

**Emotional topics as reasons for language switching  
in bilinguals: interaction between emotion and  
culture, and the semantic categorisation of topics**

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## Abstract

The aim of this research is to investigate whether culture and emotions affect language choice in bilinguals. It also seeks to research what culture-specific topics tend to arouse emotions in bilinguals and whether the inducing of bilinguals into communicating about a strongly emotional topic leads them to favour L1 or L2, even when the topic is relevant to the culture of their L2. This study uses an online questionnaire for data collection, which was quantitatively and qualitatively analysed. Ninety responses were examined to gain understanding of what topics participants perceive to be emotional and to investigate reasons for why participants switch languages. This study found that although discussion topics can make participants emotional to the extent that they switch languages, results however also demonstrate that individual differences and other factors play an important role in language-switching. Reporting to the hypothesis of this study, as to whether bilinguals will favour speaking the language of the culture a discussion topic relates to when experiencing strong emotions, a significant main effect of culture on language choice was found. This study finds that topics that relate to participants' social lives and culture are perceived as highly emotional. Participants vary in terms of topics they consider emotional and important. No definitive topics exist that would make participants necessarily emotional to the same degree. A majority of participants uses the L2 in the workplace or at university. This points to the role of workplace and perhaps university as being important places for language practice and acculturation. Results also show that memory encoding, embodiment, context, social purposes and cultural scripts affect language choice. Findings specifically point to the family home and the sharing of one's life with a partner and family as contexts, which allow for the continued practice and the emotional encoding of life events in an L2, that can ultimately lead to L2 dominance.

Keywords: bilinguals, bilingualism, language dominance, L2 dominance, language-switching, emotions and language-switching, culture and language-switching, emotional language, language encoding

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## CHAPTER 1: INTRODUCTION

### 1.1 Culture

The number of international migrants worldwide was 258 million in 2017 of whom 78 million live in Europe (*UN DESA, 2017*). Migration figures suggest that bilingualism and biculturalism is on the increase. The long-term move to another culture typically prompts psychological change within migrants and their children who are exposed to two cultures and may over time identify with both, their heritage culture and their host culture (*Berry, 2005*). Acculturation is the long-term process of cultural and psychological change and adaptation, which migrants typically go through and which results in their learning of the language of the host society and the internalising of its norms and values (*Berry, 2005*). Acculturation can take place over generations of migrant offspring. Migrants live two separate lives after they've moved to another country to settle: one in which their heritage culture is maintained inside the home and one one in which the learning of a country's language and culture takes place in the public sphere of the host society (*Arendt-Toth, 2003, Boski, 2008*). Language is seen by social psychologists as a social and cultural construct since it is normally learnt within a particular cultural context and used to share information, values and knowledge amongst members of the same culture. It can thus be said that language carries culture (*Chiu and Cheng, 2016*). Complex behaviour in bilinguals arises from the fact that bilinguals juggle two or more languages and need to display distinctive but culturally appropriate behaviour that meets the norms and values of their respective cultures. This behaviour is expressed in the appropriate display of emotions, proficient language use, and cultural knowledge that allows migrants to act in culturally acceptable ways. Cultures may differ or even conflict in terms of expected norms and values. For example, the display of emotions in public may culturally be expected, condoned or discouraged. The current research investigates the role of emotions and culture on language-switching.

### 1.2 Culture and language

A short broad outline of the different perspectives illustrates their different approaches to the study of language-switching in bilinguals and then puts the current study into the existing research context. Language choice and language-switching in bilinguals has already been researched from a variety of perspectives. Many social psychologists examine language preference on the basis of ethnic group membership. Individuals said to belong to a group are in-group members. The in-group is positioned against an out-group that acts as a frame of reference for in-group membership. To illustrate, Berry's conception of acculturation uses the group concept to argue that migrants position themselves as members of a heritage culture group, the in-group, who exist amongst members of a host culture group, the out-group. Berry argues that acculturation entails that migrants internalise host country norms and values over time and learn to speak the host country's language. Acculturation

allows migrants to identify with either or both groups (Berry, 2005). One example for a social psychological perspective that uses this framework is Social Identity Theory (SIT) (Tajfel and Turner, 1979). SIT situates individuals in groups within a framework of different social groups that individuals can be members of. Individuals might be attracted to a group's salience or associate with a particular group because the group represents a source for pride, self-esteem and it gives its members a sense of belonging. Within this context, the home of migrants is the space where the practicing of their heritage culture can be experienced as meaningful and where family members can provide each other with mutual support that foster feelings of belonging and group acceptance. The host society is typically perceived as an out-group after the move to another country has occurred because a host country's language, norms and values still need to be learned. Other perspectives emphasise different aspects in the communication process between bilinguals when they switch languages. Sociolinguists identified social purposes for why language switching takes place such as switching to emphasise group identity or to encourage an interlocutor's conversational involvement (Grosjean, 2014). Linguists found that the structure of a language such as words, sentences and phrases cue a particular language in bilinguals (Chan, 2004). Linguists however also point to the culturally constructed nature of the emotions in bilingual migrants. Since migrants are exposed to two cultures, they build up and use their cultural knowledge to behave in culturally appropriate ways (Wierzbicka, 1999; Pavlenko, 2002). Social psychologists extended this view by suggesting that bilinguals not only internalise different cultural frameworks and behave according to distinctive sets of behavioural norms and values but that acculturation causes a bilingual to evaluate and appraise the same event in his / her life differently depending on which cultural framework is activated by a language or other factors. Benet-Martínez found that bilinguals evaluate, describe, view and judge the same situation differently in their different languages, a phenomenon called frame-switching (Benet-Martínez, et al, 2008; 2014). This has given rise to the notion that migrants and their offspring as well as people who were brought up or live in a multilingual environments develop different personae. These issues are social psychological in nature and are relevant to this study because they emphasise that language, culture and emotions are intertwined and affect bilinguals when they change languages (Marian & Kaushanskaya, 2004; Schrauf, 2002).

### **1.3 Culture, language and emotions**

Given the above discussion, the topic of this research paper is next positioned within the context of recent research on the impact of culture and emotions on language choice. Bilinguals' display of emotions is different in their two cultures. Bi- and multilinguals report experiencing different emotions when switching languages (Dewaele, 2016, 2017). Studies found that bilinguals display a bias towards talking about emotional topics in their L1 (Marcos, 1976; Rozensky and Gomez, 1983). As reported by Pavlenko (2005), the notion that L1 is a bilinguals' emotional language has been explored by bilingual authors (Steiner, 1975, Rodriguez, 1982), therapists (Amati-Mehler et al., 1993; Santiago-Rivera A. and Altarriba, J., 2002), and cognitive psychologists (Schrauf, 2000). Bilingual

authors such as Steiner (1975) and Rodriguez (1982) explored through introspection and personal reflection the emotional impact of their L1 on embodied experiences. Psychotherapists reflected on the usefulness of using L1 and L2 within therapeutic settings. They considered the usefulness of either only using L1 or L2 or both as a means to either encourage or limit emotionality in patient talk. This is to help their patients to either talk about or distance themselves from traumatic experiences (Amati-Mehler et al. (1993). Schrauff investigated the effect of affect in L1 and L2 on autobiographic memory (Schrauff, 2000). All these examples link language, culture and embodiment. They acknowledge that emotionality is actualised and experienced through the process of talking. This process is inherently complex as it involves access to word dictionaries, autobiographic memory and entails evaluation and appraisal of the appropriateness of the content of talk and the affect that this might have on interlocutors. Language is a tool through which emotions are retrieved, relieved, experienced, expressed, released and passed on to others via its ability to affect interlocutors. Whereas L1 is seen as an emotional language, L2 is seen as less emotional. The latter view however has recently been challenged by researchers. Research by applied linguists Anita Pavlenko and Jean-Marc Dewaele qualifies the notion that L1 is always an emotional language. They found that late bilinguals who are strong in their L2, strongly respond to emotions in their L2 (Dewaele, 2004). Stable factors that research identified that can lead to L2 becoming an emotional language are age of acquisition and frequency of language use (Dewaele, 2004). These findings set an important background to the present study. They suggest that in order to understand the interaction between culture and emotions on language choice, researchers need to understand individuals' language learning trajectory by also considering length of cultural exposure, patterns, frequency and context of language use as well as an individual's world view. The learning of an L2 within a host culture might be a factor that influences the emotional nature of L2. These research findings thus set the stage for exploring the conditions under which culture and emotions might affect language choice in bilinguals.

#### **1.4 Culture, language, emotions and behaviour**

Discussion topics are elements of cognition that can cue cultural constructs such as values, beliefs, and norms. In everyday life, bilingual interlocutors talk about a variety of discussion topics that may touch on a speaker's cultural identity and thus may be experienced as emotional to varying degrees. Discussion topics can be about values, beliefs, and norms that are relevant to one culture or another and that are socially shared and internalised during socialisation, which makes them deeply rooted in one's self-concept, such as norms for correct behaviour or one's understanding of one's social group. Discussion topics can be relevant to the host or heritage culture and individuals might differ in terms of the extent to which an issue touches them more when relevant to one of their cultures than it does when relating to the other culture. It is worth making a distinction here between bilingualism and biculturalism. Bilinguals have learnt another language to some degree of fluency. This doesn't necessarily mean that the norms and rules of another culture are learnt since anyone can

learn English for example without ever having visited an English-speaking country. L2 learning might take place in the classroom or a host society. Migrants can also learn a host country's language to varying degrees. Emotions are learnt involving emotional memory and it is for this reason that words are perceived as embodied so that when words are processed cognitively and affectively, they can trigger events in autobiographic memory (Pavlenko, 2005). Depending on the context of L2 learning, migrants' language learning and acculturation might entail the development of an emotional connection to an L2 and a host culture but this is depend on individual differences and circumstances. In contrast, biculturalism means that two cultures operate within the same person and that the person can function successfully in two cultures (McCarty, S., 2010). For example, children raised by migrants in a host country can learn two or more native languages and cultures and are thus said to be bicultural (McCarty, S., 2010). Migration from one country to another where the same language is spoken might not require the learning of another language but still requires acculturation.

Discussion topics have the potential to carry and arouse strong emotions if judged important to a speaker in a variety of situations. Situational cues can activate permanently accessible constructs (Bargh, Lombardi, & Higgins, 1988; Fazio, 2001). One can thus ask whether and what role culture-related discussion topics might have in language-switching. Language is the medium used to reflect on self-relevant issues that impact on one's identity and matters of personal importance (Charles Marcrum II, 2007) and can trigger emotional states (Chentsova-Dutton Y-E., 2010, Panayiotou A., 2004). In a hypothetical situation where two bilinguals speak the same languages and are equally well proficient in their use, a question arises as to whether a discussion topic that relates to one of their cultures and arouses strong emotions can cause an interlocutor to switch to the very language of the culture a topic relates to. As described by Ozanska-Ponikwia (2016), the significance of the theme of the discussion topic in language-switching amongst migrants was first raised by Fishman (1965) who states that particular topics are better handled in one language rather than another and that bilingual interlocutors may have specific ideas about what topics are best discussed in a particular language. Discussion topics by their nature can involve emotional words. Research found that different types of emotion and emotion-laden word types such as childhood reprimands (Aycicegi and Harris (2004), Pavlenko, 2008) and swearwords (Dewaele, 2004) are differently encoded in memory and have distinctive emotional affects on a speaker (Pavlenko, 2004, Pavlenko, 2005). Studies have shown that language socialisation leads to distinct memory representations and perceptions of emotions. Languages learnt at an early age are learnt with emotional memory so that speakers have got embodied sensations thus 'feel' the words when speaking them in those languages (Pavlenko, 2005, Pavlenko, 2008). L1 words are therefore better contextualised by past events in memory so consequently elicit distinct body sensations when spoken in an L1, which might not necessarily happen when speaking an L2. Altarriba (2004, 2010, 2011, 2016) investigated differences in the processing of concrete, abstract, emotion and emotion-laden words. These represent different word types that involve different mental processes for their encoding, storage and retrieval. Altarriba's research aimed to reveal how the emotional word lexicon is organised in the brain. To this end, she



investigated the effect of cued words in lexical decision tasks. The research is relevant for this study because it explicitly links topics and emotions and it allows for the classification of topics by word type and valence. Discussion topics have a potential for tapping into deeply held beliefs, values and norms. The complexity of the effect of discussion topics on bilingual speakers thus needs to be understood within the wider context of conversational interaction, which typically prompts speakers to position themselves, evaluate arguments, persuade, argue and relate to and create bonds with others. Studies also show that links between emotion words and autobiographic memory are bidirectional, which means that a spoken word can trigger memories and vice versa (*Pavlenko, 2005*). This means that conversations might be emotionally charged because a topic triggers personal memories that are connected to emotions or that memories bring up emotionally charged topics in a speaker. The theme of discussion topic in language-switching has recently been picked up by some researchers. Panicacci and Dewaele (2018) asked whether different types of speakers and discussion topics cause a sense of feelings different in bilingual speakers. They found that conversation topic had a major effect on feelings of difference. Personal, emotional and neutral topics discussed with intimate interlocutors elicited less feelings of difference than when discussed with strangers or colleagues. They concluded that migrants' acculturation strategy, specifically the deliberate forging of contacts with L2 speakers within a host culture significantly contributed to emotional attachment to L2. Ozanska-Ponikwia (2016) who investigated the code-switching practices of Polish migrants in English-speaking countries found that participants mostly tended to switch from L2 to L1 in emotionally charged situations and when discussing personal topics with friends and colleagues. The above research suggests that culture and emotions interact. They put central the role of discussion topic and emotions in bilinguals code-switching behaviour. Within the context of the above research, this study researches whether emotions and culture are significant factors that impact on the choice of language used when bilinguals discuss topics that are important to them. This study investigates whether fluent bilinguals speakers display a language preference when discussing emotional topics that relate to their two cultures. It manipulates participants' culture and emotions in order to investigate their effect on language choice.

It aims to answer 3 research questions:

Research question 1: Do culture and emotion affect language choice in bilinguals?

Research question 2: What culture-specific topics tend to arouse affect in bilinguals?

Research question 3: Does inducing bilinguals to communicate about a strongly emotional topic lead them to favour L1 or L2?

The research hypothesis is: When experiencing strong affect caused by a discussion topic that relates to one of the cultures of a bilingual, bilinguals will favour speaking the language of the culture a discussion topic relates to.

## CHAPTER 2: METHOD

### 2.1. Design

#### 2.1.1. Conditions

A 2 x 2 factorial design was used with language and emotion as the two independent variables (IVs). Language had the two conditions of heritage culture language (HCL) and host culture language (HCL). The two cultures associated with the two languages each participant indicated they speak fluently are Culture 1 (C1) and Culture 2 (C2). Emotion refers to the emotionality of a discussion topics. Emotion had the two conditions most emotional (high) and least emotional (low). The IVs were fully crossed, leading to four conditions: high emotional topic + culture 1, high emotional topic + culture 2, low emotional topic + culture 1, and low emotional topic + culture 2.

