

**The role of exposure to Spanish-accented Catalan
in the perception of accentedness
by Catalan-Spanish bilingual listeners**

Master's thesis submitted by

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Abstract

Research on perception of accentedness has so far focused on specific phonetic elements and language experience, including both exposure and use, but in this study we analyze the role of exposure to non-native accent as an isolated factor on the perception of overall accentedness. Here 17 Catalan-dominant bilingual adults from the conurbation of Barcelona rated the accentedness of 82 speech samples produced by speakers born and raised in the Catalan-Spanish bilingual setting of Barcelona. A modified version of the Bilingual Language Profile (Birdsong et al., 2012) was used to determine language dominance, while a newly created Accent Exposure Questionnaire was used to assess the exposure to four levels of Spanish-accented Catalan in different contexts. Correlation tests showed a weak, non-significant, negative relationship between exposure to Spanish-accented Catalan and the perception of accentedness subtleties in the speech as measured by a more diverse use of all the items in the rating scale ($r = -.215$, $p = .424$), being the exposure to strongly-accented speech important in such relationship. Overall perception of accentedness also showed a slight, negative relationship with exposure to Spanish-accented Catalan at a non-significant level ($r = -.152$, $p = .573$). Degree of language dominance was found to be strongly correlated with amount of exposure to Spanish-accented Catalan at a significant level ($r = -.523$, $p = .038$).

1. Introduction and literature review

Bilingual societies present the very interesting characteristic that, given two languages, they comprise all linguistic combinations possible, ranging from pure monolingualism to completely balanced bilingualism. In Catalonia and elsewhere, the extremes together with the different combinations in the middle form a continuum that constitutes an essential element when defining the individuals' characteristics in relation to the group (Plaza, 2000, p. 59).

Due to this high level of variation present in bilingual societies, speakers are typically exposed to an equally rich array of levels of accentedness and are compelled by necessity to accustom themselves to this variation in order to allow for an easy communication (Cristia et al., 2012). Perception, thus, is flexible and varies as a function of exposure to different accents (Sebastián-Gallés et al., 2008). It is not only perception that varies, but production as well, as some studies have shown (Flege et al., 1997), but in the present study we will be focusing solely on perception.

This adaptation to variation in the exposure to accentedness has been mostly analyzed by previous literature in terms of intelligibility and comprehensibility exclusively (Maye et al., 2008) and, regarding the elements in speech chosen to analyze accentedness, research has focused on segmentals (Mora et al., accepted, to appear 2014) and suprasegmentals (Otake & Cutler, 1999; Munro, 1995). However, little research has been conducted on the *overall perception of accentedness*, that is, to say whether or not a speech sample has a foreign accent and what is the strength of such accent. Some examples are the studies by Flege (1988), Kennedy & Trofimovich (2008), and Rodrigues & Nagao (2010).

Flege (1988) discovered that there were differences between the accentedness ratings of experienced and non-experienced listeners. In one part of his study, the listeners, who were Chinese immigrants divided in three groups depending on their length of residence in the United States, had to rate the accentedness of sentences produced by L1 Mandarin Chinese speakers and a group of native English speakers, and there were differences in the ratings across groups based on the experience with the L2. In his study the L2 was the “local” language, the

majority language (i.e. English), while the L1 was Mandarin Chinese, so the conclusions may not be applicable to a bilingual society where the speakers of the L1 (i.e. Catalan) are exposed to Spanish-accented speech.

In another similar study, however, Kennedy & Trofimovich (2008) did not find differences between the ratings of accentedness of experienced and non-experienced listeners. In this case, the L1 was the “local” and the majority language (i.e. English) and the L2 was also Mandarin Chinese. The participants were 24 native English speakers, half of them experienced and half of them with little or no experience in Mandarin accentedness, and had to rate 90 speech samples by six Mandarin and six English speakers. The results showed no differences in accentedness and comprehensibility ratings between groups, although the experienced group understood the stimuli more than the group with no experience. Similar results were found by Rodrigues & Nagao (2010), but with native English and Arabic-accented English recognition by native English speakers with and without experience in Arabic accent.

Regarding Catalan-Spanish bilingualism, some studies have focused on effects of L2 (Spanish) experience and use on perception and production of specific phonetic elements, such as mid-vowels, in bilinguals (Mora & Nadeu, 2012; Sebastián-Gallés et al., 2008). Even though research on this language combination is scarce when compared to language combinations that include English, studies have shown interesting results that relate exposure to Spanish-accented Catalan and perception.

In this study we decided to use natural stimuli consisting of full sentences ranging along a continuum of Spanish accentedness produced by 82 different speakers from all degrees of language dominance within the bilingualism range present in Catalonia. We decided to do this in order to reproduce as much as possible the natural communication processes that a normal speaker is exposed to in his or her daily life.

This study will then try to answer the following question: What is the role of exposure to Spanish-accented Catalan in the perception of the degree of Spanish accentedness in Catalan by native L1-Catalan bilinguals living in a bilingual environment?

Another question arises from the first one: Does continuous exposure to Spanish-accented Catalan make listeners more aware of phonetic subtleties otherwise unnoticeable by non-experienced listeners? Or the other way round?

These research questions deal with four elements that, together, have not received much attention in the research agenda and that may prove to be an interesting field for scientific study: exposure to L2-accented L1 as an isolated variable in the perception of overall accentedness in a bilingual society where two typologically similar languages are spoken.

Although the combination of all these elements is a contribution in itself, we believe that a main contribution of this study is how we deal with exposure. A reliable measure of exposure to L2-accented L1 (in this case Spanish-accented Catalan) in a bilingual society is something that we have not been able to find in any previous study, and given its importance in the development of perception, we believe it is necessary to find a reliable way to measure it and to conduct research on it. We thus propose a way of measuring it and of analyzing the results.

2. Methodology

2.1 Participants

The participants in the study (i.e. the listeners/raters) were 17 Catalan-dominant bilingual adults fully functional in both Catalan and Spanish. Nine of them were females and eight were males, with ages ranging from 23 to 61 years old (mean = 38.13).

The biggest part of them ($n = 12$) were selected from a larger pool of 96 participants from Mataró or from towns nearby previously contacted by Dr. Joan Carles Mora for a previous study. Out of the 96 questionnaires filled out by them, 44 potential participants were selected and contacted based on the following criteria:

1. The use of Catalan had to be at least 80% of the time.
2. Catalan had to be the language spoken with the parents since birth.
3. The parents and, if possible, the grandparents had to be from the area where the Central Catalan dialect is spoken to avoid influence from different dialects.
4. The place of residence had to be in Catalonia during at least the biggest part of the participants' lives.
5. Those who lived abroad during the last 5 years were not included.

The rest of the participants ($n = 6$) were personal acquaintances of the researcher and were unaware of the expected outcomes of the study. They were from towns and cities close to Barcelona (Rubí ($n = 3$), Cerdanyola del Vallès, and Sabadell) and were chosen by the researcher based on the criteria mentioned above.

2.2. Instruments

In order to answer the research questions, the following three instruments were developed to obtain measures of the main factors in the study. The dependent variable is the way listeners perceive different accents, and the independent variables are the degree of language dominance of the listeners and the exposure to Spanish-accented Catalan. The main instrument is, then, the task created to obtain a measure of the degree of Spanish accent perceived, while two questionnaires were used to get information about the factors that might affect the perception of Spanish-accented Catalan.

Task 1: Spanish Accent Rating Task

The experiment consisted of a foreign accent rating task based on Praat (Boersma, 2001) in which 82 randomized audio samples from 82 different speakers (47 females and 35 males) were played to the listeners, who had to rate each sample on a 9-point Likert scale, where “1” represents Catalan speech with no Spanish accent, labeled as “SENSE accent castellà”, and “9” represents strongly Spanish-accented Catalan speech, labeled as “accent castellà MOLT FORT”. This accentedness scale is based on similar scales previously used by Munro and Derwing (1995), Flege et al. (1995), and Piske et al. (2001).

The recordings used for the experiment came from previous studies conducted by Dr. Joan Carles Mora on Catalan mid-vowels. All the speakers were born and raised in Barcelona and were Catalan-Spanish bilinguals with different degrees of language dominance.¹

82 out of the 85 speech samples were chosen. Three of them were discarded for pronunciation problems consisting of an abnormal pronunciation of the [r] and the [ɾ] that made them sound similar to the French “r”, which is not normal in the Central Catalan dialect. We considered that such abnormal pronunciation would

¹ For more detailed information on the participants in the study on production, see Mora et al. (2012).

distract the listeners from the actual rating task. The rest of the samples were included even if they contained repetitions and disfluencies in the productions. The samples chosen were then spliced to include only the following fragment, with a mean length of 10.83 seconds ($SD = 1.4$), after which the amplitude was normalized:

“Ja fa temps que la gent no sap què fer per accedir a un pis decent, perquè no s’ho pot permetre, en especial persones amb un sou baix i sense poder econòmic, com per exemple gent jove.”

