much for your cooperation!

1. What is your sex?

- Male.
 Female.

2. How old are you?

- 12 years old.
 13 years old.
 14 years old.
 15 years old.
 16 years old.
 17 years old.
 18 years old.
 19 years old.
 20 years or older.

3. In which town or village do you live? _____
(If you have more than one place residence, please write down the name of the town/village where you stay most frequently.)

4. What type of education are you attending? _____

5. What year are you in?

- 1
 2
 3
 4
 5
 6

6. Which school do you attend? _____

7. What is your mother tongue (the language you learned from your parents/caretakers as a child)?

- Both parents/caretakers Frisian.
 Both parents/caretakers Dutch.
 Both parents/caretakers a dialect spoken in Fryslân (such as Bildts or Stellingwerfs).
 One parent/caretaker Frisian, one parent/caretaker Dutch.
 One parent/caretaker Frisian, one parent/caretaker a dialect spoken in Fryslân.
 One parent/caretaker a dialect spoken in Fryslân, one parent/caretaker Dutch.
 Other, namely _____.

8. What language do you prefer to speak?

- Frisian.
 Dutch.
 Frisian or Dutch, it does not matter to me.
 A dialect spoken in Fryslân.
 English.
 Another language, namely _____.

9. If you chose a dialect spoken in Fryslân, which dialect is it?

- Bildts.
 Stellingwerfs.
 Another dialect, namely _____.

10. Which language do you speak with your friends?

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Dutch</i>				
<i>Frisian</i>				
<i>A dialect</i>				

11. What is the highest level of education completed by your father?

- Primary education.
 Secondary education.
 Vocational education.
 Higher education (Bachelor/Master's).
 I don't know.
 Other, namely _____.

12. What is your father's occupation? _____

13. What is the highest level of education completed by your mother?

- Primary education.
 Secondary education.
 Vocational education.
 Higher education (Bachelor/Master's).
 I don't know.
 Other, namely _____.

14. What is your mother's occupation? _____

15. How proficient are you in Frisian?

1 = not at all 2 = with difficulty 3 = reasonably 4 = well 5 = very well

Language	Listening	Speaking	Reading	Writing
<i>Frisian</i>	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

16. How do you feel about the Frisian language?

<i>Ugly</i>	0	0	0	0	0	<i>Beautiful</i>
<i>Does not belong to me</i>	0	0	0	0	0	<i>Does belong to me</i>
<i>Not useful for later</i>	0	0	0	0	0	<i>Useful for later</i>
<i>Formal</i>	0	0	0	0	0	<i>Informal</i>
<i>Whiny</i>	0	0	0	0	0	<i>Hip</i>
<i>Dull</i>	0	0	0	0	0	<i>Cool</i>
<i>Strange</i>	0	0	0	0	0	<i>Familiar</i>
<i>Not useful with friends</i>	0	0	0	0	0	<i>Useful with friends</i>

17. How important is proficiency in Frisian/Dutch/English to find a job according to you?

	<i>Not important at all</i>	<i>Not important</i>	<i>Neutral</i>	<i>Important</i>	<i>Very important</i>
<i>Frisian</i>					
<i>Dutch</i>					
<i>English</i>					

18. To what extent do you (dis)agree with the following statements?

	<i>I don't agree at all</i>	<i>I don't agree</i>	<i>Neutral</i>	<i>I agree</i>	<i>I fully agree</i>
<i>Anyone living in Fryslân should be able to speak Frisian.</i>					
<i>Anyone living in Fryslân should be able to understand Frisian.</i>					
<i>Frisian speaking parents should speak Dutch with their children.</i>					
<i>It is useful for all children growing up in Fryslân to get Frisian classes at school.</i>					
<i>A bilingual upbringing is beneficial for a child's development.</i>					
<i>Frisian speaking children perform less well at school than Dutch speaking children.</i>					

19. How many hours a day do you spend on social media such as Facebook, Twitter and WhatsApp (reading/watching what others are doing and responding yourself)?

- I am not on social media.
 I am not active on social media on a daily basis.
 0 to 1 hour a day.
 1 to 2 hours a day.
 2 to 4 hours a day.
 Over 4 hours a day.
 Only when I am asleep, I am not active on social media.

20. What devices do you use to access social media?

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Mobile phone</i>				
<i>iPad/tablet</i>				
<i>Laptop</i>				
<i>Ordinary computer</i>				

Please indicate how often you use Frisian, Dutch or other languages in the following situations:

21. Phone calls

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

22. Text messages (sms)

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

23. E-mails

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

24. Chatting through Skype, Facebook or other sites

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

25. If you chose other languages, which language(s) are you using? _____

26. How often do you use WhatsApp?

- As often as I can: only when I am asleep, I am not active.
- A few times a day.
- At least once a day.

- A few times a week.
 Every week.
 Less than once a week.
 I do not use WhatsApp.

27. How often do you use the following languages in group messages on WhatsApp?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

28. How often do you use the following languages in private messages on WhatsApp?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

29. If you use other languages, which language(s) are you using? _____

30. How often do you use Facebook?

- As often as I can: only when I am asleep, I am not active.
 A few times a day.
 At least once a day.
 A few times a week.
 Every week.
 Less than once a week.
 I do not have a Facebook account.

31. How often do you use the following languages in status updates on Facebook?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

32. How often do you use the following languages in private messages through Facebook?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

33. If you use other languages, which language(s) are you using? _____

34. How often do you use Twitter?

- As often as I can: only when I am asleep, I am not active.
 A few times a day.
 At least once a day.
 A few times a week.
 Every week.
 Less than once a week.
 I do not have a Twitter account.