In order to arrive at the cultures, participants were asked to name two languages participants are most comfortable with. The first language (L1) entered was associated with C1. The second language (L2) entered was associated with L2. In order to arrive at the high and low emotion topics, participants were asked to generate at least three topics that made them emotional about one of the two cultures/countries they gave as their two primary languages/cultures. Emotion was manipulated by the random selection of the first or last emotion topic from the list of topics participants had provided as the prompt for the dependent measures in the study.

Language choice when discussing the topic was one of the dependent variables (DV). This was assessed by asking participants to indicate in which language they felt they could best express their feelings about the selected topic (high or low emotion). This required a selection from a radio button list with three options L1, L2 or both languages. Other dependent measures included questions in which participants indicated for each language (L1 and L2), the degree to which they felt they could express feelings about the selected topic, on a 0 to 7 scale, where 0 represented least emotional and 7 most emotional.

#### 2.1.2. Themes

Themes were developed for quantitative and qualitative analysis using a bottom-up approach on the basis of participant responses to questions 69, 71, 84 and 78. The themes were organised in two taxonomies on reasons for language switching that related to culture and emotions (appendix A) and on topic types (appendix B). Themes were also built for the categorisation of word types (abstract, concrete, emotion, emotion-laden) and valence (positive negative). This allows for describing the affective qualities of emotional topics that participants entered. It was based on the the work of

Altarriba who published classifications of word types and valence (Altarriba, J., Bauer, L. M., Olheiser, E.L. et al., 2009; Altarriba, J., Basnight-Brown, D.M., 2010; Altarriba, J., Basnight-Brown, D.M., 2016), which were used as examples on which the classification for this study was modelled. Ten percent of themes were tested for their interrater reliability, which involved two linguists who were otherwise not involved in this study..

### **2.1.3. Acculturation scale**

The Psychological Acculturation Scale (PAS) (Tropp, L. R., Erkut, S., Garcia Coll, C. et al, 1999) was used to assess participants' cultural orientations. It contains 10 open-ended questions that aim to elicit migrants' bicultural orientation. The PAS (appendix C) was developed to measure acculturation in adolescent and adult migrants in the US who have got a Latino/Hispanic cultural background. The questions were modified for the purpose of this study to suit international adult participants. The original PAS measures acculturation on a 9-point Likert scale that ranges from 1 to 9 where 1 represents an 'only Anglo-American cultural orientation' and 9 represents an 'only Latino/Hispanic cultural orientation'. The midpoint represents a bi-cultural orientation. Participants' acculturation orientation is calculated using regression analysis. The PAS questions were modified for this study, removing the response scale and giving open-ended versions instead. The results were not analysed in this study.

### **2.1.4. Additional questions**

Additional questions aimed to elicit from participants socio-demographic variables, the frequency of language-switching (appendix D), participants level of interest in their host and heritage culture and the extent to which participants enjoy speaking their two languages. Frequency of language use was measured on a 5-point scale with values: Never, Sometimes, About half the time, Most of the time, and Always. Frequency of language-switching was measured on a 5-point scale with values: Never, Sometimes, About half the time, Most of the time, and Always. Participants' levels of interest in their host and heritage cultures were measured on two 5-point scales with values: A great deal, A lot, A moderate amount, A little, and None at all. Participants enjoyment of speaking their two languages was measured on two 5-point scales with values: Enjoy a great deal, Enjoy a lot, Enjoy a moderate amount, Enjoy slightly, Do not enjoy. Participants provided information the languages they speak in different contexts, and read, think and watch TV in, which involved ticking options in a table. Participants stated the nationalities of close friends of theirs. This question was taken from the Short Acculturation Scale for Hispanic Youth - SASH-Y (Barona & Miller, 1994).

## 2.2. Participants

This study was mainly developed and carried out in Lisbon. An initial aim thus was to target Portuguese in Portugal as well as abroad and also bilinguals internationally using a Portuguese language questionnaire (appendix E) and an English language questionnaire (appendix F). A total of 208 responses were received for both, the Portuguese (36 responses) and the English language (172 responses) questionnaires. A majority of participants didn't complete the full set of questions. Results for question 83 were based on 137 responses to the Portuguese and English language questionnaires. Results for questions 64 and 76 were based on 106 responses to the Portuguese and English language questionnaires. 90 participants (67 females, 23 males) completed all questions and results for all other questions are based on their data. An initial mailing of invitations to participate first went to university psychology and linguistics departments in Portugal as well as to university psychology and linguistics departments in countries that are traditional destinations for Portuguese migrants. Due to a low response rate, a second mailing was sent to organisations and NGOs that provide services to migrants generally in selected cities of countries that are traditional destinations for migrants. A third mailing targeted large NGOs that rely on multilingual staff. A total of 190 organisations were contacted. Participants in this study were born in 38 different countries (appendix G) and currently live in 17 different countries (appendix H). The most commonly spoken L1s participants gave as their first option were English (18.9%), German (14.4%), Portuguese (13.3%) and French (11.1%) (appendix I). Participants associated with their L1s mainly Switzerland 10 (11.1%), Portugal 8 (8.9%), USA 8 (8.9%), Germany 6 (6.7%), Greece 6 (6.7%), UK 5 (5.6%), Belgium 4 (4.4%), Brazil 4 (4.4%) (appendix J). The range of years that participants spent either abroad or in a country in which two or more languages are spoken ranged from 0 years for 20 participants (22.2%) to a maximum of 57 years with a median of 6.5, mean 14.0 (rounded) and standard deviation of 15.7 (rounded) (appendix K). The most commonly spoken L2s participants gave as their second option were English (60%), French (14.4%), German (7.8%), Portuguese (4.4%) and Spanish (3.3%) (appendix L). Participants associated with their L2 mainly UK 25 (27.8%), USA 17 (18.9%), Switzerland 8 (8.9%), France 6 (6.7%) and the Republic of Ireland 4 (4.4%). Of 90 participants, 18 have got a mother who migrated, 31 have got a father who migrated, 24 have got a grandmother who migrated and 32 had a grandfather who migrated. In total, 40 participants had a parent or grandparent who migrated. Ninety percent of participants have a university degree, 9 percent a college degree (appendix M) and 1 percent has a secondary school degree. One-hundred and seventy-two participants started the English language survey of which 78 were included in the survey. 16 participants were excluded from the English language survey because they weren't bilingual. Seventy-four participants dropped out and 4 participants were excluded due to insufficient data. Thirty-six participants started the Portuguese language survey of which 12 were included in the survey. Four participants were excluded from the Portuguese language survey because they weren't bilingual, 17 participants dropped out and 3 participants were excluded due to insufficient data. Only participants aged 18 and over who are fluent in two languages were asked to take part in this study.

### **2.3. Materials**

The survey was developed in Qualtrics (Qualtrics, Inc, 2017). Qualtrics was used to host the online questionnaire and to collect participant data. SPSS was used to calculate statistical results. QDA Miner Light was used to create categories and themes for content analysis and for text analysis. Open Office word processor was used for general data storage and the writing of documents. Open Office spreadsheet software was used for creating statistics.

### **2.4. Procedure**

The survey was run in Qualtrics, a web-based online survey platform. It required that participants click on a link in the invitation email to access to the survey. An preliminary informed consent statement provided information about the purpose of the survey. Participants were told about their right to withdraw from the research at any time. Participants were informed that they would be asked about their language use when discussing emotional topics. This statement ended with a question about whether they agreed to participate. All participants who agreed were then asked if they are bilingual. Those who said they were not were thanked and informed that they were not eligible for the survey. Those that stated that they were bilingual were then asked to name two languages (L1 and L2) they speak fluently and two countries their languages relate to. The prompt requested that one of the languages is participants' native language (L1) and the second language an additional language that is spoken fluently (L2). The entered countries were subsequently used to prompt participants for feedback on their cultures. Participants then listed a minimum of 3 and maximum of 5 topics that make them emotional and are related to one of their two cultures (randomly assigned, which was the manipulation of culture). For the purpose of this study, culture was loosely defined as the 'culture of one of the two countries whose language the participant speaks, its people, government, and the country as a whole'. A total of 3 open-ended questions used the language and topics values to prompt participants for information on their cultures, which were quantitatively and qualitatively analysed. Participants were first asked to select from 3 presented options (L1, L2, both) the language in which they think they can best express their feelings for a topic. Participants were subsequently asked to make rating decisions on two Likert scales. The scales required responses that ranged from a minimum of 0 to a maximum of 7 points for how much participants thought they could express their feelings about one of their chosen topics for each of their two languages. The topic participants were prompted with was either the most emotional or the least emotional topic from their list of topics. The software chose and prompted participants with a topic at random. The same topic was then used in subsequent questions. For inter-observer reliability testing, two linguists coded 10% of participants' comments for reasons for language-switching when feeling emotional. Participants' comments were chosen at random. Each linguist was supplied with a listing of themes and a listing of participants' comments. Both linguists participated in a short training session, which was conducted online and explained the scope of the themes and how to apply them. Through discussion, linguists clarified their

understanding of the meaning of themes to achieve an acceptable level of inter-observer reliability. The researcher collected the linguists' responses and calculated the kappa statistic to establish interrater reliability.

## **CHAPTER 3: RESULTS**

At the end of the data collection process, the data from the Portuguese and English versions of the survey was uploaded and merged in a spreadsheet for analysis. Data for L1 and L2 was organised so that L1 referred to a participant's first language and L2 to a participant's second language. A statistical analysis was undertaken of data on the language in which participants could best express their feelings for a topic (Question 83) using chi-square. A statistical analysis was done of the degree to which participants thought they could express their feelings about a topic in their two languages (Questions 64 and 76) using ANOVA. The Psychological Acculturation Scale was included but not calculated. Questions about participants' socio-demographic situation, language-switching were analysed. Questions about participants' interest in their host and heritage culture and the extent to which participants enjoy speaking their two languages were included but not analysed. An analysis of participants' comments was undertaken to extract themes. Participants' comments entered in free text fields relating to questions 69, 78, 71 and 84 were analysed by building qualitative themes for reasons for language-switching, which were used for quantitative analysis. Question 78 specifically asked for reasons for language-switching. The other 3 questions are about bilinguals use of their languages, somewhat semantically overlap with question 78 so they were included in the analysis of reasons for language-switching where comments allowed for appropriate themes. All comments by each participant were indexed where appropriate. In the final analysis, a theme was only ever counted once per participant to allow for a statistical comparison across the whole data set. An end note provided a debrief that explained the aim of the survey. The Portuguese questionnaire featured the option to participate in an anonymous lottery draw for a prize of 50 Euros in SONAE vouchers at the end of the survey.

### **3.1. Quantitative results**

#### **Preferences for language(s) in which to best express feelings for a topic.**

This section provides quantitative results for participants' preferences for languages in which to express emotional topics, which were counted for this analysis.

Table 1: Differences in counts of choice of language in which participants think they can best express their feelings for a specific topic (Question 83), with results for all conditions with percentages for language preferences in brackets:

Conditions	Response options			Marginal means means for condition (both culture and emotion)
	L1	L2	in both languages equally (BL)	
condition 1 = culture 1 emotion low (C1EL)	18 (31%)	1 (8%)	17 (26%)	n = 36
condition 2 = culture 1 emotion high (C1EH)	20 (34%)	0 (0%)	15 (23%)	n = 35
condition 3 = culture 2 emotion low (C2EL)	12 (21%)	8 (62%)	14 (21%)	n = 34
condition 4 = culture 2 emotion high (C2EH)	8 (14%)	4 (31%)	20 (30%)	n = 32
<b>Marginal means for language preference</b>	n = 58 (100%)	n = 13 (100%)	n = 66 (100%)	

Note: Total N=132. Differences in counts for a 2 x 2 set of conditions for IV emotion and IV language. Percentages for counts of choice of language are rounded to the nearest integer.

Table 1 shows differences in preference for choice of language in which to best express feelings for a topic for all conditions. Participants could only make a single choice out of three options: L1, L2 or BL.

A  $\lambda^2$ -test for all 4 conditions shows that there was a significant main effect of language on language choice,  $\lambda^2 = 14.792$ ,  $df = 2$ ,  $p = .001$  and that there was a no significant main effect of emotion on language choice,  $\lambda^2 = 2.170$ ,  $df = 2$ ,  $p = .338$ . The null hypothesis was partially rejected on the basis of these results and the research hypothesis partially accepted, which stated that culture and emotions affect language choice to the extent that participants will switch to the language of the culture a conversation topic relates to.

Extent to which participants think they can best express their feelings in their two different languages.

Table 2: Means and standard deviations for the extent to which participants can express their feelings in L1

Languages	Emotion		Marginal means means for language
	high	low	
L1	6.54 (0.721)	6.55 (0.624)	N = 55
L2	5.96 (1.341)	6.21 (1.285)	N = 50
<b>Marginal means for language emotion</b>	N = 50	N = 55	

Note: Differences in mean for 2 x 2 set of conditions for IV emotion and IV language. Standard deviations in brackets.

Table 2 shows differences in means for a or 2 x 2 set of conditions for IV emotion and IV language for the extent to which participants think they can best express their feelings in their L1. ANOVA results show that there was no significant main effect of emotion ( $F < 1$ ) and no significant interaction between language and emotion ( $F(1) = 0.355$ ,  $p = 0.553$  on L1). There was a significant main effect of language ( $F > 1$ ) on L1. Results partially confirm research question 1: Do culture and emotion affect language choice in bilinguals because of a significant main effect of language on L1.

Table 3: Means and standard deviations for the extent to which participants can express their feelings in L2

Languages	Emotion		Marginal means means for language
	high	low	
L1	5.13 (1.227)	5.42 (1.478)	N = 55
L2	5.85 (1.255)	5.50 (1.445)	N = 50
<b>Marginal means for language emotion</b>	N = 50	N = 55	

Note: Differences in mean for 2 x 2 set of conditions for IV emotion and IV language. Standard deviations in brackets.



Table 3 shows differences in means for a or 2 x 2 set of conditions for IV emotion and IV language for the extent to which participants think they can best express their feelings in their L2. ANOVA results show that there was no significant main effect of emotion ( $F < 1$ ) and no significant interaction between language and emotion ( $F(1) = 1.434$ ,  $p = 0.234$  on L2). There was a significant main effect of language ( $F > 1$ ) on L2. Results partially confirm Research question 1: Do culture and emotion affect language choice in bilinguals because of the significant main effect of language on L2.

### **Word types and valence for T1s**

Each participant provided a minimum of 3 to a maximum of 5 topics in the order of most to least emotional topic (appendix N). Emotional topics cover a wide range of issues such as the economy, tradition, music, nature, racism and discrimination (topic classification in appendix B, categories and category frequencies in appendix O). Participants' first topics (T1s) break down into the following word types: abstract (20%), concrete (18%), emotion (7%) and emotion-laden (56%). This study only counts word types once. This follows Altarriba who states that emotion or emotion-laden words shouldn't also be counted as other types of words due to their different representations in memory (Altarriba, 2010). 40 of the T1s were positive emotion-laden topics, 10 of the T1s were negative emotion-laden topics. Four of the T1s were positive emotion topics, two of the T1s was a negative emotion topic (word type and valence for all topics in appendix P). I classified and calculated topics that participants perceived as more or less emotional and that touch on aspects of their culture.