Phonetic transcription:

[ˈʒa ˈfa ˈtems kə ˈla ˈʒen ˈno ˈsap ˈkɛ ˈfe pər əksəˈði ə ˈum ˈpiz ðəˈsen
pərˈkɛ ˈno su ˈpət pərˈmɛtrə ən əspəsiˈaɫ pərˈsonəz əm(b) ˈun ˈsow
ˈβaʒ i ˈsensə puˈðɛr əkuˈnòmik ˈkəm pər əgˈzemplə ˈʒɛn ˈʒoβə]¹

Although the read-aloud text of the experiment was specifically intended for studying the mid-vowel contrasts /e/-/ɛ/ and /o/-/ɔ/, there are many phonetic elements that are interesting from the point of view of accentedness. Our experience in the pilot testing stage showed that there was variation in accentedness, and comments from our testers let us see variable salient elements such as the phonemes /ɜ/, /ə/, /ʌ/, and the pronunciation of words such as “exemple”, “gent” and “poder”.

The experiment thus had a minimum duration of approximately 15 minutes provided that the raters listened to the whole set of speech samples only once. However, there was the possibility of listening to each fragment twice, which increased the length of the task for some participants.

Since the speech samples were randomized for each rater, we hoped that two possible effects would be neutralized when comparing the ratings by all the

¹ The phonetic transcription followed the guidelines by Badia i Margarit (1988) and Alcover & Moll (2001-2002) for the Central Catalan dialect, including the specificities for Barcelona when they exist.

listeners together: (1) lack of accuracy at the beginning of the task due to low awareness of the various degrees of Spanish accent present in the speech samples and (2) lack of accuracy at the end of the task due to any tiredness effects resulting from the repetitive nature of the task.



Image 1: Screenshot from the Spanish Accent Rating Task while a speech sample is being played.

Based on the two research questions, measures for two dependent variables were extracted from the Spanish Accent Rating Task outputs:

1. **SD_Ratings:** The standard deviation of the ratings produced by each listener reflects the variations in the ratings by showing if the listeners tried to use all the rating scale as a result of their high sensitivity to accentedness variations (which is reflected by a high standard deviation) or if they perceived the accentedness in a simpler way, by using some values from the rating scale more than others (which is reflected by a low standard deviation). This measure was already used by Mora & Safronova (submitted). Standard deviation, thus, is used as a measure of sensitivity to subtle variations in the overall accentedness.
2. **Mean_Ratings:** The individual means of the ratings produced by each listener reflect if there is a tendency in their ratings toward each of the extremes of the rating scale. A low mean would imply that the rater is perceiving the stimuli as not having a Spanish accent when compared with a participant with a higher mean, who would be perceiving the stimuli as

being more Spanish-accented. The individual rating means, thus, are used as a measure of sensitivity to the degree of Spanish accentedness perceived.

Task 2: Bilingual Language Profile (BLP)

The Bilingual Language Profile (BLP) is a tool created by Birdsong et al. (2012) to assess language dominance in bilingual speakers. It produces a continuous score of language dominance based on four modules that focus on different factors: language history, language use, language proficiency, and language attitudes. Each of these modules have the same weight in the final score.

The Catalan version of the BLP seems to have been specifically adapted for the Balearic Islands. Further modifications were made by Elena Safronova and Dr. Joan Carles Mora for the Catalan community and with a focus on contexts where language dominance can change throughout life. This last modified version was the version used in the present study (see Appendix I, p. 26, for the whole questionnaire).

The BLP scores (labeled as “Dominance”) were based on the instructions given by the authors, and the values were introduced to SPSS. Positive values represent Catalan dominance, while negative values represent Spanish dominance. A score of “0” would represent a case of balanced bilingualism. In this case, since all participants were already chosen so that they would be highly dominant in Catalan (as explained in the “Participants” section), their results are highly positive ($M = 1020.23$) with some degree of variation ($SD = 119.92$).

Task 3: Accent Exposure Questionnaire

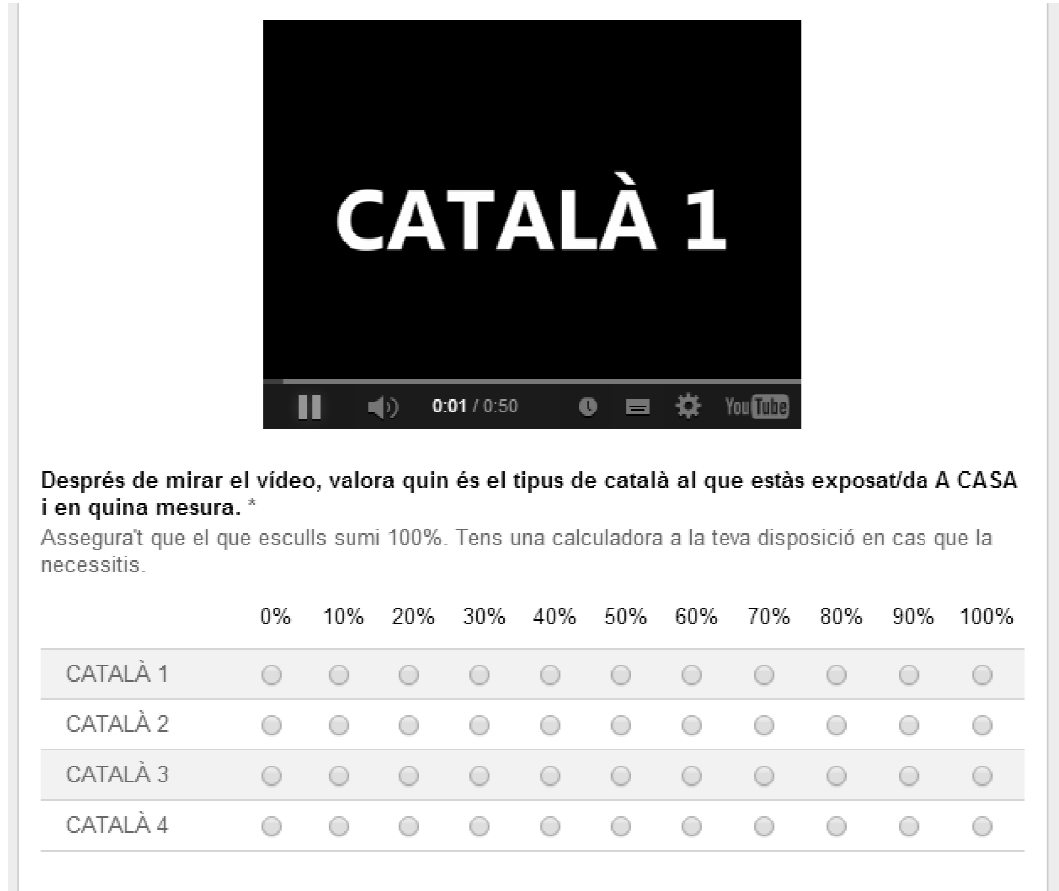
The Accent Exposure Questionnaire is based on Google Forms.¹ After questions on personal information, a section is included where listeners are shown a single

¹ For the complete questionnaire (paper-based version), see Appendix 2, p. 36.

video containing four speech samples in Catalan that were chosen by three phonetically trained judges as representative of a continuum that ranged from “no Spanish accent” to “very strong Spanish accent”. These four samples are labeled in the video as “CATALÀ 1”, “CATALÀ 2”, “CATALÀ 3”, and “CATALÀ 4”, respectively, and consist of the same fragment that was included in the Spanish Accent Rating Task.

Following the video, the listeners are asked on the amount of each accent (in percentages) that they are exposed to in five different contexts: at home (“a casa”), with relatives and friends (“amb l’entorn proper”), at school and/or at work (“a l’escola o a la feina”), on the street (“al carrer”), and in the media (“als mitjans de comunicació”).

After this, the participants were asked questions on how their exposure to Spanish-accented Catalan has changed during the last year and during the last 2, 3, and 5 years.



CATALÀ 1

Després de mirar el vídeo, valora quin és el tipus de català al que estàs exposat/da A CASA i en quina mesura. ^

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Image 2: Screenshot from the Accent Exposure Questionnaire.