35. How often do you use the following languages to send a regular Tweet?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

36. How often do you use the following languages in Tweets to someone (starting with @) or in direct messages?

	<i>Never</i>	<i>Now and then</i>	<i>Often</i>	<i>All the time</i>
<i>Frisian</i>				
<i>Dutch</i>				
<i>English</i>				
<i>Other languages</i>				

37. If you use other languages, which language(s) are you using? _____

38. Do you use apps/programmes/websites to check your spelling before you put something online?

- Always.
 Often.
 Now and then.
 Never.

39. Do you ever mix languages in one message and how often do you do that?

	<i>Every day</i>	<i>A few times a week</i>	<i>Every week</i>	<i>Now and then</i>	<i>Never</i>
<i>Dutch - Frisian</i>					
<i>Dutch - English</i>					
<i>Frisian - English</i>					
<i>Other combinations</i>					

40. To what extent do you (dis)agree with the following statements on your personal use of social media?

	<i>I don't agree at all</i>	<i>I don't agree</i>	<i>Neutral</i>	<i>I agree</i>	<i>I fully agree</i>
<i>The language I use on social media is the same as the language I usually speak with my friends.</i>					
<i>I think it is not important to write without errors, people will understand what I mean.</i>					
<i>I do not have secrets for social media.</i>					
<i>I get stressed sometimes if I cannot read a message right away.</i>					
<i>If I wake up in the middle of the night, I'll check to see if I have new messages.</i>					
<i>I think it is cool when schools/teachers use social media in teaching.</i>					
<i>I sometimes have contact with teachers through Facebook/Twitter.</i>					
<i>I sometimes see nasty messages about other people on social media.</i>					
<i>I feel unhappy after negative messages about me on social media.</i>					

41. On social media, I:

- Use Frisian all the time.
 Use Frisian a lot.
 Use Frisian now and then.
 Never use Frisian.

42. I do not use Frisian on social media (you may choose several items), because:

- It is not my mother tongue.
 Not all my friends understand it.
 I find writing Frisian difficult and I do not want to make mistakes.
 I find Dutch easier.
 Writing in Dutch feels more natural to me than writing in Frisian.

43. To what extent do you (dis)agree with the following statements on Frisian and your personal use of social media?

	<i>I don't agree at all</i>	<i>I don't agree</i>	<i>Neutral</i>	<i>I agree</i>	<i>I fully agree</i>
<i>I write messages in Frisian less often than I would like to, because I find writing in Frisian difficult and I do not want to make mistakes.</i>					
<i>I use Frisian on social media because I can express myself better than in Dutch.</i>					
<i>I write Frisian the way I pronounce it.</i>					
<i>I think it is too much work to type diacritics.</i>					
<i>I do not really know when I need to use diacritics in Frisian.</i>					
<i>I have only started to write Frisian when I started using social media.</i>					
<i>When someone sends a Frisian message, I will send a message in Frisian back.</i>					
<i>I am not really consistent in using Frisian on social media: I send Frisian messages to some friends, while to other (Frisian speaking) friends I send Dutch messages.</i>					

44. Did your teachers in primary school speak Frisian to you or your classmates?

- Never.
 Now and then.
 Often.
 All the time.

45. How many of your classmates in primary school spoke Frisian?

- (almost) Nobody.
 Less than half.
 Over half.
 (almost) Everyone.

46. How often do you have Frisian classes at school nowadays?

- None.
 Approximately one hour a week.
 Approximately one morning/afternoon a week.
 Approximately one day a week.
 Over one day a week.
 Other, namely _____.

47. Which language do you currently speak with your teachers?

	<i>All the time</i>	<i>Often</i>	<i>Now and then</i>	<i>Never</i>
<i>Dutch</i>				
<i>Frisian</i>				

48. How fun is it to learn the following languages?

	<i>No fun at all</i>	<i>Not fun</i>	<i>Neutral</i>	<i>Fun</i>	<i>Very fun</i>
<i>Frisian</i>					
<i>Dutch</i>					
<i>English</i>					

49. How difficult is it to learn the following languages?

	<i>Not difficult at all</i>	<i>Not difficult</i>	<i>Neutral</i>	<i>Difficult</i>	<i>Very difficult</i>
<i>Frisian</i>					
<i>Dutch</i>					
<i>English</i>					

50. How important is it to learn the following languages?

	<i>Not important at all</i>	<i>Not important</i>	<i>Neutral</i>	<i>Important</i>	<i>Very important</i>
<i>Frisian</i>					
<i>Dutch</i>					
<i>English</i>					

51. What should be the position of Frisian in secondary education?
- All classes in Dutch, Frisian as a separate course (obligatory).
 - All classes in Dutch, Frisian as a separate course (by choice).
 - Bilingual education, classes in English and Dutch, Frisian as a separate course (obligatory).
 - Bilingual education, classes in English and Dutch, Frisian as a separate course (by choice).
 - Trilingual education, classes in English, Dutch and Frisian.
 - Other, namely _____.
52. How often do you watch television programmes on Omrop Fryslân (Frisian broadcaster)?
- Every day.
 - A few times a week.
 - Every week.
 - Every month.
 - Hardly ever.
 - Never.
 - Other, namely _____.
53. How frequently do you listen to Frisian radio?
- Every day.
 - A few times a week.
 - Every week.
 - Every month.
 - Hardly ever.
 - Never.
 - Other, namely _____.
54. How often do you go to websites that spread regional news, such as those of Omrop Fryslân or Wâldnet?
- Every day
 - A few times a week.
 - Every week.
 - Every month.
 - Hardly ever.
 - Never.
 - Other, namely _____.
55. Which websites? _____
56. Which Frisian(s) could persuade you to use the Frisian language more often? _____

This is the end of the survey. Thank you very much for your cooperation! If you have any comments, you can write them down here.