### **Categorisation of all topics suggested by participants**

We calculated Cohen's kappa to check interrater agreement. Results showed a strong consistency of .86.

Table 4: *Categorisation and counts of all topics perceived as emotional by participants*

	Categories	Count of categories
1	Social life	125
2	Culture & language	119
3	Places of personal significance	38
4	Rights & entitlement	32
5	Politics	23
6	Lifestyle	17
7	Economy & socio-economic situation	12
8	Ecology & environmental issues	11
9	History	11

Note: Only categories with counts above 10 are given here. Categories can be applied several times within the same participant comment where they refer to distinct instances of a topic.

The highest counts for categories show that key topics that participants thought of as emotional across all levels of emotional topics are Social Life and Culture and Language (full list in appendix Q).

### **Categorisation of T1s**

Table 5: *Categorisation and counts of T1s perceived by participants as highly emotional and that touch on aspects of their culture:*

	Codes	Count of categories
1	Social life	39
2	Culture & language	32
3	Rights & entitlement	11
4	Places of personal significance	9
5	Politics	8
6	Emotions	2
7	Economy & socio-economic situation	2
8	History	2
9	Lifestyle	2

Note: Categories can be applied several times within the same participant comment where they refer to distinct instances of a topic.

The highest counts for categories show that T1s that participants thought of as emotional topics related to Social Life and Culture and Language. This mirrored results for the categorisation and counts of all topics.

### **Categorisation of reasons for language switching**

Each participant provided descriptions of a situation of when they switched languages and reasons for why they switched languages. Reasons cover a variety of factors that are to varying degrees related to culture and emotions, such as living in a multicultural environment, language dominance and embodied experiences when speaking different languages (full list of reasons in

appendix A). Eleven percent of participants in this study specifically attribute reasons for language-switching to intense feelings that make them switch to either their L1 or L2.

Table 6: *Breakdown and counts of reasons for language-switching due to emotions*

	Reason for language-switching	Percentage of total of types of situations in which participants feel emotional when switching languages
1	Culture 1 topic best discussed in L1	11 (12%)
2	Strong feelings about topic prompt L1	10 (11%)
3	Getting angry, arguing prompts L1	7 (8%)
4	Culture 2 topic best discussed in L2	6 (7%)
5	Strong feelings about topic prompt L2	5 (5%)
6	Language as performance and experiencing the arts cause strong embodied sensations in L1	5 (6%)
7	Language as performance and experiencing the arts cause strong embodied sensations in L2	4 (4%)
8	Relating affectionately & romantically to someone in L1	4 (4%)
9	Emotional distancing through L2	4 (4%)
10	Childhood memories produce strong affect in L1	3 (3%)
11	Childhood memories produce strong affect in L2	1 (1%)
12	Getting angry, arguing prompts L2	1 (1%)

Note: The above table is based on comments made by participants (n=90).

Results show that apart from the two top categories that prompt participants to use their L1, all other categories relate to factors such as childhood memories, interpersonal relationships, interjections and anger. The two top categories relate to L1. The counts for their L2 equivalents were about half of the counts for the L1 categories (rows 4 and 5).

### **Language use**

Participants provided information about frequencies of language-switching, the speaking of their languages and context of language use.

Table 7: Frequency of language-switching:

Never	Sometimes	About half the time	Most of the time	Always
4 (4.4%)	43 (47.8%)	22 (24.4%)	16 (17.8%)	5 (5.6%)

Whereas about half of all participants sometimes switch languages, about a quarter of all participants switches languages most of the time or always.

Table 8: Frequency of speaking L1 and L2:

	Never	Sometimes	About half the time	Most of the time	Always
L1	0 (0%)	15 (15.8%)	20 (21.1%)	28 (29.5%)	27 (28.4%)
L2	0 (0%)	22 (23.2%)	32 (33.7%)	29 (30.2%)	7 (7.4%)

Note: L1 here represents the first language entered into the questionnaire, L2 represents the second language entered into the questionnaire.

The majority of participants doesn't always speak one or the other language, which suggests that most participants engage in language-switching. This was confirmed by results in table 7.

Participants provided information about how they use the languages they speak fluently:

Table 9: How languages are being used:

	language you speak	language you read in	language your parents speak to you in	language your parents use(d) with their parents?	language spoken at home	language you think in	language you speak with friends	language you watch TV in	language you speak in the workplace or at university
L1	89 (98.9%)	87 (96.7%)	76 (84.4%)	69 (76.7%)	81 (90%)	86 (95.6%)	88 (97.8%)	69 (76.6%)	60 (66.7%)
L2	84 (93.3%)	83 (92.2%)	27 (30%)	26 (28.9%)	39 (43.3%)	71 (78.9%)	75 (83.3%)	73 (81.1%)	68 (75.6%)

Note: L1 here represents the first language entered into the questionnaire, L2 represents the second language entered into the questionnaire

The majority of participants learnt an L2 outside of their homes and doesn't speak their L2 at home. A majority uses the L2 in the workplace or at university and also think in the L2.

### **3.2. Qualitative results**

Participants' reasons for language switching cover a variety of factors that are to varying degrees related to culture and emotions, such as living in a multicultural environment, language dominance and embodied experiences when speaking different languages. Participants attribute a range of reasons for language-switching to intense feelings relating to culture and emotions. A review of participant comments was done in the light of the research questions:

Research question 1: Do culture and emotion affect language choice in bilinguals?

Research question 2: What culture-specific topics tend to arouse affect in bilinguals?

Research question 3: Does inducing bilinguals to communicate about a strongly emotional topic lead them to favour L1 or L2?

The research hypothesis is: When experiencing strong affect caused by a discussion topic that relates to one of the cultures of a bilingual, bilinguals will favour speaking the language of the culture a discussion topic relates to.

#### **3.2.1. Analysis of themes:**

##### **l) Language choice cued by culture or autobiographic memory.**

###### **I a) Topic relating to a culture of a country best discussed in its language.**

Sixteen percent of participants state that they choose to speak in a language that relates to the culture being discussed.

*"If the topic is strongly linked to the country it is more natural for me to speak in the language of the country."*

*"When the topic is culturally American or tied to an anglophone country or topic we speak in English"*

*"It depends on the context and who the discussion is about. If it is something related to an event that happened in English then ill use it."*

Making a choice may to varying degrees be conscious, unconscious and / or automatic. The examples suggests that language indexes culture and that language-switching may be automatic and cued by the language of the culture a topic relates to. This behaviour is specific to bilinguals since they, in contrast to monolinguals, have to choose a language. Bilinguals are also likely to have been significantly exposed to both of their cultures so that they have memories that were encoded within the context of the culture a discussion topic is relates to. Cuing suggests that language choice is connected to the language in which events were encoded in autobiographic memory (NEEDS CITATION). Given that L1 or L2 or both can be experienced as emotional languages, the act of talking about a topic in the language in which events were encoded in memory might be deemed as culturally related and might provide for a meaningful, embodied experience because it gives interlocutors more of a sensation of relevance, appropriateness and immediacy. This behaviour might be more seen in individuals with long-term exposure to their two cultures and who have a high level of proficiency in both of their languages so that language choice conveys that some topics are experienced as a meaningful relationship with one's culture(s). A specific example is childhood memories.

A participant uses the L1 in order to recall childhood memories and to express feelings experienced at the time. For example, one comment was:

*"It happens when I recall something from the movies or cartoons, and want to express the same exact feeling from childhood"*

Talking about topics relating to childhood memories are likely to be discussed with family and friends.

*"Talking with my equally bilingual sons we change language very frequently. When talking about a Chilean topic or Chilean friends in (Swiss) German, we suddenly change to Spanish, even in mid sentence, then sometimes change back, when a more "Swiss" topic crops up, very often without noticing the transition from one language to another." [...] "There are Family related topics I can speak more openly and strongly about in Spanish [...]."*

[participant L1 German, L2 Spanish]

Emotional topics that are related to events from one's past might have the potential for arousing strong emotions, particularly when shared with interlocutors who have a close relationship with the speaker, such as family members. Although the above mechanism might be unconscious, participants' comments suggest that some are consciously aware that deliberately choosing the appropriate, culturally relevant language as a retrieval tool for its affective potential.

## **II) Intense feelings prompt use of a language**

## **II a) L1 is emotional language.**

In line with existing research, 31% of participants state that their L1 is their most emotional language.

*"It really depends on the topic. I feel I am a bit more emotional in Arabic."*

[participant L1 Arabic, L2 English]

When L2 is deliberately spoken, strong feelings expressed in interjections, make participants switch to L1 even if unintended, which demonstrates L1 dominance.

*"I try to speak Basque with my children, as I want them to be bilingual, but when I get angry I speak Spanish."*

[participant L1 Spanish, L2]

Individuals vary in terms of language dominance. L1 dominance might even be experienced by some following long-term exposure to a host culture and despite their frequent use of L2.

## **II b) L2 or L1 and L2 both are emotional languages.**

Some 4% of participants state that their L2 is their emotional language and 11% of participants state that both of their languages are perceived as equally emotional languages.

*"When i FEEL STRONGLY ABOUT SOMETHING, I can speak about it equally in both languages."*

*"At first I thought Spanish, but then I realized I have actually done it as well in English when I talk about the topic with my friends and get equally emotional."*

[participant is referring to the emotional topic of relatives in the US]

*"When I am mad at my girlfriend I switch to English even though we spoke Portuguese before."*

[participant L1 German, L2 English, L3 Portuguese]

*"I tend to switch languages when I am angry at someone and I want to make myself understandable. It is not easy to explain my point of view quietly in Portuguese."*

[participant L1Portuguese, L2 French]

The above statements suggest that participants are aware that their L2 is their more emotional language. Research suggests that L2 becomes a dominant language in bilinguals following long-term exposure to a host country's culture and frequent L2 practice. The final statement also suggests that the emotional charge of a discussion topic is consciously controlled by moving from the emotional L2 to a less emotional L1. It implies that cultural scripts make arguing more likely when an emotional discussion topic is talked about in Portuguese and that arguing in French is less emotional for this particular participant.

### **II c) Language as performance produces strong affective experience in L1.**

Nine percent of participants state that the arts and language produce strong effect when speaking either their L1 or L2. Comments by participants who perceive their L1 to be more emotional than their L2 imply that it is the speaking of the L1 that provides them with embodied sensations.

*"My humour, for example, is much finer in Croatian."*

*"Sometimes when we speak with friends in Kurdish we code switch to Persian because we know some expressions, proverbs or parts of a movie scenario that can better convey our feelings and intentions."*

*"I might be able to describe them [participant feelings relating to songs] better in English, but the Portuguese text/language is more expressive in itself."*

The delivery of quips and proverbs is mediated through culturally scripted forms for expressing humour or religious texts that guide delivery and contain rules for how the text is to be performed by a speaker. In contrast, the listening to music or spoken text like in poetry also affect the listener.

*"Emotions conveyed in Portuguese language, in songs, difficult to fully translate into English."*

*"a musica faz mais sentido e me toca mais em portugues"*

[Translation: music makes more sense and it touches me more in Portuguese]

Participants state that songs and poetry in their L1 provide for an emotional experience. Participants point to the difficulty of translating L1 texts to another language because emotions refer to meaning that is culture-specific thus perceived to be difficult to be understood by out-group members such as foreigners. They also appear to make more sense in L1 due to shared in-group experience and shared cultural knowledge.



## **II d) Language as performance produces strong affective experience in L2.**

Some participants perceive their L2 to be more emotional than their L1.

*“When speaking to other bilinguals or someone who can speak both. It could be any topic. Intense feelings like anger (Greek), happiness (English) or sadness are sometimes expressed easier in one as the words are stronger for each feeling in the respective language.”*

[participant L1 Greek, L2 English]

The above comment suggests a great degree of metalinguistic knowledge as well as personal experience of the different qualities of the embodied sensations that the expression of feelings can produce in different languages. It also suggests awareness of feelings being culturally constructed.

*“The quality of my feelings would not be the same as some of the key aspects of the Carnaval de Cadiz cannot be translated in to English and an English speaking person would not understand the feelings.”*

[participant L1 English, L2 Spanish]

Participants state that emotion words may have different qualities that are culture-specific. Emotion words such as anger, happiness or sadness that have a translated equivalent in other languages however may encapsulate different notions of what they mean and how they ought to be displayed in different cultures. The bottom statement contradicts the suggestion in II c above, that in-group experience and understanding is extremely difficult if not impossible to be experienced by out-group members. It however implies deep cultural knowledge that enables bilinguals to understand cultural references and meaning. This is likely to be developed only through long term exposure to the culture of a host country.

## **III) Use of a language for talking about personal topics and to convey intimacy**

### **III a) L1 use within the family.**

Twenty percent of participants state that they use their L1 primarily in the family.

*“I only change the language in a conversation when I speak with close bilingual family members. The topics were mostly when I was talking about emotional topics like family, love, friends...”*

*“My Portuguese speaking very day-to-day oriented so it depends on the topic. Family and emotions : Portuguese”*

[participant L1 Portuguese, L2 French]

*“...when the subject is very 'inside family', 'inside relationship' then I switch. It happend to me for the first time very conciously when I gave birth to my child. My vocabulary as adult, as working person, did not fit to a baby; so I used the language of my mother.”*

The above examples show that language choice is contextual and that the context frames the topics and the emotions that are being considered for discussion. Participants typically state that they use their L1 in the family to discuss topics that are intimate, sensitive, and personal. This reflects the closeness of relationships of family members and the affective nature of discussions within the privacy of one's home. A particular example of the affective nature of spoken language within the family lies in the use of L1 for baby-talk and endearments with babies and children. The above example suggests that it is impossible for the participant to find alternative expressions in L2. This is not because there's no language equivalent or lack of knowledge but because the L2 doesn't provide the speaker with the affective quality the speaker intends to convey. The phrase *“language of my mother”* also suggests that the participant, as a strategy, retrieves L1 language from her own childhood from autobiographic memory in order to obtain the appropriate emotional language, that fits the context. Baby talk exists in all languages but the L1 is experienced as more truthful by some participants. One could argue that language needs to be experienced as truthful in terms of its affective quality to be then be appraised as appropriate for conveying feelings, such as in affectionate talk between a mother and her baby.

### **III b) L2 use within the family.**

Thirteen percent of participants also use their L2 within the family.

*“I usually switch to English when I am talking about work with my parents. The reason may be due to the fact that my work experience is entirely in English and, as such, English flows out naturally when talking about working environments and professional life.”*

*“German: very natural, as it is my main used language and I'm good at it.*

*English: less natural, as I mainly read and listen to English, but very rarely speak it.*

*Italian (language of my father) and French (learned [...] at school): even less natural, I don't remember the vocabulary (French) or never learned them properly (Italian).”*

The above comments suggest that participants prefer talking in L2 about topics they habitually discuss with others, e.g. issues that come up at work. The continued practice talking about particular topics reactivates specific language in memory much quicker in their L2 than their L1, which leads to

retrieval efficiency. The second statement also suggests that, depending on a migrant's language learning trajectory, L1 might not get fully learnt but the L2 does so that long-term use makes the L2 dominate and it is thus experienced as '*natural*'.