The Accent Exposure Questionnaire was scored in the following way: Each context of exposure (out of five) could receive a maximum of 100% and a minimum of 0% of exposure to 4 levels of Spanish accentedness (“CATALÀ 1”, “CATALÀ 2”, “CATALÀ 3”, and “CATALÀ 4”). Since the five contexts are not comparable between themselves due to differences in the amount of exposure and in the way we perceive such different input —certainly listening to the radio while driving cannot be compared to the language we are exposed to in a school setting, the mean of the percentages for each level of accentedness seemed to be the best way to measure overall exposure to Spanish-accented speech. The resulting measures for each level of accentedness were labeled as CAT_1, CAT_2, CAT3, and CAT_4.

In order to produce a measure of total exposure to Spanish accentedness, CAT_1, CAT_2, CAT3, and CAT_4 were added up in two ways to measure two different constructs:

1. Quantity (amount) of exposure to Spanish-accented Catalan: The total amount of exposure to Spanish-accented Catalan was calculated by applying the following formula, which gave the total percentage of exposure

$$\text{SAC_Total} = \text{CAT_2} + \text{CAT_3} + \text{CAT_4}$$

2. Quality (strength) of the Spanish-accented Catalan input: Any measure trying to include only the quality of the Spanish-accented Catalan input in terms of strength of Spanish accentedness would necessarily include a measure of quantity. That is why the following formula was applied to obtain a weighted mean in which quality as a measure of strength of accentedness is taken into account:

$$\text{SAC_Weighted} = [\text{CAT_2} + (\text{CAT_3} * 2) + (\text{CAT_4} * 3)] / 6$$

Regarding the questions on language change, we decided not to include the answers in the analyses performed in this study for two reasons: On the one hand, some participants commented on how difficult it was to think of changes in the overall exposure, so they believed that they were “making up” the answers and, on the other hand, if there are limitations when calculating accent exposure in the

present, the limitations when calculating exposure in the past are more difficult to deal with.¹ The results, however, are available for further research if necessary.

2.3. Procedure

Task 1: Spanish Accent Rating Task

Before performing the rating task, the raters were presented a Powerpoint presentation with screenshots of the actual task with some practical indications that included reading all the instructions, listening to the whole speech sample every time, and repeating only if necessary.² They were also indicated to rate only the accentedness of the speech samples, so that repetitions, prosody irregularities and stumbling typical of reading-aloud tasks would not be taken into account. They had the chance to read to themselves the fragment in order to know how they produced it before starting to rate the samples. The most important part of the tutorial was perhaps the two slides where they were presented two samples that had been chosen by three phonetically trained judges as having no accent and as being strongly Spanish-accented; they could see how the no-accent sample was rated as “1” and the strongly-accented sample as “9”, so they had to follow the same example.

All participants completed the Praat-based task in the presence of the researcher and in an indoor, silent place. The task was run on laptops provided by the researcher with high-quality sound-isolating headphones.

Task 2: Bilingual Language Profile (BLP)

The participants who confirmed their interest in participating in the study were sent a link to the BLP in order to fill it out before the experiments in order to save time. This was done by eight of the participants. The rest of the participants filled out the questionnaire online in the presence of the researcher with the exception of

¹ This is further discussed in the “Limitations and further research” section.

² See Appendix 3.

two, who filled out a paper-based version because all computers were being used at the time.

Task 3: Accent Exposure Questionnaire

The accent exposure questionnaire was administered online in the presence of the researcher with the exception of six listeners, who received instructions to fill it out from home due to time constraints. Every context was included in an individual page where the participants could read instructions written specifically for each context of exposure.

2.4. Data Analyses

Before performing inferential analyses, an inter-rater reliability analysis was performed on SPSS to see the degree of agreement of the raters in their performance on the Spanish Accent Rating Task. The Cronbach's alpha showed a very high internal consistency ($\alpha = .968$), from which it can be interpreted that the ratings were consistent to a very high degree.

The standard deviation and the mean of the accent ratings for each listener were used as the dependent variables. The scores obtained from the BLP were used as a measure of language dominance and were included in the analyses as a factor in order to explore its effects on accent perception. The scores extracted from the Accent Exposure Questionnaire (both the total amount and the weighed score of exposure) were also used as a factor in the analysis.

The tests of normality showed that all these variables included were normally distributed after excluding a clear outlier (Listener_01). In fact, we had already considered the possibility of not including this listener because he/she was the only one that had reported being exposed to strongly Spanish-accented Catalan most of the time (80%), while having no exposure at all to Catalan with no Spanish accent (0%). It is not that we are not interested in this kind of exposure, but had there been a continuum in which more participants reported similar exposure patterns, there would have been no need to exclude the participant from the study.

All the variables were then introduced to SPSS in order to analyze the normality and then the correlations between the independent variables (SAC_Total and SAC_Weighted, and Dominance) and the dependent variables (SD_Ratings and Mean_Ratings). The normal distribution of the variables allows for parametric analyses, but due to the small number of participants ($n = 16$) non-parametric analyses are also performed in order to confirm the results obtained. Pearson correlations were performed to see the relationship between the independent (continuous) variables and the dependent (also continuous) variables, and also between the independent variables. Independent-samples t-tests were also performed after participants were divided in two groups based of the median of

the independent variables to find out how high- and low-exposure groups behaved.¹

3. Results

Answering the second research question (*Does continuous exposure to Spanish-accented Catalan make listeners more aware of phonetic subtleties otherwise unnoticeable by non-experienced listeners?*), the correlation analysis showed a weak, negative relationship between SAC_Weighted (the weighted score of exposure to Spanish-accented Catalan) and SD_Ratings (the standard deviation of the accent ratings produced by each participant), but at a non-significant level ($r = -.215, p = .424$). This tendency was also seen in the independent-samples t-test, where the group with a lower exposure had a higher SD ($M = 2.51 \pm .52$) than the group with a higher exposure ($M = 2.26 \pm .30$), also without reaching significance ($t(14) = 1.331, p = .205$). Similar results were found between SAC_Total (the total amount of exposure to Spanish-accented Catalan) and SD_Ratings, but the relationship was smaller ($r = -.183, p = .498$). The group with a lower exposure also had a higher SD ($M = 2.44 \pm .42$) than the group with a higher exposure ($M = 2.34 \pm .37$), also without reaching significance ($t(14) = 5.12, p = .616$). Besides, the results show a weak positive relationship between SD_Ratings and the degree of language dominance, again without reaching significance ($r = .153, p = .571$). This means that participants that reported greater exposure to Spanish used a smaller variety of points in the rating scale, or used some points much more than others. Regarding language dominance, those participants with a lower degree of Catalan dominance also tended to use less points in the scale or some points more than others. As explained before, the distribution of use of the points in the scale is interpreted as a measure of how listeners perceive subtle changes in the degree of accentedness of the speech.

Regarding the first research question (*What is the role of exposure to Spanish-accented Catalan in the perception of the degree of Spanish accentedness in*

¹ Since there are very few participants, a Mann-Whitney U test was also performed to confirm the results of the Independent-samples t test.

Catalan by native L1-Catalan bilinguals living in a bilingual environment?), the variable “Mean_Ratings” showed little to no relationship with SAC_Weighted ($r = -.071$, $p = .795$), though a slightly higher relationship was found with SAC_Total ($r = -.152$, $p = .573$). The independent-samples t-test and the Mann-Whitney U test showed similarly weak relationships.¹ With the degree of language dominance, a positive correlation was found, but it is weak ($r = .114$, $p = .674$). This means that participants who reported greater exposure to Spanish-accented Catalan were slightly more prone to perceive the mean accent of the stimuli as being less Spanish-accented, as also did participants with a lower degree of Catalan language dominance.

We believe that the lack of significance of the relationships described above could be due to the small numbers of participants ($n = 16$). There seems to be a tendency that is repeated across the different variables, but further research is needed in order to confirm it.

After answering our research questions we happened to find a very interesting relationship that we had not considered essential in the study but that may prove to be quite interesting. It is the relationship between the degree of language dominance and the exposure to Spanish-accented Catalan. The correlation analysis in this case showed a strong negative significant relationship between language dominance and both of our measures of exposure to Spanish-accented Catalan: with SAC_Total ($r = -.504$, $p = .046$) and with SAC_Weighted ($r = -.523$, $p = .038$). This means that those participants to reported greater amount of exposure to Spanish-accented Catalan were very likely to have a lower degree of Catalan language dominance.