*"I often language switch. It is easier for me to allow different languages within conversation in order to best express myself. Different languages have different ways of saying things, and one language sometimes does my feeling more justice than the other language. I often use phrases of the other language in conversation, depending on the context. Places i don't do it: in the supermarket, on the street, when talking with strangers places i do it: talking with friends, family, boyfriend, at work, ..."*

*"I often switch back an forth with people who understand both, e.g. family members. In these situations I can choose the best expression I have at hand, no matter which language it is in."*

*"It happens frequently within our family. Often the arrival of another person triggers a switch in languages. Or a word in the other language comes spontaneously and the conversation continues in that language. I cannot cite any particular topic."*

*"Na conversa em familia: com os filhos falo dialeto suiço-alemão, com o marido português."*

[participant L1 German, L2 Portuguese]

The above comments suggest that term borrowing (individual terms or phrases from another language), code-switching (larger units spoken in another language) and language-switching take place within bilingual families. Nine percent of participants raised the issue of efficient communication through languages switching and lexical borrowing. Phrases such as "*I often language switch [to ...] best express myself*", "*choose the best expression*" suggest that using vocabulary from different languages is tantamount to a pooling of lexical resources to achieve communicative efficiency and effectiveness. Limiting code- and language-switching to specific places means that these are communicative forms that are place dependent, contextual and only practised with fellow bilinguals who share one's languages. In contrast to participants with L1 dominance and higher L1 proficiency, bilinguals seem to regard language and culture not as an exclusive but as a shared resource. In bilinguals, language-switching is a skill that provides in-group members with the opportunity to exchange knowledge and efficiently communicate with each other. In monolinguals, language and cultural knowledge defines the in-group. Also, the final comment suggests that the L2 is, just like the L1, a valid option for talking about personal topics with close family members.

Language-switching can be contextual, circumstantial behaviour cued by spontaneous choice of interlocutors

*"It happens frequently within our family. Often the arrival of another person triggers a switch in languages. Or a word in the other language comes spontaneously and the conversation continues in that language. I cannot cite any particular topic."*

The above example shows that language-switching can be prompted by the arrival of a person or by spontaneous utterances in another language, which might not be related to emotional topics. The comment suggests that it is a frequent practice and that the conversation flows and continues with ease in another language, perhaps without speakers even noticing the change. The spontaneity, frequency and habituality of this practice suggests that it is common behaviour, which one would expect in multicultural areas such as Switzerland, parts of Canada or Singapore.

### **III c) L1 use with friends.**

Twenty-one percent of participants state that they have a preference for L1 when talking to friends.

*"My feelings do change when I speak with someone from my home country (family, close friends), but it's not because of the language, but because of the connection we share. Maybe it's not about what I say but about what I don't need to say, because it is self-evident."*

*"em portugues pois o meu nucleo de amigos é português, embora por vezes utilize o estrangeiro para comunicar"*

[Translation: "In Portuguese because my nucleus of friends is Portuguese, although sometimes I use the foreign language to communicate"]

The comments suggest that L1 use with friends is based on the relationship and history people have with others that determine language use. Also, if the circle of friends mainly consists of fellow nationals, there is a question around the degree to which one's social life impacts on L2 proficiency and also to what extent one's social life encourages L2 learning.

### **III d) L2 use with friends.**

Sixteen percent of participants state that they use L2 with friends.

*"I have both close friends and family with whom I speak English or French."*

*"I rarely code switch with people when in my home country (who are native Bulgarian speakers) as the likelihood of them understanding words, expressions and British cultural references is not very high. I compulsively codeswitch with my Bulgarian friends in the UK though as i find it easier to get my point across, I cut down on hesitations and long pauses when I'll otherwise be searching for an adequate word in Bulgarian."*

*"Difficult, because I have both close friends and family with whom I speak English or French."*

*"As this topic is especially important to me and I did discussed it [topic of honesty] with my friends (from around the world during my studies) in English, it is easy to do it in both Russian and English."*

The comments suggest that L2 is, apart from L1, also a preferred choice in which to discuss intimate and emotional topics. There is no suggestion of a preferred language for discussing emotional topics, which suggests that both languages are equally preferred. Some participants code-switch and language-switch to achieve communicative efficiency, like in the III b) example above. For some, code-switching with fellow bilingual is an opportunity to speed up talking. There is an implicit idea that L1 word search in memory can be slow thus associated with cost, which is avoided by L2 code-switching. This might be more of an issue with bilinguals with varying level of language proficiency.

#### **IV) Communicative intentions and outcomes**

##### **IV a) Code-switching to give interlocutor affective experience.**

A participant states that she uses her L1 and her partner's L1.

*"I'm from China and my boyfriend is Korean. We both can speak a little language of other's. So when I know he can understand my Chinese or Korean, especially when I want to express my feeling, I prefer Chinese/Korean. Since he can feel my emotion better in our first languages"*

The aim of combining one's own and the partner's L1 for emotional talk, rather than use a shared L2, is to emotionally affect the partner. It implies an understanding of the meaning of emotional language and its potential for emotional affect of the L1. One can further assume that the same speaker who is using and switching in the same talk between the two languages does it to a) fill lexical gaps and to b) evaluate and choose the most appropriate L1 words for maximum emotional impact when and where it's needed.

##### **IV b) Good social relations and in-group acceptance.**

Two participants state that they use their L1 when encountering fellow nationals abroad.

*“When discussing with people coming from Burkina Faso or west African people speaking Doula, no matter the topic”*

*participant switches languages when] “I talk to Greek-Americans . That connects us more , reminds me of my other side which I'm proud of.” [participant L1 is Greek, L2 English]*

Although the reason for language switching to L1 might not be topic-driven to some, for others, encounters with fellow nationals, can activate powerful autobiographic memories that, particularly following long-term migration, trigger views of the self that have long been forgotten.

#### **IV c) Language choice as a function of self-presentation.**

Three participants choose their different languages for self-presentation.

*“I would choose consciously whether to express my feelings related to relationships in Italian or in English, according to what I want to convey (rational, detached and analytical part of me- English, more emotional, involved, childish part of me- Italian).”*

*“In Italian I would talk about relationships in a more affectionate way, in English in a more descriptive way,”*

The above comments suggest that language-switching entails a process of evaluation of purpose for communicative ends before a language selection is being made. Language choice here is deliberate, the outcome of evaluations to achieve a particular outcome. The evaluation considers aspects of the self a speaker wants to convey through the most useful language at hand. This entails reflections about its emotive impact. Qualities such as emotional impact or rationality are not only qualities thought of as inherent to the language but they are considered for displaying also characteristics of the self. A number of participants state that they see English as a rational language.

#### **IV d) Feelings of closeness prompt L1 use.**

Feelings of close friendship can prompt L1 use.

*“Sim, por vezes falao diretamente em português com uma pessoa francesa de que gosto muito, ha claramente uma relação entre o sentimento e a familiaridade de falar português”*

*[Translation: Yes, sometimes spoke directly in Portuguese with a French person that I like very much, there is clearly a relationship between the feeling and the familiarity of speaking Portuguese]*

[participant L1 Portuguese, L2 French]

Here, a participant links choice of language to positive feelings of friendship with feelings of comfort and familiarity that are typically experienced by some L1 speakers who think of their L1 as their dominant emotional language.

## **V) Cultural scripts limit or encourage the experience of affect**

### **V a) Using L2 for emotional distancing.**

Four participants (4%) use their L2 for emotional distancing.

*Any time that I want to sound more assertive, without getting too involved or feeling aggressive.*

[participant L1 Italian, L2 English]

*But using German gave me a bit of protection. I was letting someone else into very personal experiences that I had hardly ever talked about. Using German allowed me some distance to the topic.*

[participant L1 English, L2 German]

*I express my emotions better in English if they are overwhelming*

[participant L1 Italian, L2 English]

The above comments are in line with existing research on using L2 for emotional distancing for its therapeutic effect (Amati-Mehler et al., 1993). There is an element of emotional control as self-control when one's L2 is deliberately used to project oneself as self-asserted to interlocutors. The comments not only imply knowledge but also deliberate employment of this L2 effect as a communicative strategy. Implicitly, L2 use controls speech production. As covered in theme IV c) Language choice as a function of self-presentation, participants share an implicit belief that the use of L2 lets them control their emotions.

### **V b) Cultural scripts encourage the expression of emotions.**

Five participants (6%) state that they use their L2 to express emotions because of cultural

expectations.

*“Saying goodbye to people and thanking for coming; expressions such as “I mean...” “Did you get it?” sometimes come out naturally, probably because the situation demands saying these expressions and they are emotionally incorporated. It carries a lot of meaning for that specific situation whereas the expression in the mother language may have more sounds or are not so magnetic.”*

Here, different cultural expectations exist between two cultures around the expression of thankfulness, hospitality or in self-positioning when arguing a point, greeting or otherwise holding an everyday conversations where British culture expects politeness whereas the heritage culture might not.

*“Both languages serve an almost identical purpose as vehicles for expressing my thoughts and emotional state. I have found however that when speaking in Bulgarian I appeal more to people’s emotional response to what I’m saying while in English I can remain more distant and objective. English as a whole (even in comparison to when I speak in Spanish) allows me to be more analytical and structured when presenting my arguments.”*

Although language is seen as a tool with which to express thoughts and feelings, the participant appears to be in a cycle of reciprocal emotional messaging when communicating with fellow nationals, which is shared practice where emotions are continuously being read off each other during a conversation. This forms an essential part of communicating in the heritage language. This is contrasted with English culture and the English language, which is, as in theme IV c) Language choice as a function of self-presentation, presented as a rational language. This might suggest that English, or more specifically, British culture and its communicative behavioural scripts controls emotionality and places more emphasis on the logical ordering of thought processes in communication.

#### **V c) Cultural expectations limit emotional expressiveness.**

A participant states that the expression of emotions is culturally accepted or discouraged.

*“Eu sinto que o inglês e falar com americanos a respeito de sentimentos ao ligeiramente diferente do que falar com brasileiros ou mesmo portugueses por diferenças culturais. A própria língua carrega expressões que representam um respeito A autonomia e individualidade em inglês mais do que em português. Em português no Brasil ha sempre uma premissa de que os sentimentos sao importantes e ouvidos aos parte da ligassao pessoal. Nos EUA sentimentos sao facilmente considerados “oversharing” ou inapropriados. Ha um elemento central de que americanos esperam que cada individuo seja mais independente e não querem carga emocional de outrem. No Brasil dividir aos mais aceitavel e previsto, significando ligacao emocional e camaradagem.”*



[Translation: "I feel that speaking to the British or Americans about feelings is slightly different than talking to Brazilians or even the Portuguese about cultural differences. The language itself bears expressions that represent a respect for autonomy and individuality in English. This is different in Portuguese. In Portuguese in Brazil there is always a premise that feelings are important and the listening to them is part of the interpersonal relationship. In the US, feelings are easily considered as being overshared or inappropriate. There is a central element that Americans expect each individual to be more independent and they don't want to be emotionally burdened by others. In Brazil [expressing emotions is accepted and expected], it demonstrates emotional bonding and comradeship."]

The participant compares and contrasts what is culturally accepted in, on the one hand, the US and the UK and, on the other hand, Brazil and Portugal. The participant points to different cultural expectations around the overt display of affect as well as to the taking seriously of emotions, which the participant regards as culturally defined and sanctioned. Whereas Brazilian culture takes feelings seriously and puts a high value on emotional bonding with others, American and British cultures are seen to be more individualistic, putting a different value on it, which is reflected in people's self-concept and different willingness to display emotionality.

*"Emotion-wise, I feel more natural to express myself when I speak English. When I speak Chinese to other Chinese people, I tend not to express my feelings or emotions. It's like a norm to hold your feelings to yourself while expressing too much in front of others is discouraged in China."*

The participant compares and contrasts cultural norms around the personal display of affect in China and English-speaking countries. The L2 is preferred because the host culture allows for a more open and public display of affect, which is in contrast, not condoned in the heritage culture. The deliberate use of the L2 for emotional display in the host country thus provides the participant with a space in which to experience, explore and appraise emotions more deeply. L2 use serves as a vehicle to allow considerably deeper cultural scripts that allow for more open behaviour in a host culture context that might be seen by some Chinese individuals as an act of self-realisation.

## **CHAPTER 4: DISCUSSION**

This study investigated the effects of culture and emotions on language choice in bilinguals. It aimed to answer 3 research questions:

Research question 1: Do culture and emotion affect language choice in bilinguals?

Research question 2: What culture-specific topics tend to arouse affect in bilinguals?

Research question 3: Does inducing bilinguals to communicate about a strongly emotional topic lead them to favour L1 or L2?

Reporting to the hypothesis of this study, as to whether bilinguals will favour speaking the language of the culture a discussion topic relates to, when experiencing strong affect caused by a discussion topic, a  $\lambda^2$ -test for all 4 conditions shows that there was a significant main effect of culture on language choice but no significant main effect of emotion on language choice. ANOVA results show that although there was no significant main effect of emotion and no significant interaction between culture and emotion on L1 and L2, there was a significant main effect of culture on L1 and L2. Results therefore partially confirm research question 1, which asked whether culture and emotion affect language choice in bilinguals. The research hypothesis was partially accepted, which stated that bilinguals will favour speaking the language of the culture a discussion topic relates to when experiencing strong affect.

By keeping the scope of culture broad, participants were invited to reflect on a large range of topics that have an impact on their language-switching. Participants either learned an L2 in their home countries and/or abroad, or were socialised in two or more languages. Bilingualism can result from migration, acculturation in a multilingual environment, or language learning from close relations or within a school context. Citing Dewaele (2005), one of the key factors that lead to bilingualism and L2 dominance is extended language practice, which for example can follow migration. In addition, Pavlenko (2005) states that L2 learning can involve emotional encoding and integration in memory, for example through the experience of autobiographic events in L2. This study did not explore the language learning trajectories of participants. Some participants in this study perceive their L2 or both languages as equally emotional. Participants mentioned speaking an L2 at home with spouses, family, friends as well as at work and at university. It is the context in which participants exist that provides them with opportunities for continued L2 practice.

Berry (2004) sees acculturation as a long-term process of cultural and psychological change and adaptation across generations of migrant offspring. Since 2000, the number of international migrants increased by 67% in 2017 (*UN DESA, 2017*) and the number of international students more than doubled (OECD, 2014) in Europe. One could argue that the scale of recent migration, conflicts and the economic crisis all put considerable pressure on migrants, forcing them to adapt, learn and change in order to achieve economic success, a situation which is likely to foster bilingualism. Sixty-seven percent of participants in this study use one language in the workplace or at university and 75.6% use their other language in the workplace or at university. The workplace is consequently an important space for acculturation to take place.

Participants entered individual words or short word combinations such as 'politics', 'people', 'food', 'tradition' and 'family'. This limited the qualitatively analysis of topics as they could not be contextualized in a way that would clarify a topic's meaning and scope. For example, a word entered as a topic such as 'politics' potentially conveys a multitude of meanings and it is impossible to say which aspect of politics makes participants emotional. Terms such as 'family' could be viewed as

positive or negative, depending on participant's personal experience. Therefore, assumptions had to be made about how to categorise a topic. In the absence of context, parsimony was used as the approach to organising themes into either broader or narrower terms. This meant that as little assumptions as possible were made about what a topic means. Topics were contextualised by organising them in a two-tier taxonomy with general terms and child terms. For example, terms such as 'language', 'food' and 'the arts' were organised under 'culture and language'. Words such as 'family' and 'food' were assumed to have a positive valence. A future study could either request that participants briefly describe topics or request that participants specifically enter positive and negative topics to avoid having to make assumptions about the valence of words.