By looking at these results, we can see that exposure to Spanish-accented Catalan may have some effect on the perception of Spanish accentedness, but perhaps the most interesting result is that it is highly related to the degree of language dominance, something that we have not seen in previous research.

¹ See the Appendix for more detailed test results.

4. Discussion and conclusions

Based on what past results show, we could have expected two possible outcomes for the study:

1. Being exposed to Spanish-accented Catalan makes listeners more sensitive to variation in Spanish accentedness
2. Being exposed to Spanish-accented Catalan makes no difference in the perception of degree of Spanish accent perceived.

In our study, the results show a weak, non-significant tendency that can be summarized as follows: A higher amount of exposure to Spanish-accented Catalan is slightly related to a limited phonetic awareness in the perception of subtle variations in the speech as measured by the use of a bigger variety of items in the rating scale. We can also state that the bigger the exposure to strongly-accented speech, this relationship becomes more noticeable, so we can assume that the more strongly-accented the speech the listener is exposed to, the bigger the limitation in his/her phonetic awareness, though this relationship is very weak.

Although the relationship between the overall perception of awareness (that which measures speech as being accented or not) and exposure to Spanish-accented Catalan seems to be very weak too, we do see that there is a tendency in the same direction as with perception of variation: A higher exposure to Spanish-accented Catalan is related to the perception that the speech is less Spanish-accented. In this case, however, there seem to be no big differences regarding the quality of the exposure. However, further research is needed in order to confirm this last relationship.

After answering the two research questions, another relationship was found that can be explained as follows: High amount of exposure to Spanish-accented Catalan is strongly correlated with a lower degree of Catalan dominance in bilingual listeners at a significant level.

The fact that we found strong, significant relationships between the amount of exposure to Spanish-accented Catalan and degree of language dominance, but not between the other variables can be explained by the fact that materializing perception, in this case by means of an accent rating task, is difficult and can be

inaccurate at some points, as many participants commented after finishing the task. The BLP, however, contains questions that are mostly easy to answer, as they are related to language use and background. Even if this was true, we would not like to rule out the possibility that the effect of being exposed to Spanish-accented Catalan can indeed be very small, which is something we hope future research will prove.

Understanding how perception works is essential in the study of linguistics, as it is one of the main processes in communication. Perception needs to be understood in the best way possible, but there are many empty spots that still need to be filled. The results obtained in this study only show a general tendency, and we are aware that most of the relationships are weak and do not reach significance, so, for this reason, we are looking forward for further research to be conducted in order to confirm the hypotheses here proposed.

5. Limitations of the study and future research

One of the main limitations in this study, as in many others, is the small number of participants. We relate the lack of significance of our results to this fact, and we are looking forward for further studies to correct this and to provide more reliable results. We know that it is not difficult to find Catalan-dominant adults if there is enough time and will to find them, so we strongly encourage more research to be conducted on this very interesting group.

Another limitation of this thesis is that it tried to find “the role” of exposure to Spanish-accented Catalan on perception. We have discovered that perception is a very complex construct, as many things can be measured. In this study we focused on two measures: perception of overall accentedness and perception of accent subtleties, but we do not rule out the possibility that there might be other measures of perception that can be included in the analysis. This, however, will have to be done in future studies and we are looking forward to seeing new measures of perception being studied.

Related to this, the way we measure of exposure must be improved. The very old discussion on the reliability of self-reported information is a key element when measuring exposure. The Accent Exposure Questionnaire from this study is a proposal that we believe can open a new door in research, but it must be further developed in order to make it a more reliable and more precise tool.

For instance, it could be interesting to analyze how changes during the last years affect the perception of accentedness. This had been one of our intentions, and questions to elicit that information were included in the Accent Exposure Questionnaire. However, we lack a better way to obtain that information, as our questionnaire did not quite satisfy what we expected.

Another issue that can be improved in the questionnaire is the amount of exposure to Spanish-accented Catalan in each one of the contexts. This is especially true when we find so many differences between subjects: people who don't watch TV are being compared with people who watch TV all day, people who live with a single partner are compared with people who share flat and communicate with far

more people, etc. All this can be measured, but a significant amount of time and effort must be put into it in order to obtain a well-designed exposure questionnaire.

Other variables should also be included, since perception of accentedness cannot be related only to exposure to an accent. For instance, language awareness, phonological memory, acoustic memory, attention control and other individual differences are often included in studies that focus on perception, and it might have been desirable to include them in this study.

Finally, more detailed phonetic analysis of the stimuli to be used as independent variables would have been very useful, but it was not done due to time limitations. Examining the phonetic details of the production from 82 speech samples is time-demanding and requires a lot of effort, but we suggest this because we believe it is necessary to analyze *what* is it that the listeners are perceiving and not only *how* they are perceiving it.

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7. Appendix

Appendix 1: Bilingual Language Profile (BLP)

Qüestionari sobre bilingüisme CATALÀ-CASTELLÀ

En aquest qüestionari contestaràs preguntes sobre el teu historial lingüístic i sobre els usos, les actituds i la competència lingüístiques en català i castellà. Aquesta enquesta conté 18 preguntes que trigaràs uns 10 minuts a respondre.

Això no és una prova, per la qual cosa recorda que no hi ha respostes correctes ni incorrectes.

Si us plau, contesta cada pregunta amb calma i sinceritat, ja que només així podrem obtenir dades fiables d'aquesta recerca.

Moltes gràcies per la teva ajuda i participació.

I. Informació biogràfica

Nom: _____

Cognoms: _____

Data de naixement: _____ **Sexe:** Home / Dona

Lloc de residència actual: _____

Lloc de naixement (ciutat): _____

Quant de temps has viscut / vas viure al teu lloc de naixement? _____

Per exemple: 2,10 (2 anys i 10 mesos)

Quant de temps has viscut al teu lloc de residència habitual? _____

Per exemple: 2,10 (2 anys i 10 mesos)

Nivell educatiu més alt assolit (*selecciona només una opció*)

- ☐ No he acabat la Primària
- ☐ Primària
- ☐ Secundària – ESO

- Batxillerat – BUP
- Formació professional - Grau Mitjà
- Formació professional - Grau Superior
- Universitat - Diplomatura, llicenciatura o grau
- Universitat - Màster o postgrau
- Universitat - Doctorat

II. Historial lingüístic

En aquesta secció respondràs preguntes sobre el teu historial lingüístic.

A quina edat vas començar a aprendre CATALÀ? _____

A quina edat vas començar a aprendre CASTELLÀ? _____

Amb qui vas aprendre a parlar CATALÀ principalment?

- Pares
- La meva parella
- Familiars
- Amics i/o companys de feina
- Coneguts
- Desconeguts

Amb qui vas aprendre a parlar CASTELLÀ principalment?

- Pares
- La meva parella
- Familiars
- Amics i/o companys de feina
- Coneguts
- Desconeguts

En quina llengua va aprendre a parlar la teva mare?

- Català
- Castellà

En quina llengua va aprendre a parlar el teu pare?

- Català
- Castellà

Fes una estimació en % de la formació que has rebut en CATALÀ/CASTELLÀ

Per exemple: 30 / 70 significa que has rebut el 30% de la formació en CATALÀ i el 70% en CASTELLÀ.

Encercla la resposta: % de CATALÀ / CASTELLÀ durant l'educació PRIMÀRIA

Tria NO APLICABLE si no has rebut aquest tipus de formació.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Encercla la resposta: % de CATALÀ / CASTELLÀ durant l'educació SECUNDÀRIA

Tria NO APLICABLE si no has rebut aquest tipus de formació.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Encercla la resposta: % de CATALÀ / CASTELLÀ durant el BATXILLERAT / BUP

Tria NO APLICABLE si no has rebut aquest tipus de formació.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Encercla la resposta: % de CATALÀ / CASTELLÀ durant la FORMACIÓ PROFESSIONAL * Tria NO APLICABLE si no has rebut aquest tipus de formació.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Encercla la resposta: % de CATALÀ / CASTELLÀ durant els estudis UNIVERSITARIS * Tria NO APLICABLE si no has rebut aquest tipus de formació.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Fes una estimació en % de l'ÚS que se'n fa del CATALÀ i el CASTELLÀ en el teu ENTORN

El teu ENTORN inclou aquells contextos comunicatius on utilitzes una llengua: a casa teva, a la feina, amb familiars... Fes una estimació del % de CATALÀ i CASTELLÀ en el teu entorn INDEPENDENTMENT de si es correspon amb teva llengua principal o no.

Encercla la resposta: % d'ús de CATALÀ i CASTELLÀ a CASA (amb les persones amb qui vius) Per exemple: 30 / 70 significa que en aquest entorn es parla CATALÀ un 30% i CASTELLÀ un 70%.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0

Encercla la resposta: % d'ús de CATALÀ i CASTELLÀ a la FEINA (amb les persones amb qui treballes) Per exemple: 30 / 70 significa que en aquest entorn es parla CATALÀ un 30% i CASTELLÀ un 70%.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0

Encercla la resposta: % d'ús de CATALÀ i CASTELLÀ a l'ESCOLA/ INSTITUT/ UNIVERSITAT (amb les persones amb les que estudies) Per exemple: 30 / 70 significa que en aquest entorn es parla CATALÀ un 30% i CASTELLÀ un 70%.

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0
NO APLICABLE

Encercla la resposta: % d'ús de CATALÀ i CASTELLÀ en contextos comunicatius freqüents com BOTIGUES *Per exemple: 30 / 70 significa que en aquest entorn es parla CATALÀ un 30% i CASTELLÀ un 70%.*

0/100 10/90 20/80 30/70 40/60 50/50 60/40 70/30 80/20 90/10 100/0

Quant de temps (en anys) has treballat en un entorn on principalment es parla CATALÀ / CASTELLÀ?

Català: _____

Castellà: _____

III. Ús de les llengües

En aquesta secció respondràs preguntes sobre el teu % d'ús de CATALÀ i CASTELLÀ.

La suma del % d'ús de CATALÀ+CASTELLÀ per cada parella de preguntes ha de ser 100%.

En una setmana normal, quin % del temps utilitzes el CATALÀ amb els teus amics?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

En una setmana normal, quin % del temps utilitzes el CASTELLÀ amb els teus amics?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

En una setmana normal, quin % del temps utilitzes el CATALÀ amb la teva família?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

En una setmana normal, quin % del temps utilitzes el CASTELLÀ amb la teva família?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

En una setmana normal, quin % del temps utilitzes el CATALÀ a la feina o a l'escola/institut/universitat?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

En una setmana normal, quin % del temps utilitzes el CASTELLÀ a la feina o a l'escola/institut/universitat?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Quan parles amb tu mateix/a, amb quina freqüència ho fas en CATALÀ?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Quan parles amb tu mateix/a, amb quina freqüència ho fas en CASTELLÀ?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Quan fas càlculs contant, amb quina freqüència contes en CATALÀ?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Quan fas càlculs contant, amb quina freqüència contes en CASTELLÀ?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

IV. Competència

En aquesta secció avaluaràs el teu nivell de competència lingüística en les llengües següents del 0 al 10. Respon cada pregunta marcant només un número.

Com parles en CATALÀ?

no sé parlar català	0	1	2	3	4	5	6	7	8	9	10	excel·lent
---------------------	---	---	---	---	---	---	---	---	---	---	----	------------

Una competència "10" vol dir un nivell nadiu (sense accent). Una competència "0" vol dir que no pots parlar aquesta llengua. Encercla només un número.

Com parles en CASTELLÀ?

no sé parlar català	0	1	2	3	4	5	6	7	8	9	10	excel·lent
---------------------	---	---	---	---	---	---	---	---	---	---	----	------------

Una competència "10" vol dir un nivell nadiu (sense accent). Una competència "0" vol dir que no pots parlar aquesta llengua. Encercla només un número.

Quin és el teu nivell de comprensió oral en CATALÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no entens aquesta llengua "GENS". "10" vol dir que entens aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

Quin és el teu nivell de comprensió oral en CASTELLÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no entens aquesta llengua "GENS". "10" vol dir que entens aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

Com llegeixes en CATALÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no pots llegir en aquesta llengua. "10" vol dir que llegeixes en aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

Com llegeixes en CASTELLÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no pots llegir en aquesta llengua. "10" vol dir que llegeixes en aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

Com escrius en CATALÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no pots escriure en aquesta llengua. "10" vol dir que escrius en aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

Com escrius en CASTELLÀ?

GENS	0	1	2	3	4	5	6	7	8	9	10	PERFECTAMENT
------	---	---	---	---	---	---	---	---	---	---	----	--------------

"0" vol dir que no pots escriure en aquesta llengua. "10" vol dir que escrius en aquesta llengua "PERFECTAMENT", amb un nivell nadiu.

V. Actituds

En aquesta secció donaràs la teva opinió sobre afirmacions relacionades amb actituds lingüístiques marcant una casella de l'1 al 7.

Respon cada pregunta encerclant **només un número**.

Em sento "jo mateix/a" quan parlo en CATALÀ.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

Em sento "jo mateix/a" quan parlo en CASTELLÀ.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

M'identifico amb una cultura CATALANOPARLANT.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

M'identifico amb una cultura CASTELLANOPARLANT. NO estic GENS d'acord 1 2 3 4 5 6 7 estic MOLT d'acord

És important per a mi utilitzar / arribar a utilitzar el CATALÀ com un parlant nadiu.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

És important per a mi utilitzar / arribar a utilitzar el CASTELLÀ com un parlant nadiu.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

Vull que els altres pensin que sóc un parlant nadiu de CATALÀ.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

Vull que els altres pensin que sóc un parlant nadiu de CASTELLÀ.

NO estic GENS d'acord	1	2	3	4	5	6	7	estic MOLT d'acord
-----------------------	---	---	---	---	---	---	---	--------------------

Consentiment i anonimat

Jo, en/na _____, amb DNI _____ - _____, entenc que el meu anonimat com a participant queda en tot moment garantit i que les dades que s'obtinguin d'aquest qüestionari seran utilitzades només per a

finalitats científiques en el marc de la recerca duta a terme per investigadors de la Universitat de Barcelona.

Dono la meva autorització perquè aquestes dades puguin ser utilitzades exclusivament per a fins de recerca. Maqueu només un oval.

- SÍ autoritzo l'ús anònim de les meves dades contingudes en aquest qüestionari.
- NO autoritzo l'ús anònim de les meves dades contingudes en aquest qüestionari.

Mataró, 30 de juny de 2014

Signatura

Appendix 2: Accent Exposure Questionnaire

Qüestionari d'exposició lingüística

En aquest qüestionari es quantificarà la teva exposició lingüística. Si us plau, contesta amb la màxima precisió, tot seguint les instruccions que trobaràs a cada apartat.

Mira el vídeo els cops que creguis convenient.

I. Informació general

Nom: _____ Cognoms: _____

Tens coneixements avançats de llengua? Sí No Depèn

Tens coneixements de fonètica i fonologia? Sí No Depèn

II. Exposició

En aquesta secció es mesurarà la teva exposició a diferents graus d'accent.

A la primera pregunta de cada apartat has de mirar i escoltar amb atenció el vídeo per després valorar quin és el tipus de català al que estàs exposat/da en diferents contextos i en quina mesura. **Si us plau assegura't que els valors que seleccionis sumin 100%.** Tens calculadores a la teva disposició en cas que en necessitis.

A les preguntes següents de cada apartat has de dir com aquesta exposició ha canviat al llarg dels anys.

A casa

Escoltaràs quatre mostres de català. Identifica el percentatge de temps a què estàs exposat/da a aquest tipus de català en una setmana normal **AMB LES PERSONES AMB QUI VIUS**.

Per exemple: En Pere està exposat al tipus de català 1 el 60% del temps en una setmana normal i al tipus de català 3 el 40% restant. En canvi, no està exposat ni al número 2 ni al número 4, per la qual cosa selecciona 0% als dos tipus.

Recorda que:

CATALÀ 1 = SENSE ACCENT

CATALÀ 4 = AMB ACCENT CASTELLÀ FORT

Els altres dos tipus (2 i 3) es troben al mig.

5. Mira el vídeo i valora quin és el tipus de català al que estàs exposat/da A CASA i en quina mesura.

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis. Marca només un oval per fila.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Durant L'ÚLTIM ANY, la meva exposició al català amb accent castellà A CASA...

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

7. Durant ELS ÚLTIMS DOS ANYS, la meva exposició al català amb accent castellà A CASA...

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

8. Durant ELS ÚLTIMS TRES ANYS, la meva exposició al català amb accent castellà A CASA...

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

9. Durant ELS ÚLTIMS CINC ANYS, la meva exposició al català amb accent castellà A CASA...

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual

- ___ ha disminuït una mica
___ ha disminuït molt

Amb el teu entorn proper (amics, familiars amb qui no vius...)