Another aspect that limits interpretation relates to the extent and content of comments participants provided about their language use. The length of comment fields was set to 50 characters to encourage participants to reflect on and provide some examples of their language use. This approach worked well because participants' comments provided some details but comments varied in length, detail and depth. This limits in some cases the interpretation of what can be said about reasons for language-switching. For example, although many participants state that they regard L1 and L2 as equally emotional, one ought to question whether and to what extent feelings caused by language-processing can elude consciousness, be verbalised, consciously experienced and reasoned about, which limits the scope of interpretation. It could be that participants mistake language proficiency with embodied language. Or participants might believe that their emotions are the same but in fact emotions might register differently at the level of physiological reactions. Other researchers have used measurement of physiological reactions (Harris, 2004), which allows for capturing what participants might otherwise not be aware of, and which thus provides additional opportunities for analysis.

In answering research question 2, which asked what culture-specific topics tend to arouse affect in bilinguals, what emerged from the analysis of topics is that individual differences play a considerable part in what people perceive to be emotional topics. For example, participants entered topics such as history, people, language, culture, crisis and food as T1s whereas others entered them as T5s. These examples also show that perceived emotionality as well as the importance of issues that participants attributed to a topic ranged widely across all topics because different participants entered the same word(s) such as 'people' or 'culture' as either a T1, T2, T3, T4 or T5. Therefore, results suggest that no definitive topics exist that would make participants necessarily emotional to the same degree.

Participants tended to think on the whole of topics with a positive, rather than negative valence. Examples for topics with a positive valence are friendliness, British humour and tolerance. These contrast with topics that have a negative valence such as crisis, racism and discrimination. The reason for more positive than negative topics could perhaps stem from the way participants define culture for themselves. Asking participants to consider topics that relate to their culture and make them emotional however also inevitably requests that participants present a scope of issues that they regard

as personally relevant. For the purpose of this study, culture was loosely defined as the 'culture of one of the two countries whose language the participant speaks, its people, government, and the country as a whole'. Participants were thus invited to make sense of culture in broadest terms possible and many defined for themselves culture to broadly mean social and artistic life. The top categories for all T1s and all T1s to T5s were Social Life and Culture and Language, which were similarly ranked, which suggests that one's personal social and cultural issues matter to participants in more homogeneous ways. Participants entered terms as social topics such as: people, relationships, visiting family, and gay marriage. Examples for cultural topics participants entered are: movies, music, poetry, humour and carnival. Behind these categories ultimately lie many socially shared activities that are perceived and encoded as emotional and give participants valued, meaningful experiences such as visiting the family, going to the movies with friends, and the ability to relate to others emotionally. These activities take place in public or private spaces such as one's home or workplace. They thus imply the selection of interlocutors with whom events and discussion topics are shared. Categories such as Rights & Entitlement, Politics and the Economy & Socio-economic Situation refer to topical issues that typically affect migrants such as racism, discrimination, unemployment, poverty and homophobia. These categories came out low in counts of all topics perceived as emotional by participants (tables 5 and 6). This might be a result of the composition of the participants in this study.

The majority of participants has a university degree and is female. This suggests that male migrants and also migrants with secondary school or no school qualifications are less represented in this study. This narrows the results of this study because the views of migrants whose life situation might be considerably impacted on by issues such as racism, discrimination, and unemployment may have been missed out.

Another aspect of the research asserts places and contexts in which people meet. They point to conditions and situations in which communication occurs. Participants named as reasons for language-switching in addition also: memory encoding, embodiment, context of language use that impact on the use of languages and on the expression of emotions in bilinguals. These factors are considered next.

Context affects both, language choice and discussion topic. Context emerged in this study as a key factor that affects language choice since similar numbers of participants uses L1 and L2 within the family and with friends. Context affects communicative behaviour in a variety of ways. Context, from a SIT perspective provides for social spaces, mutual support and the fulfilment of people's need to relate to others with members of the group with whom one has most in common. Context inevitably also affects choice of discussion topics. Participants report that they discuss personal and emotional topics in either language at home with family and friends.

In line with existing research (Marcos, 1976; Rozensky and Gomez, 1983, Schrauf, 2002, Pavlenko and Dewaele, 2004, Marian & Kaushanskaya, 2004), this study found that memory encoding plays a crucial part in the perception of language and a bilingual's sense of self. Language is the medium used to reflect on self-relevant issues that impact on one's identity, matters of personal importance and view of self (Charles Marcrum II, 2007) and language can trigger emotional states (Chentsova-Dutton Y-E., 2010, Panayiotou A., 2004). This is because individuals' lifetime learning trajectories lead to distinct memory representations that connect language(s), events and emotions in memory at the encoding and retrieval stages, which leads to a strong sense of embodiment (Pavlenko, 2005) and affect language choice (Marian & Kaushanskaya, 2004; Schrauf, 2002). Since topics and their memories are bidirectional in terms of retrieval from memory (Pavlenko, 2005), autobiographic events that touch on one's sense of self have the potential for eliciting powerful sensations that in bilinguals that could perhaps serve as a mechanism for switching languages (Schrauf, 2000). A participant gave the example of being reminded of his past bilingual American-Greek identity when talking to fellow Greek-American bilinguals, which made him proud of his heritage. This was after the participant had lived in Greece for most of his life. Here, identity, culture, language and emotions are inextricably linked when processed cognitively and emotionally.

A further point is that emotional memories of the self and past events were brought up through interaction with fellow biculturals. In this case, it is the talking about shared aspects of interlocutors' bicultural identity in the language of encoding, that aroused strong emotions in this particular situation. Here, remembering autobiographic events from childhood in English, the L2 used at the time of encoding, arouses strong embodied sensations even decades later. A further point is that the person's view of his heritage culture and identity is positively remembered. In people who experienced migration, memories can bring back – perhaps - forgotten aspects of the bicultural self when explored in the L2. It illustrates that memories can still have a powerful emotional impact on how the self is viewed and positioned, even decades after having migrated. It appears that childhood memories and views of the self can in some individuals be persistent even after having spent one's life mostly abroad.

Citing Pavlenko (2005), L1 language learning as well as autobiographic events that are verbalised and reasoned about are better contextualised in memory in young learners, and also better remembered and experienced as embodied. The same mechanism should work for any language learnt in early life. Participants state that childhood memories produce strong affect in their languages and that a principal reason for language-switching is the experience of strong feelings about a topic in both of their languages. Many participants suggested that they prefer their L1 in the home to talk about private and personal issues. This is in line with research, which states that L1 is the more emotional language (Marcos, 1976; Rozensky and Gomez, 1983) and was expected in this study.

The opposite is however also true. The family home as a place for language practice provides a safe space for discussing intimate and personal topics that the relationship between family members affords. The family home thus acts as an enabler of private and personal communication. Whereas some participants state that they prefer the L1 to discuss personal matters with friends and family at home, others who live with foreign partner or with bilingual family members prefer the L1 and / or the L2, which means that language switching takes place at home for those participants. As stated above, several participants said that they perceive their L2 as their most emotional language or that they perceive both languages as equally emotional. For example, one participant said that she became fluent in her spouse's language over time. This was after having lived with a partner who speaks an L2 and an L3 and both partners had learned each others' languages over many years to the extent that they communicate in all 3 languages, switch without noticing and use them interchangeably for any topic. This was described by the participant as having developed their own language system, and that the habitual language-switching in 3 different languages allows for efficient memory search and retrieval of lexis. The theme of search and retrieval efficiency was a unexpected outcome in this study, which was raised by 9% of participants. It means that apart from experiencing one's language(s) as emotional, participants judged language switching as playing an important part in efficient communication. Here, participants place emphasis on finding the right words and expressions and to that end, it does not matter, which language is being used as long as the interlocutor understands. Code-switching here enables the pooling of lexical resources to achieve efficient retrieval of lexis from memory. Although the perception of emotionality of topics does not play a role here, the above examples however illustrates that living with a long-term bilingual partner or in a bilingual family provides for extended language practice. There is consequently much scope for the discussion of personal and intimate discussion topics and the sharing of life events, which are emotional encoded. Using one's L2 at home with a spouse and / or family thus provides opportunities for continued language practice and emotional encoding of life events, which have the potential for making the L2 dominant in terms of proficiency and in terms of the perception of language as experienced emotionally. One participant said that it took 5 years for the L2 to become dominant in terms of language fluency and perceived emotionality. The examples dispel the notion that only one language can be dominant. These research findings thus supports Dewaele (2004) and Pavlenko (2005) who state that L2 can become a dominant, emotional language. Participants in this study not only talked about L2 acquisition in childhood but also about L2 acquisition in adulthood following migration. This study finds that living with a bi- or multilingual partner or in a bilingual family can provide opportunities for extended L2 practice, which over time impacts on language proficiency, dominance and perception of emotionality of the L2. This confirms results by Dewaele and Salomidou (2016) who found that long-term relationships led to affective socialisation in an L2 which was experienced as emotional.

In answering research question 3, as to whether the inducing of bilinguals to communicate about an emotional topic leads them to favour L1 or L2, this research found that culture plays an important part in language choice. A variety of examples are presented next to explore the impact of

culture on language choice. Whereas 12% of participants state that they would prefer to use L1 to discuss issues relating to the L1 country, 7% of participants state that they would prefer to use L2 to discuss issues relating to the L2 country. One participant stated that when a topic is strongly linked to the country it is more natural for the participant to speak the language of the country (participant spent 38 years abroad). Another participant prefers to talk about family values in English because they were conveyed to the participant in that language (participant spent 15 years abroad). Furthermore, a participant said that it would be normal to switch to the Spanish L2 when talking about a Chilean topic and to switch to the German L1 when talking about a Swiss topic (participant spent 10 years abroad). The above examples suggest that long-term L2 practice and cultural exposure affect language dominance and emotionality. Future studies could include variables such as length of time spent in an L2 country, amount of L2 practice, and L2 speaking context in order to research their effect on L2 dominance and L2 emotionality. Incidental feedback from highly proficient bilinguals stated that it is simply normal to switch languages, which can happen for no apparent reason. This might be particularly true for bilinguals who live in a multilingual environment where it is the norm to switch languages because both languages are available and thus represent a larger pool of lexical resources to use. This study did not specifically ask for the conditions under which language switching is practised. One could argue that in countries where it's normal to speak two or more languages and where people do have a high level of language proficiency, that these circumstances act as precursors for language switching. Future studies could investigate to what extent the emotionality of discussion topics plays a role in language-switching in multilingual environments where language-switching is common.

In addition to memory encoding, embodiment, and context of language use, participants also mentioned social purposes and cultural script that affect language use, which are explored next. Language choice is not only the act of choosing a language for communication between two or more interlocutors. As this study shows, language choice entails a deliberate act of a speaker to evaluate and appraise languages for their affect potential on an interlocutor. Choice of language allows a speaker to present himself or herself in a particular way in order to achieve a specific communicative outcome. Three participants in this study consider which aspect of their cultural selves they want to display to an interlocutor. One example is that of a participant who considers English to be a rational language and Italian to be attached to a playful and childish, emotionally involved cultural self. Dependent on the situation, the participant uses the English L2 to display e.g. one's rational side or the Italian L1 to display one's emotional side. Culture carries expectations about what is deemed acceptable communication. Cultural scripts thus not only affect language choice in terms of what and how a topic is expressed but also in terms of using language to perform affective roles. Using the L1, the speaker can tap into his or her cultural understanding to convey an Italian or English self in order to be seen in a particular light.

Evaluation and appraisal of host and heritage cultural ways of doing things as well as self-presentation demand a high level of metalinguistic and normative knowledge for it to be used strategically. This works best if the interlocutor has also got a shared understanding of Italian culture, stereotypes and expectations around what characteristics could be attributed to a typical Italian, which could then be used by the speaker to play into those expectations. Language use here is tantamount to the performance of cultural aspects of the self to gain a communicative effect. The playing of one's Italian self would justify the use of cultural scripts that allow for the overt display of emotions much more than English would because it's not culturally expected in England to the same degree.

Using a language for its affect also creates a free space in which the display of emotions is culturally acceptable. The use of emotive language here would also enable the speaker to be Italian, feel Italian. The embodied experience of emotional language allows the speaker to enact a side of self in culturally affective ways. Cultural norms and group norms encourage or discourage the display of emotions. This affects many aspects of the self, such as praxis, gestures, expressiveness, which are performed in culturally accepted ways. For participants from cultures with social norms that restrict the display of emotions, the use of L2 can create a social and personal space that allows for the self to express and experience emotions that would otherwise not be possible in the L1 of one's heritage language.

## **4.2. Conclusion**

In conclusion, this study investigated whether culture and emotion affect language choice in bilinguals, what culture-specific topics tend to arouse affect in bilinguals, and explored whether bilinguals prefer to communicate about a strongly emotional topic lead them to favour L1 or L2. Reporting to the hypothesis of this study, as to whether bilinguals will favour speaking the language of the culture a discussion topic relates to, when experiencing strong affect caused by a discussion topic, a significant main effect of culture on language choice was found. Topics that are perceived by participants as highly emotional and that touch on aspects of their culture relate to Social Life and Culture & Language. The research hypothesis stated that when experiencing strong affect caused by a discussion topic that relates to one of the cultures of a bilingual, bilinguals will favour speaking the language of the culture a discussion topic relates to. This study found that individual differences play a considerable part in what people perceive to be emotional topics. Participants vary considerably in terms of topics they consider emotional and important. No definitive topics exist that would make participants necessarily emotional to the same degree. The majority of participants doesn't always speak one or the other language, which suggests that most bilingual participants in this study engage in language-switching. A majority uses the L2 in the workplace or at university and also think in the L2. This points to the role of workplace and perhaps university as being important places for language practice and acculturation. This study supports findings by Dewaele (2005) who states that one of the



key factors that lead to bilingualism and L2 dominance is extended language practice. This study also supports findings by Pavlenko (2005) who states that an L2 can become an emotional language. Findings specifically point to the family home and the sharing of one's life with a partner and family as contexts, which allow for the continued practice and the emotional encoding of life events in an L2 that can ultimately lead to L2 dominance.