Escoltaràs quatre mostres de català. Identifica el percentatge de temps a què estàs exposat/da a aquest tipus de català en una setmana normal **AMB EL TEU ENTORN PROPER**.

Per exemple: En Pere està exposat al tipus de català 1 el 60% del temps en una setmana normal i al tipus de català 3 el 40% restant. En canvi, no està exposat ni al número 2 ni al número 4, per la qual cosa selecciona 0% als dos tipus.

Recorda que:

CATALÀ 1 = SENSE ACCENT

CATALÀ 4 = AMB ACCENT CASTELLÀ FORT

Els altres dos tipus (2 i 3) es troben al mig.

10. Mira el vídeo i valora quin és el tipus de català al que estàs exposat/da AMB EL TEU ENTORN PROPER i en quina mesura.

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis. Marca només un oval per fila.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Durant L'ÚLTIM ANY, la meva exposició al català amb accent castellà AL MEU ENTORN PROPER...

- ___ ha augmentat molt
___ ha augmentat una mica
___ s'ha mantingut igual
___ ha disminuït una mica
___ ha disminuït molt

12. Durant ELS ÚLTIMS DOS ANYS, la meva exposició al català amb accent castellà AL MEU ENTORN PROPER...

- ___ ha augmentat molt

- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

13. Durant ELS ÚLTIMS TRES ANYS, la meva exposició al català amb accent castellà AL MEU ENTORN PROPER...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

14. Durant ELS ÚLTIMS CINC ANYS, la meva exposició al català amb accent castellà AL MEU ENTORN PROPER...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

Al carrer

Escoltaràs quatre mostres de català. Identifica el percentatge de temps a què estàs exposat/da a aquest tipus de català en una setmana normal AL CARRER (a les botigues, a la farmàcia, als mitjans de transport, etc.).

Per exemple: En Pere està exposat al tipus de català 1 el 60% del temps en una setmana normal i al tipus de català 3 el 40% restant. En canvi, no està exposat ni al número 2 ni al número 4, per la qual cosa selecciona 0% als dos tipus.

Recorda que:

CATALÀ 1 = SENSE ACCENT

CATALÀ 4 = AMB ACCENT CASTELLÀ FORT

Els altres dos tipus (2 i 3) es troben al mig.

15. Mira el vídeo i valora quin és el tipus de català al que estàs exposat/da AL CARRER i en quina mesura.

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis. Marca només un oval per fila.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**16. Durant L'ÚLTIM ANY, la meva exposició al català amb accent castellà
AL CARRER...**

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

**17. Durant ELS ÚLTIMS DOS ANYS, la meva exposició al català amb
accent castellà AL CARRER...**

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

**18. Durant ELS ÚLTIMS TRES ANYS, la meva exposició al català amb
accent castellà AL CARRER...**

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

**19. Durant ELS ÚLTIMS CINC ANYS, la meva exposició al català amb
accent castellà AL CARRER...**

- ___ ha augmentat molt
- ___ ha augmentat una mica
- ___ s'ha mantingut igual
- ___ ha disminuït una mica
- ___ ha disminuït molt

A l'escola o a la feina

Escoltaràs quatre mostres de català. Identifica el percentatge de temps a què estàs exposat/da a aquest tipus de català en una setmana normal A L'ESCOLA O A LA FEINA (combinats, si és el cas).

Per exemple: En Pere està exposat al tipus de català 1 el 60% del temps en una setmana normal i al tipus de català 3 el 40% restant. En canvi, no està exposat ni al número 2 ni al número 4, per la qual cosa selecciona 0% als dos tipus.

Recorda que:

CATALÀ 1 = SENSE ACCENT

CATALÀ 4 = AMB ACCENT CASTELLÀ FORT

Els altres dos tipus (2 i 3) es troben al mig.

IMPORTANT: Si fa més de 5 anys que no treballes ni estudies, NO COMPLETIS AQUEST APARTAT.

20. Mira el vídeo i valora quin és el tipus de català al que estàs exposat/da A L'ESCOLA O A LA FEINA i en quina mesura.

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis. Marca només un oval per fila.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Durant L'ÚLTIM ANY, la meva exposició al català amb accent castellà A L'ESCOLA O LA FEINA...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

22. Durant ELS ÚLTIMS DOS ANYS, la meva exposició al català amb accent castellà A

L'ESCOLA O LA FEINA...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica

___ ha disminuït molt

23. Durant ELS ÚLTIMS TRES ANYS, la meva exposició al català amb accent castellà A L'ESCOLA O LA FEINA...

- ___ ha augmentat molt
___ ha augmentat una mica
___ s'ha mantingut igual
___ ha disminuït una mica
___ ha disminuït molt

24. Durant ELS ÚLTIMS CINC ANYS, la meva exposició al català amb accent castellà A L'ESCOLA O LA FEINA...

- ___ ha augmentat molt
___ ha augmentat una mica
___ s'ha mantingut igual
___ ha disminuït una mica
___ ha disminuït molt

Als mitjans de comunicació

Escollaràs quatre mostres de català. Identifica el percentatge de temps a què estàs exposat/da a aquest tipus de català en una setmana normal ALS MITJANS DE COMUNICACIÓ (televisió i ràdio).

Per exemple: En Pere està exposat al tipus de català 1 el 60% del temps en una setmana normal i al tipus de català 3 el 40% restant. En canvi, no està exposat ni al número 2 ni al número 4, per la qual cosa selecciona 0% als dos tipus.

Recorda que:

CATALÀ 1 = SENSE ACCENT

CATALÀ 4 = AMB ACCENT CASTELLÀ FORT

Els altres dos tipus (2 i 3) es troben al mig.

25. Mira el vídeo i valora quin és el tipus de català al que estàs exposat/da ALS MITJANS DE COMUNICACIÓ i en quina mesura.

Assegura't que el que esculls sumi 100%. Tens una calculadora a la teva disposició en cas que la necessitis. Marca només un oval per fila.

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
CATALÀ 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CATALÀ 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

26. Durant L'ÚLTIM ANY, la meva exposició al català amb accent castellà ALS MITJANS DE COMUNICACIÓ...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

27. Durant ELS ÚLTIMS DOS ANYS, la meva exposició al català amb accent castellà ALS MITJANS DE COMUNICACIÓ...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

28. Durant ELS ÚLTIMS TRES ANYS, la meva exposició al català amb accent castellà ALS MITJANS DE COMUNICACIÓ...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

29. Durant ELS ÚLTIMS CINC ANYS, la meva exposició al català amb accent castellà ALS MITJANS DE COMUNICACIÓ...

- ☐ ha augmentat molt
- ☐ ha augmentat una mica
- ☐ s'ha mantingut igual
- ☐ ha disminuït una mica
- ☐ ha disminuït molt

Has acabat el qüestionari.

Moltes gràcies per la teva participació!

Appendix 3: Spanish Accent Rating Task – Instructions

Estudi d'accent català

TUTORIAL

Maig de 2014

Escoltaràs la frase següent llegida per persones de Barcelona

Llegeix la frase en silenci i fixa't en com la llegeixes tu:

Ja fa temps que la gent no sap què fer per accedir a un pis decent, perquè no s'ho pot permetre, en especial persones amb un sou baix i sense poder econòmic, com per exemple gent jove.