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## **Appendices**

Appendix A: Reasons for language switching taxonomy

Appendix B: Topic types taxonomy

Appendix C: Psychological Acculturation Scale (PAS)

Appendix D: Frequency of language-switching

Appendix E: Portuguese language questionnaire

Appendix F: English language questionnaire

Appendix G: Countries of birth of participants

Appendix H: Countries in which participants currently live

Appendix I: Participants' L1

Appendix J: Countries participants associate with their L1 and L2

Appendix K: Range of years participants spent either abroad or in a place / country in which two or more language are spoken

Appendix L: Participants' L2

Appendix M: Participants' highest educational qualifications

Appendix N: Emotional topics each participant provided

Appendix O: Categories and category frequencies

Appendix P: Word type and valence for all topics

Appendix Q: Counts of categories of emotional topics

## **Appendix A: Reasons for language switching taxonomy**

### Communicative intention & outcomes

- Good social relations & in-group acceptance
- Identity & group association
- Language choice as a function of self-presentation
- Language choice depends on cultural expectations
- Language choice to give interlocutor affective experience
- Use of L1 for personal topics & to convey intimacy

### Embodied experience of language

- Intense feelings prompt use of L1
- Intense feelings prompt use of L2
- L1 is emotional language
- L1 L2 both equally emotional languages
- The arts and language produce strong affect
- Stronger affect in L1 than in L2
- Stronger affect in L2 than in L1
- Emotional distancing
- L2 is emotional language

### Language comfort

- Feeling comfortable with both languages
- L1 comfort
- L2 comfort

### Language dominance

- L1 dominance over L2
- L2 dominance over L1

### Language preference

- L1 L2 both equally preferred for expressing feelings
- L1 L2 both equally preferred for expressing thoughts
- L1 preference for expressing feelings
- L1 preference for expressing thoughts
- L2 preference for expressing feelings
- L2 preference for expressing thoughts

Topic cues language

L1 topic best discussed in L1

L2 topic best discussed in L2

Language choice depends on context and interlocutor

L1 use with family

L1 use with friends

L1 use at work & uni

L1 use with fellow nationals

L2 use with family

L2 use with friends

L2 use at work & uni

L2 use with fellow nationals

Language-switching with other known bilinguals

Language choice depends on interlocutor



## **Appendix B: Topic types taxonomy**

Crises, disasters & atrocities

Culture & language

- The arts & artistic expression

- Culture

- Food

- Language

- Multiculturalism

- Multilingualism

- Symbols

- Traditions

Ecology & environmental issues

Education

Economy & socio-economic situation

Enforcement

Emotions

History

Lifestyles

Places of personal significance

- The arts & cultural events related places

- Home

- Nature & rural places

- Places of religious worship

- Urban places

Politics

Religion

Rights & entitlement

- Entitlement & access to resources

- Infringement of personal rights & entitlement

- Personal rights

Social life

- Social issues

- Social values & attitude

- Social life and social relations

Well-being

Science

## Appendix C: Psychological Acculturation Scale (PAS)

Note: The questions below were taken from and modified from the PAS. Only questions that capture socio-demographic and immigration history data were used in this study. The PAS was retrieved from: [http://vtaras.com/wp-content/uploads/2015/11/Acculturation\\_Survey\\_Catalogue.pdf](http://vtaras.com/wp-content/uploads/2015/11/Acculturation_Survey_Catalogue.pdf)

Questions in this study (based on PAS):

**Question:** sex Sex:

male (1)

female (2)

**Question:** income

Monthly household income (approx.):

**Question:** In which country do you currently live? (1)

**Question:** What is your monthly income approximately (for one person)? (2)

**Question:** Highest level of education achieved:

primary school (1)

secondary school (2)

some college (3)

university degree (4)

**Question:** Name two languages you're most comfortable speaking.

If you speak more than 2 languages, then choose the two you're most comfortable with.

One of them might be the language your parents spoke to you in or that of the country you grew up in.

Language 1 (6) \_\_\_\_\_

Language 2 (27) \_\_\_\_\_

**Question:** What country do you connect with Language 1?

**Question:** If you lived in \${Q78/ChoiceTextEntryValue}, indicate for how long (in years, type 0 if you haven't)

**Question:** What country do you connect with Country 1?

**Question:** If you lived in Country 1, indicate for how long (in years, type 0 if you haven't)

**Question:** BirthCtry What is your country of birth?

**Question:** Are your parents and grandparents from BirthCtry?

Yes (1)

No (2)

Don't know (3)

**Question:** Mother born in BirthCtry?

**Question:** Father born in BirthCtry?

**Question:** Both grandparents (mother's side) born in BirthCtry?

**Question:** Both grandparents (father's side) born in BirthCtry?

## Appendix D: Frequency of language-switching

Table: Frequency of language-switching

Never	Sometimes	About half the time	Most of the time	Always
4	44	18	16	5

## Appendix E: Portuguese language questionnaire

Q66

Muito obrigado por participar nesta pesquisa .

Esta pesquisa investiga emoções que as pessoas bilingues experimentam quando conversam com amigos e familiares. As perguntas serão sobre o uso dos seus idiomas, tópicos de discussão e sobre como se sente ao conversar com pessoas que lhe são próximas. Durante esta pesquisa poderá ser levado a reflectir sobre situações com uma carga emocional forte.

O questionário levará cerca de 12 minutos a preencher. A participação é confidencial e anónima. Poderá desistir da pesquisa em qualquer ponto. Os seus direitos de anonimato e confidencialidade são totalmente respeitados.

Se tem 18 anos de idade ou mais e concorda em participar dessa pesquisa, verifique a opção de concordância abaixo para dar o seu consentimento e pressione o botão '->' para começar a pesquisa.

- Concordo (1)
- Discordo (2)

Q66 É bilingue?

- Sim (1)
- Não (2)

ethnicity Digite dois idiomas que está mais confortável falando.

Se fala mais de 2 idiomas, escolha os dois com os quais se sente mais à vontade.

Um deles pode ser o idioma que seus pais falaram com você ou pode ser o idioma do país em que você cresceu.

Língua 1 \_\_\_\_\_

Língua 2 \_\_\_\_\_

Q78 Que país se conecta com  $\${ethnicity/ChoiceTextEntryValue/6}$ ?

\_\_\_\_\_

Q79 Se morava em  $\${Q78/ChoiceTextEntryValue}$ , indique por quanto tempo (em anos, digite 0 se não tiver)

\_\_\_\_\_

Q80 Que país se conecta com  $\${ethnicity/ChoiceTextEntryValue/27}$ ?

\_\_\_\_\_

Q81 Se morava em  $\${Q80/ChoiceTextEntryValue}$ , indique por quanto tempo (em anos, digite 0 se não tiver)

\_\_\_\_\_

BirthCtry Qual é o seu país de nascimento?

Q82 Seus pais e avós são da/do/os BirthCtry?

	Sim (1)	Não (2)	Não sei (3)
Mãe nascida em			
BirthCtry?			
Pai nascido em			
BirthCtry?			
Avós (lado da mãe)			
nascidos em BirthCtry?			
Avós (lado do pai)			
nascidos em BirthCtry?			

Q42 Que tópicos relevantes para a cultura de/do/da **culture**, as pessoas, o governo ou o país, **lhe tocam mais?** Liste tantos tópicos quantos puder (mínimo de 3), do mais emocional ao menos emocional.

Topic 1 \_\_\_\_\_  
Tópico 2 \_\_\_\_\_  
Tópico 3 \_\_\_\_\_  
Tópico 4 \_\_\_\_\_  
Tópico 5 \_\_\_\_\_

Q69 Considere o tópico \${e://Field/topic}.

Em que idioma acha que poderia expressar melhor seus sentimentos por esse tópico?

\${ethnicity/ChoiceTextEntryValue/6} (1)

\${ethnicity/ChoiceTextEntryValue/27} (2)

em ambas as línguas igualmente (3)

Q83 Quão fácil foi decidir sobre uma linguagem na qual expressar seus sentimentos pelo tópico \${e://Field/topic}? Por favor comente:

\_\_\_\_\_  
\_\_\_\_\_

Q78 Por vezes, os bilingues mudam de idioma durante uma conversa. Pode falar-me de uma situação em que tenha trocado de idioma? Qual foi o assunto? Quais foram os fatores que acredita terem-no levado à mudança de idioma?

---

---

Q85 Com que frequência muda de idioma quando está conversando com amigos, colegas ou familiares bilíngües?

	Nunca (1)	As vezes (2)	Cerca de metade do tempo (3)	A maior parte do tempo (4)	Sempre (5)
Frequência de troca de idioma					

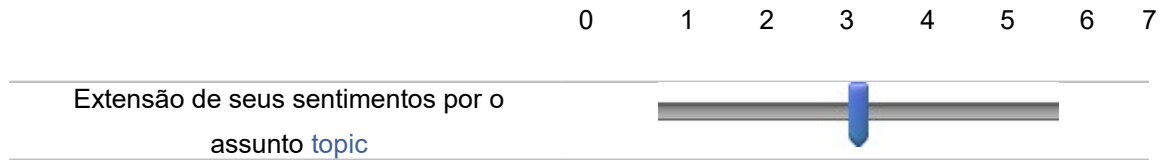
Q86 Com que frequência fala seus idiomas?

	Nunca (1)	As vezes (2)	Cerca de metade do tempo (3)	A maior parte do tempo (4)	Sempre (5)
Com que frequência fala					
Language 1? Com que frequência fala					
Language 2)?					

Q87

Imagine que está falando com alguém sobre o assunto **topic** em **language1**.

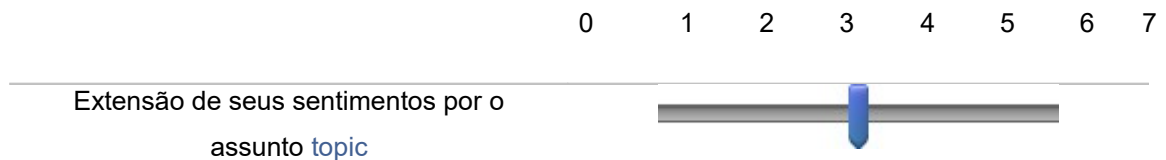
Quanto acha que poderia expressar seus sentimentos sobre **topic** em **language1**?



Q88

Imagine que está falando com alguém sobre o assunto **topic** em **language2**.

Quanto acha que poderia expressar seus sentimentos sobre **topic** em **language2**?



Q71 Acha que fala mais naturalmente em **language1** ou **language2** quando está a sentir algo forte por alguém / alguma coisa? Por favor comente:

---

---

---

Q89 A **qualidade de seus sentimentos** seria **exatamente a mesma**, independentemente de os ter expressado em **language1** ou **language2** ao falar sobre o tópico: **topic**? Por favor comente:

---

---

---



langParents Forneça apenas informações sobre os línguas que pode falar.

língua	línguas	línguas	os seus	línguas	línguas	línguas	língua	língua
s que	línguas	que os	pais	s	em que	que	s em	s que
fala	que lê	seus	falam/fa	falada	em que	fala	que vê	fala
(1)		pais	lavam	s em	pensa	com os	TV	no
		falam	com os	casa		amigos		trabal
		consigo	pais					ho ou
			deles					na
								univer
								sidad
								e?

Langua

ge1

langua

ge2

Outros

Q19 Os seus melhores amigos são: (portugueses, cabo-verdianos, ou outras nacionalidades)?

---

Start of Block: The Psychological Acculturation Scale (PAS) (Tropp et al.,1999)

Q24 Com que grupo(s) de pessoas sente que compartilha a maioria das suas crenças e valores?

Q25 Com que grupo(s) de pessoas sente que tem mais em comum?

---

Q70 Com qual (s) grupo (s) sente mais confortável?

---

Q28 De que cultura(s) se sente orgulhoso de fazer parte?

---

Q29 Em que cultura(s) sabe como as coisas são feitas e sente que pode fazê-las facilmente?

---

Q30 Em que cultura(s) está confiante de que sabe como agir?

---

Q31 Na sua opinião, que grupo(s) de pessoas compreende melhor?

---

Q32 Em que cultura(s) sabe o que se espera de uma pessoa em diferentes situações?

---

End of Block: The Psychological Acculturation Scale (PAS) (Tropp et al.,1999)

Q31 Qual o seu nível de preferência em falar a língua de/do/da ethnicity1?

Prefiro totalmente (1)

Prefiro muito (2)

Prefiro razoavelmente (3)

Prefiro um pouco (4)

Não prefiro (5)

Q32 Qual o seu nível de preferência em falar a língua de/do/da ethnicity2?

Prefiro totalmente (1)

Prefiro muito (2)

Prefiro razoavelmente (3)

Prefiro um pouco (4)

Não prefiro (5)

Q74 Qual o seu nível de interesse pelo que acontece em/no/na \${Q78/ChoiceTextEntryValue}?

Extremo (1)

Bastante (2)

Moderado (3)

Reduzido (4)

Nulo (5)

Q76 Qual

o seu nível de interesse pelo que acontece em/no/na \${Q80/ChoiceTextEntryValue}?

Extremo (1)

Bastante (2)

Moderado (3)

Reduzido (4)

Nulo (5)

sex Sexo:

masculino (1)

feminino (2)

Rendimento mensal (aproximadamente):

Que país mora atualmente? (1) \_\_\_\_\_

Qual é a sua renda mensal aproximadamente para uma pessoa? (2) \_\_\_\_\_

Q73 Nível de educação mais elevado obtido:

primary school (1)

escola secundária (2)

colégio (3)

diploma universitário (4)

## Appendix F: English language questionnaire

Q66

Many thanks for participating in this research.

This research investigates emotions that bilinguals like you experience when talking with people close to them. The

questions will ask about your use of your languages, discussion topics and how you feel when discussing emotionally charged topics.

The questionnaire takes about 12 minutes to complete. Participation is confidential and anonymous. You have the right to withdraw from the research at any point. Your rights to anonymity and confidentiality are fully respected.

This research seeks adult participants aged 18 or over. If you agree to take part in this survey, and you're aged 18 or over, please check the agree option below to give consent and hit the '->' button (below) to begin the survey.

Agree (1)

Disagree (2)

End of Block: Informed Consent

Start of Block: Benet-Martinez Acculturation Scale (2006) questions

Q66 Are you bilingual?

Yes (1)

No (2)

ethnicity Name two languages you're most comfortable speaking.  
If you speak more than 2 languages, then choose the two you're most comfortable with.

One of them might be the language your parents spoke to you  
in or that of the country you grew up in.

Language 1 (6) \_\_\_\_\_

Language 2 (27) \_\_\_\_\_

Q78 What country do you connect with ethnicity1?

\_\_\_\_\_

Q79 If you lived in [country1](#), indicate for how long (in years, type 0 if you haven't)

\_\_\_\_\_

Q80 What country do you connect with [ethnicity2](#)?

\_\_\_\_\_

Q81 If you lived in [country2](#), indicate for how long (in years, type 0 if you haven't)

\_\_\_\_\_

BirthCtry What is your country of birth?

\_\_\_\_\_

Q85 Are your parents and grandparents from BirthCtry?

	Yes	No	Don't know
Mother born in BirthCtry?			
Father born in \$BirthCtry?			
Both grandparents (mother's side) born in BirthCtry?			
Both grandparents (father's side) born in BirthCtry?			

Q42 Think about topics relevant to the culture of \${e://Field/culture}, the people, government, or country, **that make you emotional**. List as many topics as you can (minimum of 3), from the most emotional to the least.

- Topic 1 \_\_\_\_\_
- Topic 2 \_\_\_\_\_
- Topic 3 \_\_\_\_\_
- Topic 4 \_\_\_\_\_
- Topic 5 \_\_\_\_\_

Q83

Consider topic **topic**. In what language do you think you could best express your feelings for this topic?

Language1 (1)

Language2 (2)

in both languages equally (4)

Q69 How easy was it to decide on a language in which to express your feelings for topic: **topic**?

Please comment.

---

---

Q78 Bilinguals sometimes change languages within a conversation.

Can you tell me about a situation when you switched languages?

What was the topic? What factors do you think lead to the switch?

---

---

---

Q86 How often do you switch languages when you're talking to bilingual friends, colleagues or family members?

	Never (16)	Sometimes (17)	About half the time (18)	Most of the time (19)	Always (20)
Frequency of language switching:					

Q87 How often do you speak your languages?

	Never (9)	Sometimes (10)	About half the time (11)	Most of the time (12)	Always (13)
How often do you speak <a href="#">Language1?</a>					
How often do you speak <a href="#">Language2</a>					

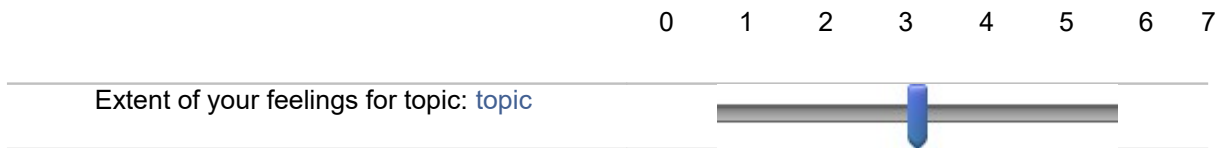
Q64 Imagine you're talking to someone about topic: **topic** in **Language1**.

**How much** do you think you **could express your feelings** about **topic** in **Language1**?



Q76 Imagine you're talking to someone about topic: **topic** in **Language2**.

**How much** do you think you **could express your feelings** about **topic** in **Language2**?



Q84 Would the **quality of your feelings** be **exactly the same** regardless of whether you expressed them in **Language1** or in **Language2** when talking about **topic**? Please comment:

---

---

---



langParents Please provide only information about the languages you speak fluently.

			languag				lang
			e your				uage
langua	languag	languag	parents	languag	langua	languag	you
ge you	e you	e your	use(d)	e	ge you	e you	spea
speak	read in	parents	with	spoken	think in	speak	k in
(1)	(2)	to you	their	at home	(6)	with	the
		in (3)	parents	(5)		friends	work
			(4)			(7)	plac
							e or
							at
							univ
							ersit
							y (9)

Langu  
age1  
Langu  
age2  
Any  
other  
additi  
onal  
langu  
age  
you  
speak  
fluentl  
y?

Q19 Your close friends are: [country1](#), [country2](#) or other nationalities?

---

---

Start of Block: The Psychological Acculturation Scale (PAS) (Tropp et al.,1999)

Q24 With which group(s) of people do you feel you share most of your beliefs and values?

---

Q25 With which group(s) of people do you feel you have the most in common?

---

Q70 With which group(s) of people do you feel the most comfortable?

---

Q28 Which culture(s) do you feel proud to be a part of?

---

Q29 In which culture(s) do you know how things are done and feel that you can do them easily?

---

Q30 In which culture(s) do you feel confident that you know how to act?

---

Q31 In your opinion, which group(s) of people do you understand best?

---

Q32 In which culture(s) do you know what is expected of a person in various situations?

---

End of Block: The Psychological Acculturation Scale (PAS) (Tropp et al.,1999)

Q31 How much do you enjoy speaking [Language1](#)?

Enjoy a great deal (1)

Enjoy a lot (2)

Enjoy a moderate amount (3)

Enjoy slightly (4)

Do not enjoy (5)

Q32 How much do you enjoy speaking [Language2](#)?

Enjoy a great deal (1)

Enjoy a lot (2)

Enjoy a moderate amount (3)

Enjoy slightly (4)

Do not enjoy (5)

Q74 How

much are you interested in what is happening in [country1](#)?

A great deal (1)

A lot (2)

A moderate amount (3)

A little (4)

None at all (5)

Q76 How

much are you interested in what is happening in [country2](#)?

A great deal (1)

A lot (2)

A moderate amount (3)

A little (4)

None at all (5)

sex Sex:

male (1)

female (2)

income            Monthly household income (approx.):

---

In which country do you currently live? (1)

---

What is your monthly income approximately (for one person)? (2)

---

Q73 Highest level of education achieved:

primary school            (1)

secondary school        (2)

some college            (3)

university degree        (4)

## Appendix G: Countries of birth of participants

**Participants' birthcountries:**

	Frequency	Percent
Australia	1	1.1
Austria	2	2.2
Azerbaijan	1	1.1
Belgium	3	3.3
Brazil	3	3.3
Bulgaria	1	1.1
Burkina Faso	1	1.1
Canada	3	3.3
Catalonia	1	1.1
China	3	3.3
Colombia	1	1.1
Cote d'Ivoire	1	1.1
Denmark	1	1.1
Finland	1	3.3
France	3	6.7
Germany	6	5.6
Greece	5	1.1
Guatemala	1	1.1
India	1	2.2
Iran	2	4.4
Italy	4	1.1
Jerusalem	1	2.2
Mozambique	2	1.1
Norway	1	2.2
Poland	2	7.8
Portugal	7	1.1
Republic of Ireland	1	2.2
Romania	2	4.4
Spain	4	10.0
Switzerland	9	1.1
Tajikistan	1	2.2
The Netherlands	2	1.1
Tunisia	1	1.1
Turkey	1	4.4
UK	4	5.6

USA	5	1.1
Venezuela	1	100.0
Yugoslavia	1	
Total	90	

#### Appendix H: Countries in which participants currently live

		Country of current residence	
		Frequency	Percent
Valid	Australia	1	1.1
	Belgium	3	3.3
	Canada	4	4.4
	France	2	2.2
	Germany	3	3.3
	Greece	6	6.7
	Greek	1	1.1
	India	1	1.1
	Kenya	1	1.1
	NA	2	2.2
	Poland	1	1.1
	Portugal	13	14.4
	Romania	2	2.2
	Spain	4	4.4
	Switzerland	22	24.4
	The Netherlands	18	20.0
	UK	4	4.4
	USA	90	100.0
	Total		

## Appendix I: Participants' L1

		Language 1	
		Frequency	Percent
Valid	Arabic	1	1.1
	Bulgarian	1	1.1
	Catalan	1	1.1
	Chinese	3	3.3
	Croatian	1	1.1
	Dutch	2	2.2
	English	17	18.9
	Finnish	1	1.1
	Flemish	1	1.1
	French	10	11.1
	German	13	14.4
	Greek	7	7.8
	Italian	4	4.4
	Kurdish	1	1.1
	Norwegian	1	1.1
	Odia	1	1.1
	Polish	2	2.2
	Portuguese	12	13.3
	Romanian	2	2.2
	Russian	1	1.1
	Spanish	7	7.8
	Turkish	1	1.1
	Total	90	100.0

Note: this is the first of two languages entered by participants

**Appendix J: Countries participants associate with their L1 and L2**

	country associated with L1		country associated with L2	
	country1		country2	
	Frequency	Percent	Frequency	Percent
All others than Poland			1	1.1
Argentina			1	1.1
Australia			1	1.1
Austria	1	1.1	1	1.1
Azerbaijan	1	1.1		
Belgium	4	4.4	2	2.2
Brazil	4	4.4	2	2.2
Bulgaria	1	1.1		
Burkina Faso			1	1.1
Canada	2	2.2	2	2.2
Catalonia	1	1.1		
Chile			1	1.1
China	3	3.3		
Colombia	1	1.1		
Cote d'Ivoire	1	1.1		
Croatia	1	1.1		
Finland	1	1.1		
France	2	2.2	7	7.8
Germany	6	6.7	3	3.3
Greece	6	6.7	3	3.3
Guatemala	1	1.1		
India	1	1.1	1	1.1
Iran	1	1.1	2	2.2
Italy	4	4.4	1	1.1
Latin America			1	1.1
Middle East	1	1.1		
None	1	1.1		
Norway	1	1.1		
Peru	1	1.1		
Poland	2	2.2		
Portugal	8	8.9	2	2.2
Republic of Ireland	1	1.1	4	4.4
Romania	2	2.2		
Spain	5	5.6	1	1.1
Switzerland	10	11.1	8	8.9
The Netherlands	1	1.1	1	1.1
Tunisia	1	1.1	1	1.1
Turkey	1	1.1		
UK	5	5.6	25	27.8
USA	8	8.9	17	18.9
Total	90	100.0	90	100.0



**Appendix K: Range of years participants spent either abroad or in a place / country in which two or more language are spoken**

<b>country1</b>	<b>Duration Country1</b>	<b>country2</b>	<b>Duration Country2</b>	<b>time abroad</b>	<b>birthCtry</b>
Germany	25	UK	2	2	Germany
Poland	30	USA	0	0	Poland
China	25	USA	2	2	China
Italy	26	Australia	5	5	Italy
US	0	Switzerland	15	15	Germany
Italy	25	UK	4	4	Italy
The Netherlands	26	Republic of Ireland	0	0	The Netherlands
Turkey	30	Belgium	4	4	Turkey
Spain	20	UK	15	20	UK (England)
Greece	24	Republic of Ireland	2	2	Greece
Greece	18	UK	4	4	Greece
Germany	0	Republic of Ireland	18	0	Republic of Ireland
Spain	26	UK	4	4	Spain
USA	4	Switzerland	31	35	Venezuela
Colombia	25	USA	0	0	Colombia
Switzerland	32	UK	1	1	Switzerland
Portugal	24	Scotland	24	24	Portugal
Germany	35	Argentina	0	0	Germany
Greece	11	UK	0.5	11.5	Australia
Brazil	40	USA	0	0	Brazil
Portugal	37	UK	0	0	Portugal
Poland	24	All others than Poland	11	11	Poland
Brazil	40	USA	17	17	Brazil
China	26	USA	0	0	China
Switzerland	50	Switzerland	50	50	Austria
Iran	6	USA	22	22	Iran
France	0	UK	40	0	UK
USA	12	Greece	42	42	USA
Norway	24	UK	23	23	Norway
UK	10	Italy	23	10	Italy
Switzerland	18	UK	5	5	Switzerland
Belgium	9	USA	5	5	Belgium
Italy	27	UK	4	4	Italy
Italy	30	UK	2	30	UK (England)
USA	24	Austria	8	8	USA
Germany	50	UK	0	0	Germany
Croatia	27	Switzerland	4	31	Yugoslavia
UK	22	Switzerland	38	38	UK

Canada	47	Canada	47	47	Canada
France	0	USA	0	0	Canada
Switzerland	44	Brazil	2	2	Switzerland
Brazil	0	USA	0	0	Mozambique
Portugal	26	France	15	26	France
Brazil	23	USA	1	1	Brazil
Portugal	19	UK	3	3	Portugal
Portugal	18	Republic of Ireland	5	23	France
Greece	29	USA	1	1	Greece
Romania	41	USA	0	0	Romania
Romania	30	UK	0.5	0.5	Romania
Belgium	32	Belgium	32	32	Belgium
China	28	UK	1	1	China
The Netherlands	30	USA	16	16	The Netherlands
Bulgaria	24	UK	4	4	Bulgaria
Spain	24	UK	0	0	Spain
Greece	22	Republic of Ireland	0	0	Greece
India	22	India	22	22	India
Germany	28	UK	4	4	Germany
Switzerland	48	Chile	10	10	Switzerland
Switzerland	57	France	0	57	Switzerland
Switzerland	30	Switzerland	30	30	Switzerland
UK	0	France	26	0	France
Germany	0	France	5	5	Switzerland
Azerbaijan	23	Germany	6	6	Azerbaijan
None	0	France	43	43	Denmark
Tunisia	37	Tunisia	37	37	Tunisia
Portugal	4	Switzerland	13	13	Portugal
Peru	0	Greece	20	20	USA
United States	0	Canada	24	24	Canada
Spain and Latinamerica	32	Catalonia	32	32	Catalonia
Cote d'Ivoire	12 years	U.S.A	15 years	15	Cote d'Ivoire
Guatemala	25	USA	0	0	Guatemala
Spain	51	Basque Country	51	51	Spain
Belgium	20	UK	1	1	Belgium
Iran	33	Iran	33	33	Iran
USA	27	Middle East	15	27	Jerusalem
Greece	25	UK	2	2	Greece
Spain	24	UK	0	0	Spain
Finland	20	UK	21	20	Finland
USA	26	Switzerland	11	11	USA
<b>Portugal</b>	<b>2</b>	<b>Belgium</b>	<b>24</b>	<b>24</b>	<b>Portugal</b>

Switzerland	20	UK	0	0	Switzerland
Germany	36	Canada	15 years	51	Tajikistan
<b>Burkina Faso</b>	<b>26</b>	<b>Switzerland</b>	<b>25</b>	<b>25</b>	<b>Burkina Faso</b>
Germany	22	USA	1	1	Germany
Portugal	40	UK	0	40	Mozambique
Switzerland	44	Brazil	3	44	Switzerland
Portugal	24	UK	7	7	Portugal
Portugal	24	France	18	18	Portugal
Croatia	18	USA	0	0	Croatia
Greece	47	USA	7	7	USA

Note: Comparison table giving duration of time of having lived in a country and time spent abroad. Where someone stayed within the country in a multicultural environment, the number of years was left as given and not changed to 0.