RECORDA:

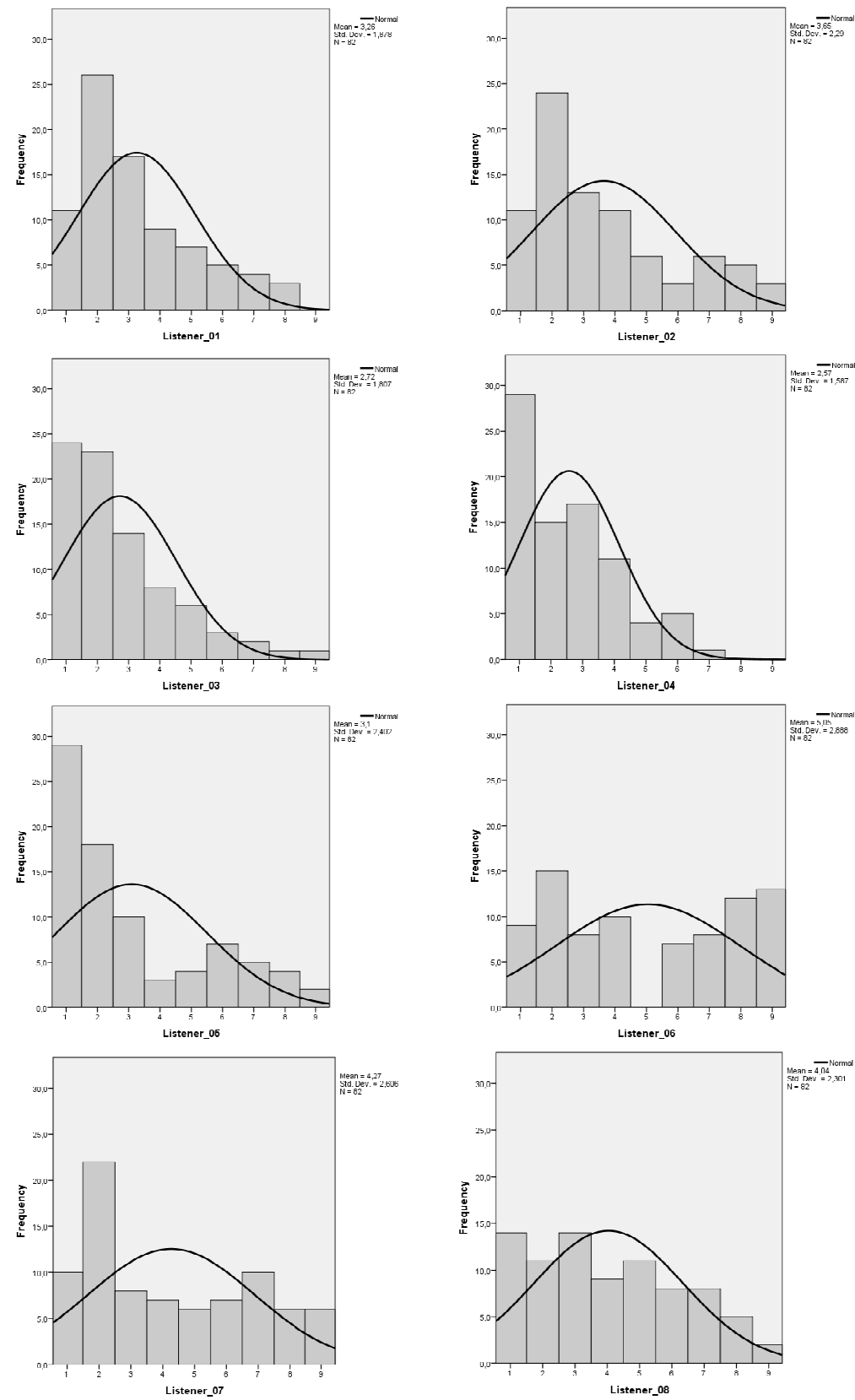
- La frase és llegida, per la qual cosa hi ha els errors típics de quan llegim en veu alta.
- No t'has de fixar en els errors, les repeticions i els dubtes si aquests no formen part del que considerem ACCENT.
- Fixa't, per tant, **NOMÉS EN L'ACCENT** de la persona que parla.

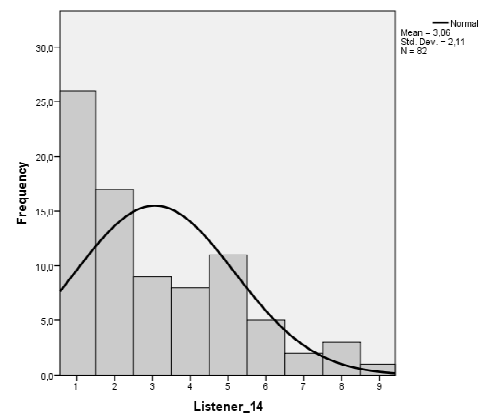
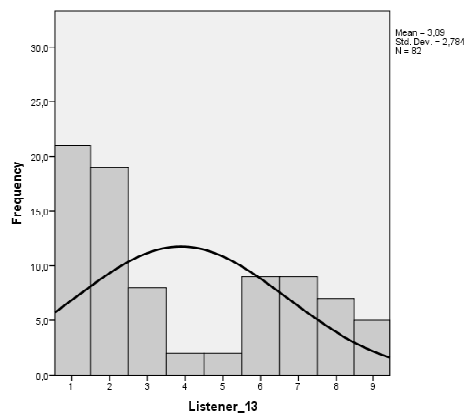
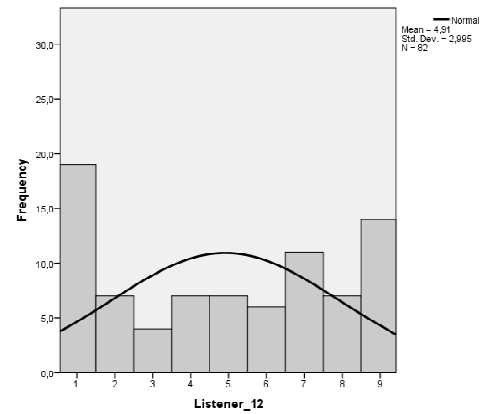
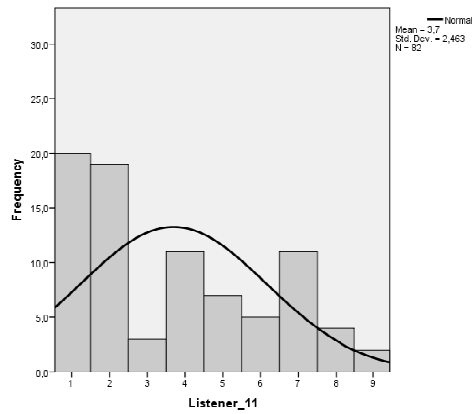
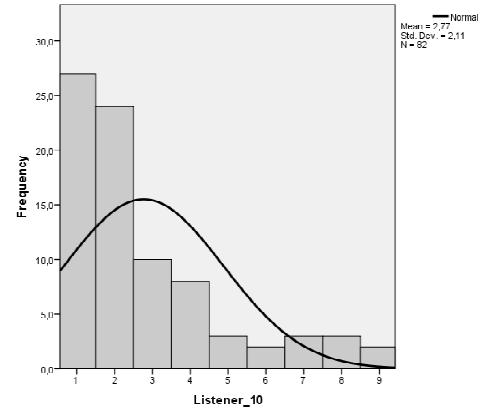
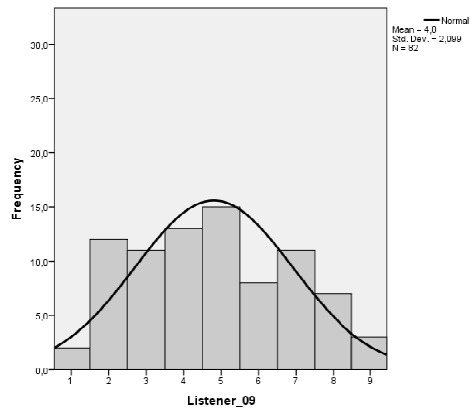
Altres coses:

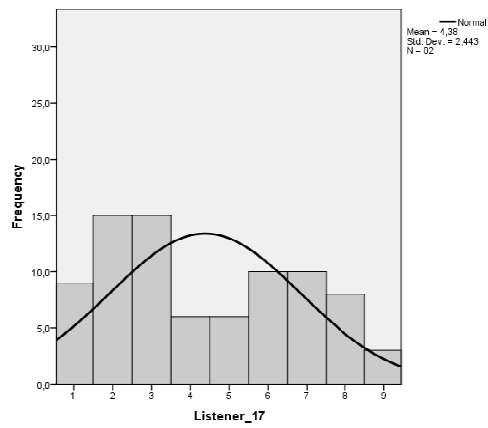
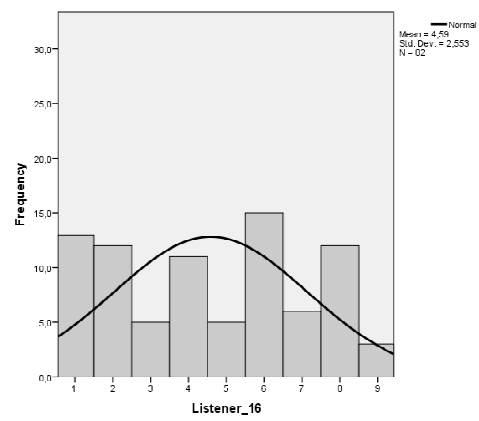
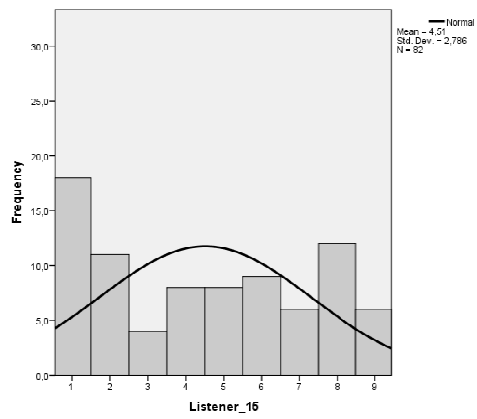
- És important que facis tot l'experiment.
- No cal tornar a escoltar l'àudio. Fes-ho només si no ho tens clar!
- Si necessites ajuda demana-la a les persones encarregades.