#### Appendix L: Participants' L2

		Language 2	
		Frequency	Percent
Valid	Arabic	1	1.1
	Basque	1	1.1
	Dioula	1	1.1
	Dutch	1	1.1
	English	54	60.0
	Farsi	1	1.1
	French	13	14.4
	German	7	7.8
	Greek	2	2.2
	Italian	1	1.1
	Persian	1	1.1
	Portuguese	4	4.4
	Spanish	3	3.3
	Total	90	100.0

Note: this is the second of two languages entered by participants

## Appendix M: Participants' highest educational qualifications

### Education

Q73 Highest level of education achieved:

primary school	0
secondary school	1
some college	8
university degree	81
Total participants	90

## Appendix N: emotional topics each participant provided

	<b>emoTopic1</b>	<b>emoTopic2</b>	<b>emoTopic3</b>	<b>emoTopic4</b>	<b>emoTopic5</b>
001	abortion	gay marriages	nature protection	NA	NA
002	people	movies	food	NA	NA
003	solidarity	made in germany	food	NA	NA
004	food	movies	music	art	literature
005	parents discrimination against	friends immigrants protesting in	ethnic minorities	modern values	history
006	immigrants	streets	multicultural couples	relatives in the USA	NA
007	the people	language	landscape	NA	NA
008	traditions	multilingualism Communist period after World	cuisine	mountains	lakes
009	World War II	War II	Chopin	NA	NA

010	my hatred for the government	the people	the smell of the food	vacations with family	the music
011	food	customs	tourism	celebrities	NA
012	friendliness	welcoming	food	NA	NA
013	language	old traditions	music	history	food
014	flag	school	neighborhood	classmates	fun
015	poetry	humour academic	music working	NA	NA
016	cultural diversity paid paternity	atmosphere	efficiency	weather	food
017	leave	free education	gender equality	employment law	fair pay
018	cultural melting pot	independence	tolerance current political situation	way of socialising	music and entertainment
019	relationships	places		discussions	NA
020	family	nature	freedom	the people	NA
021	love relationship	friendship	politics	NA	NA
022	food	tourism	art	unemployment	gay rights
023	visiting family	life style	having a family	NA	NA
024	mother	nature	school	home	NA
025	politics	people's ways	norms	NA	NA
026	refugee crisis	Theo Franken (right politician)	Red Devils	NA	NA
027	landscape	weather	food	people	language
028	tolerance being a thing of the past	being allowed to be outspoken	Amsterdam	Dutch songs	NA

029	inequality	poverty	crime and punishment	treatment of immigrants	Trump
030	my mother	my life with my ex	my life in the island	NA	NA
031	Carnaval de Cadiz	Spanish 90s pop-rock	Andalucian culture	Spanish history	NA
032	politics	media	music	NA	NA
033	passion	food	landscapes	NA	NA
034	local natural environment	traditions	cooking and food	NA	NA
035	tradition	culture	language	time routine	NA
036	unemployment	economic crisis	immigrants	history	music
037	people	beauty of land	food	NA	NA
038	Big Ben	people	queen	tea	food
039	food	arts	community	history	NA
040	kindness	music	lifestyle	NA	NA
041	multiculturalism	underground culture	hecticity	NA	NA
042	food	music	dancing	NA	NA
043	multiple languages	people	streets landscape (seaside)	places of worship	village culture
044	Brexit	social issues		family issues	language
045	racism	trump	consumerism	NA	NA
046	chilean idiomatic expressions	the cadence of the language	chilean native flora	the sea	food like empanadas
047	family	friendly people	armed conflict	nature	food
048	racism	islamophobia	social welfare	education	foreign policy
049	politics	freedom	officially multilanguage	NA	NA
050	you need to revise this question	NA	NA	NA	NA
051	bars and beers	friends	cinema	university	arts and museums

052	British humour	British music (New Wave of British Heavy Metal mostly)	The openness to pluriculturalism	The richness of British history	NA
053	nature	way to live	literature	theater	NA
054	mass of people	dirty, dusty	hot	pollution, not ecological	dangerous
055	politics	school freedom of speech	religion	travel	NA
056	tolerance		democracy	safety	freedom of religion
057	friendship	music	food	ecology	comedy
058	food	nature	music	education system	NA
059	chauvinism	patriotism	curruption	warm weather	family
060	Brexit	increasing poverty	class divide	racism	NA
061	social equality	peace	universal health care	social safety net	immigration
062	recent violent events	arrogance	arts museum	NA	NA
063	honesty	sincerity	good-natured	intolerance with another mindset	too forward
064	citizenship	parenthood	education	NA	NA
065	songs	family history	literature	politics	architecture
066	countryside	heritage	art	literature	NA
067	classical music	the black forest behaviour of people	literature	NA	NA
068	nature		food	NA	NA
069	history	nature	food	NA	NA
070	landscape	people	food	history	crisis
071	love	running	freedom	weather	nature
072	friendships	shopping	professional	NA	NA
073	music	language	soap opera	NA	NA
074	culture	sport	economy	NA	NA
075	music	traditions	uses and customs	NA	NA
076	people	language	landscape	traditions	history

077	personal proximity	corruption	violence	NA	NA
078	husband	way of living	culture	NA	NA
079	the diversity of several countries	the Swiss are very punctual		NA	NA
080	people	the country	the government	NA	NA
081	the culture	education	people	NA	NA
082	family and friends	culture	sport	politics	NA
083	Lingua	musica	literatura	NA	NA
084	Libertarian Party	Conspiracy theories	Scientific advancements	NA	NA
085	Money	Jobs	Politics	Family	Food
086	The American Dream	Opportunities	Open thinking	Spontaneity	Power
087	People s generosity	Beauty of nature	Weather	NA	NA
088	FR is my language at home with my children :)	FR is spoken where I live	FR is the language of the local community where I am active (local council member)	NA	NA
089	National identity as a Quebecer	Protection of the environment	Xenophobia, racism	Discrimination against LGBTQ people	NA
090	Castells (Human Towers)	Songs	Familiar tradition	Openness	Correfocs
091	Black lives matter / Police brutality	School shootings	Increased racism	NA	NA



## Appendix O: categories and category frequencies

	Frequency (Percent)
Crises, disasters & atrocities	2 (0.5%)
Culture	15 (3.7%)
Ecology & environmental issues	11 (2.7%)
Economy & socio-economic situation	12 (2.9%)
Education	9 (2.2%)
Emotions	3 (0.7%)
Enforcement	1 (0.2%)
Entitlement & access to resources	8 (2%)
Food	27 (6.6%)
History	11 (2.7%)
Home	3 (0.7%)
Infringement of rights & entitlement	11 (2.7%)
Language	13 (3.2%)
Lifestyles	17 (4.2%)
Multiculturalism	6 (1.5%)
Multilingualism	2 (0.5%)
Nature & rural places	27 (6.6%)
Personal rights	13 (3.2%)
Places of religious worship	1 (0.2%)
Politics	23 (5.6%)
Religion	2 (0.5%)
Science	1 (0.2%)
Social issues	34 (8.3%)
Social life & social relations	57 (14.0%)
Social values & attitudes	35 (8.6%)
Symbols	3 (0.7%)
The arts & artistic expression	42 (10.3%)
The arts & cultural events related places	2 (0.5%)
Traditions	11 (2.7%)

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Urban places	5 (1.2%)
Well-being	1 (0.2%%)
Total	408 (100.0%)

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## Appendix P: Word type and valence for all topics

Category	Code	Case	Text
Word type (Altarriba)	Emotion-laden	Case #1	abortion
Valence (Altarriba)	Negative	Case #1	abortion
Word type (Altarriba)	Emotion-laden	Case #3	solidarity
Valence (Altarriba)	Positive	Case #3	solidarity
Valence (Altarriba)	Negative	Case #6	discrimination against immigrants
Word type (Altarriba)	Emotion-laden	Case #6	discrimination against immigrants
Word type (Altarriba)	Emotion	Case #10	my hatred for the government
Valence (Altarriba)	Negative	Case #10	my hatred for the government
Valence (Altarriba)	Positive	Case #12	friendliness
Word type (Altarriba)	Emotion	Case #12	friendliness
Word type (Altarriba)	Emotion-laden	Case #15	poetry
Valence (Altarriba)	Positive	Case #15	poetry
Word type (Altarriba)	Emotion-laden	Case #17	paid paternity leave
Valence (Altarriba)	Positive	Case #17	paid paternity leave
Word type (Altarriba)	Emotion-laden	Case #19	relationships
Valence (Altarriba)	Positive	Case #19	relationships
Valence (Altarriba)	Positive	Case #20	family
Word type (Altarriba)	Emotion-laden	Case #20	family
Word type (Altarriba)	Emotion-laden	Case #21	love relationship
Valence (Altarriba)	Positive	Case #21	love relationship
Word type (Altarriba)	Emotion-laden	Case #22	food
Valence (Altarriba)	Positive	Case #22	food
Valence (Altarriba)	Positive	Case #23	visiting family
Word type (Altarriba)	Emotion-laden	Case #23	visiting family
Valence (Altarriba)	Positive	Case #24	mother
Word type (Altarriba)	Emotion-laden	Case #24	mother
Valence (Altarriba)	Negative	Case #26	refugee crisis
Word type (Altarriba)	Emotion-laden	Case #26	refugee crisis
Valence (Altarriba)	Positive	Case #27	landscape
Word type (Altarriba)	Emotion-laden	Case #27	landscape
Valence (Altarriba)	Negative	Case #28	tolerance being a thing of the past
Word type (Altarriba)	Emotion-laden	Case #28	tolerance being a thing of the past
Word type (Altarriba)	Emotion-laden	Case #29	inequality
Valence (Altarriba)	Negative	Case #29	inequality
Valence (Altarriba)	Positive	Case #30	my mother
Word type (Altarriba)	Emotion-laden	Case #30	my mother
Valence (Altarriba)	Positive	Case #31	Carnaval de Cadiz
Word type (Altarriba)	Emotion-laden	Case #31	Carnaval de Cadiz
Valence (Altarriba)	Positive	Case #33	passion
Word type (Altarriba)	Emotion	Case #33	passion
Word type (Altarriba)	Emotion-laden	Case #34	local natural environment
Valence (Altarriba)	Positive	Case #34	local natural environment
Valence (Altarriba)	Positive	Case #35	tradition
Word type (Altarriba)	Emotion-laden	Case #35	tradition
Valence (Altarriba)	Negative	Case #36	unemployment
Word type (Altarriba)	Emotion-laden	Case #36	unemployment
Word type (Altarriba)	Emotion-laden	Case #39	food
Valence (Altarriba)	Positive	Case #39	food
Valence (Altarriba)	Positive	Case #40	kindness
Word type (Altarriba)	Emotion	Case #40	kindness
Word type (Altarriba)	Emotion-laden	Case #42	food
Valence (Altarriba)	Positive	Case #42	food

Word type (Altarriba)	Emotion-laden	Case #45	racism
Valence (Altarriba)	Negative	Case #45	racism
Word type (Altarriba)	Emotion-laden	Case #47	family
Valence (Altarriba)	Positive	Case #47	family
Valence (Altarriba)	Negative	Case #48	racism
Word type (Altarriba)	Emotion-laden	Case #48	racism
Word type (Altarriba)	Emotion-laden	Case #52	British humour
Valence (Altarriba)	Positive	Case #52	British humour
Valence (Altarriba)	Positive	Case #53	nature
Word type (Altarriba)	Emotion-laden	Case #53	nature
Word type (Altarriba)	Emotion-laden	Case #54	mass of people
Valence (Altarriba)	Negative	Case #54	mass of people
Word type (Altarriba)	Emotion-laden	Case #56	tolerance
Valence (Altarriba)	Positive	Case #56	tolerance
Valence (Altarriba)	Positive	Case #57	friendship
Word type (Altarriba)	Emotion-laden	Case #57	friendship
Valence (Altarriba)	Positive	Case #58	food
Word type (Altarriba)	Emotion-laden	Case #58	food
Valence (Altarriba)	Negative	Case #59	chauvinism
Word type (Altarriba)	Emotion-laden	Case #59	chauvinism
Word type (Altarriba)	Emotion-laden	Case #61	social equality
Valence (Altarriba)	Positive	Case #61	social equality
Valence (Altarriba)	Negative	Case #62	recent violent events
Word type (Altarriba)	Emotion-laden	Case #62	recent violent events
Valence (Altarriba)	Positive	Case #63	honesty
Word type (Altarriba)	Emotion-laden	Case #63	honesty
Valence (Altarriba)	Positive	Case #65	songs
Word type (Altarriba)	Emotion-laden	Case #65	songs
Valence (Altarriba)	Positive	Case #66	countryside
Word type (Altarriba)	Emotion-laden	Case #66	countryside
Word type (Altarriba)	Emotion-laden	Case #67	classical music
Valence (Altarriba)	Positive	Case #67	classical music
Word type (Altarriba)	Emotion-laden	Case #68	nature
Valence (Altarriba)	Positive	Case #68	nature
Valence (Altarriba)	Positive	Case #70	landscape
Word type (Altarriba)	Emotion-laden	Case #70	landscape
Valence (Altarriba)	Positive	Case #71	love
Word type (Altarriba)	Emotion	Case #71	love
Word type (Altarriba)	Emotion-laden	Case #72	friendships
Valence (Altarriba)	Positive	Case #72	friendships
Word type (Altarriba)	Emotion-laden	Case #73	music
Valence (Altarriba)	Positive	Case #73	music
Valence (Altarriba)	Positive	Case #74	culture
Word type (Altarriba)	Emotion-laden	Case #74	culture
Valence (Altarriba)	Positive	Case #75	music
Word type (Altarriba)	Emotion-laden	Case #75	music
Word type (Altarriba)	Emotion-laden	Case #78	husband
Valence (Altarriba)	Positive	Case #78	husband
Word type (Altarriba)	Emotion-laden	Case #81	the culture
Valence (Altarriba)	Positive	Case #81	the culture
Valence (Altarriba)	Positive	Case #82	family and friends
Word type (Altarriba)	Emotion-laden	Case #82	family and friends
Word type (Altarriba)	Emotion-laden	Case #87	FR is my language at home with my children :)
Valence (Altarriba)	Positive	Case #87	FR is my language at home with my children :)

Valence (Altarriba)	Positive	Case #89	People's generosity
Word type (Altarriba)	Emotion-laden	Case #89	People's generosity
Word type (Altarriba)	Emotion-laden	Case #90	Castells (Human Towers)
Valence (Altarriba)	Positive	Case #90	Castells (Human Towers)

## Appendix Q: Counts of categories for emotional topics

Category	Code	Count	% Codes	Cases (% Cases)
Topics\Social life	Social life & social relations	57	6.40%	42 (46.20%)
Topics\Culture & Language	The arts & artistic expression	42	4.70%	27 (29.70%)
Topics\Social life	Social values & attitudes	35	3.90%	22 (24.20%)
Topics\Social life	Social issues	34	3.80%	20 (22.00%)
Topics\Culture & Language	Food	27	3.00%	26 (28.60%)
Topics\Places of personal significance	Nature & rural places	27	3.00%	24 (26.40%)
Topics	Politics	23	2.60%	21 (23.10%)
Topics	Lifestyles	17	1.90%	16 (17.60%)
Topics\Culture & Language	Culture	15	1.70%	13 (14.30%)
Topics\Culture & Language	Language	13	1.50%	10 (11.00%)
Topics\Rights & entitlement	Personal rights	13	1.50%	11 (12.10%)
Topics	Economy & socio-economic situation	12	1.40%	9 (9.90%)
Topics\Culture & Language	Traditions	11	1.20%	8 (8.80%)
Topics	Ecology & environmental issues	11	1.20%	9 (9.90%)
Topics	History	11	1.20%	10 (11.00%)
Topics\Rights & entitlement	Infringement of rights & entitlement	11	1.20%	7 (7.70%)
Topics	Education	9	1.00%	8 (8.80%)
Topics\Rights & entitlement	Entitlement & access to resources	8	0.90%	4 (4.40%)
Topics\Culture & Language	Multiculturalism	6	0.70%	6 (6.60%)
Topics\Places of personal significance	Urban places	5	0.60%	5 (5.50%)
Topics\Culture & Language	Symbols	3	0.30%	2 (2.20%)
Topics	Emotions	3	0.30%	3 (3.30%)
Topics\Places of personal significance	Home	3	0.30%	2 (2.20%)
Topics	Crises, disasters & atrocities	2	0.20%	2 (2.20%)
Topics\Culture & Language	Multilingualism	2	0.20%	2 (2.20%)
Topics\Places of personal significance	The arts & cultural events related places	2	0.20%	2 (2.20%)
Topics	Religion	2	0.20%	2 (2.20%)
Topics	Enforcement	1	0.10%	1 (1.10%)
Topics\Places of personal significance	Places of religious worship	1	0.10%	1 (1.10%)
Topics	Well-being	1	0.10%	1 (1.10%)
Topics	Science	1	0.10%	1 (1.10%)

Note: cases refers to the number of distinct incidents in which categories were used to classify topics