Appendix 4: Data Analyses

Listeners' ratings: Histograms







Analysis: Correlations

		Correlations				
		SD_Ratings	Mean_Ratings	Dominance	SAC_Total	SAC_Weighted
SD_Ratings	Pearson Correlation	1	,763**	,153	-,183	-,215
	Sig. (2-tailed)		,001	,571	,498	,424
	N	16	16	16	16	16
Mean_Ratings	Pearson Correlation	,763**	1	,114	-,152	-,071
	Sig. (2-tailed)	,001		,674	,573	,795
	N	16	16	16	16	16
Dominance	Pearson Correlation	,153	,114	1	-,504*	-,523*
	Sig. (2-tailed)	,571	,674		,046	,038
	N	16	16	16	16	16
SAC_Total	Pearson Correlation	-,183	-,152	-,504*	1	,934**
	Sig. (2-tailed)	,498	,573	,046		,000
	N	16	16	16	16	16
SAC_Weighted	Pearson Correlation	-,215	-,071	-,523*	,934**	1
	Sig. (2-tailed)	,424	,795	,038	,000	
	N	16	16	16	16	16

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Analysis: Independent-Samples T-Test

L_H_SAC_Weighted

		Group Statistics			
	L_H_SAC_Weighted	N	Mean	Std. Deviation	Std. Error Mean
SD_Ratings	1	8	2,5147	,44269	,15651
	2	8	2,2633	,29912	,10576
Mean_Ratings	1	8	4,1296	,87266	,30853
	2	8	3,6204	,74706	,26413

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SD_Ratings	Equal variances assumed	,479	,500	1,331	14	,205	,25139	,18889	-,15375	,65653
	Equal variances not assumed			1,331	12,289	,207	,25139	,18889	-,15910	,66189
Mean_Ratings	Equal variances assumed	,160	,695	1,254	14	,231	,50915	,40615	-,36195	1,38024
	Equal variances not assumed			1,254	13,675	,231	,50915	,40615	-,36390	1,38219

L_H_SAC_Total

Group Statistics

L_H_SAC_Total		N	Mean	Std. Deviation	Std. Error Mean
SD_Ratings	1	8	2,4399	,42052	,14868
	2	8	2,3381	,37257	,13172
Mean_Ratings	1	8	3,9543	,79942	,28264
	2	8	3,7957	,90241	,31905

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SD_Ratings	Equal variances assumed	,010	,922	,512	14	,616	,10176	,19863	-,32427	,52778
	Equal variances not assumed									
Mean_Ratings	Equal variances assumed	,207	,656	,372	14	,716	,15854	,42623	-,75565	1,07272
	Equal variances not assumed									

Analysis: Mann-Whitney U Tests

L_H_SAC_Weighted

Ranks

L_H_SAC_Weighted		N	Mean Rank	Sum of Ranks
SD_Ratings	1	8	10,50	84,00
	2	8	6,50	52,00
	Total	16		
Mean_Ratings	1	8	10,13	81,00
	2	8	6,88	55,00
	Total	16		

Test Statistics^a

	SD_Ratings	Mean_Ratings
Mann-Whitney U	16,000	19,000
Wilcoxon W	52,000	55,000
Z	-1,680	-1,365
Asymp. Sig. (2-tailed)	,093	,172
Exact Sig. [2*(1-tailed Sig.)]	,105 ^b	,195 ^b

a. Grouping Variable: L_H_SAC_Weighted

b. Not corrected for ties.

L_H_SAC_Total

Ranks

	L_H_SAC_Total	N	Mean Rank	Sum of Ranks
SD_Ratings	1	8	9,38	75,00
	2	8	7,63	61,00
	Total	16		
Mean_Ratings	1	8	8,88	71,00
	2	8	8,13	65,00
	Total	16		

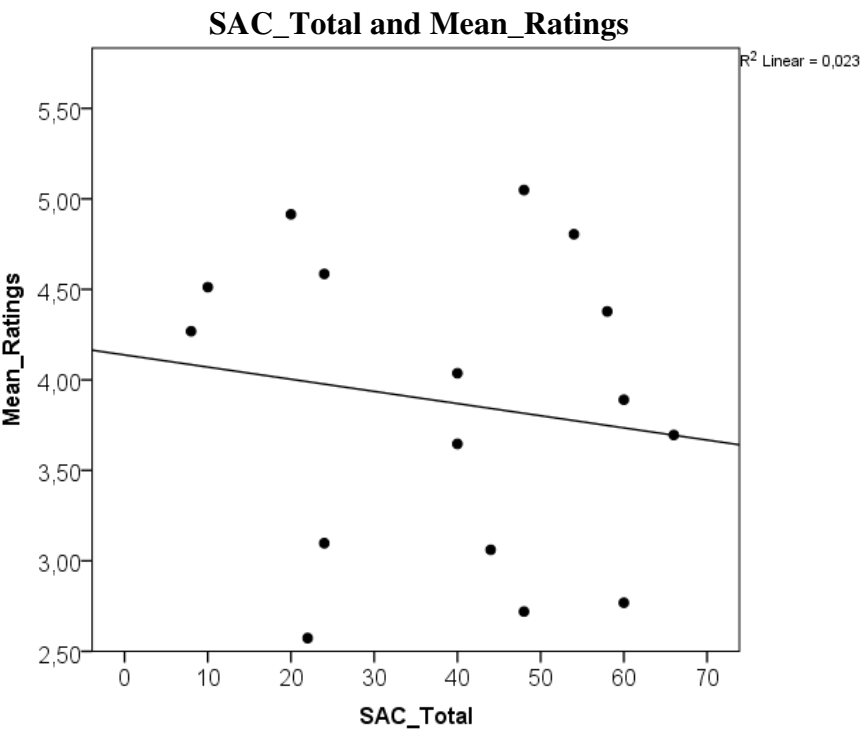
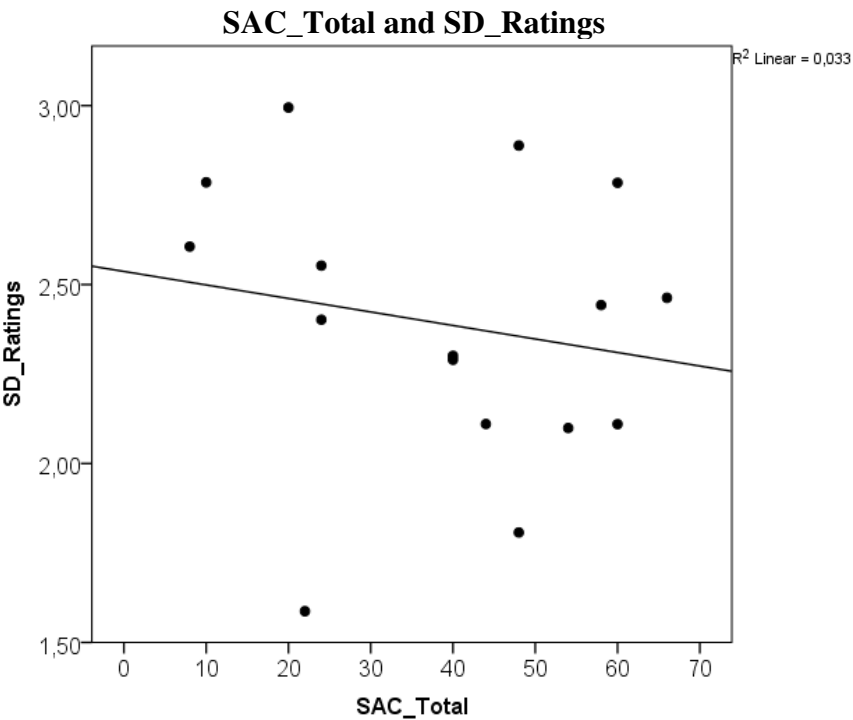
Test Statistics^a

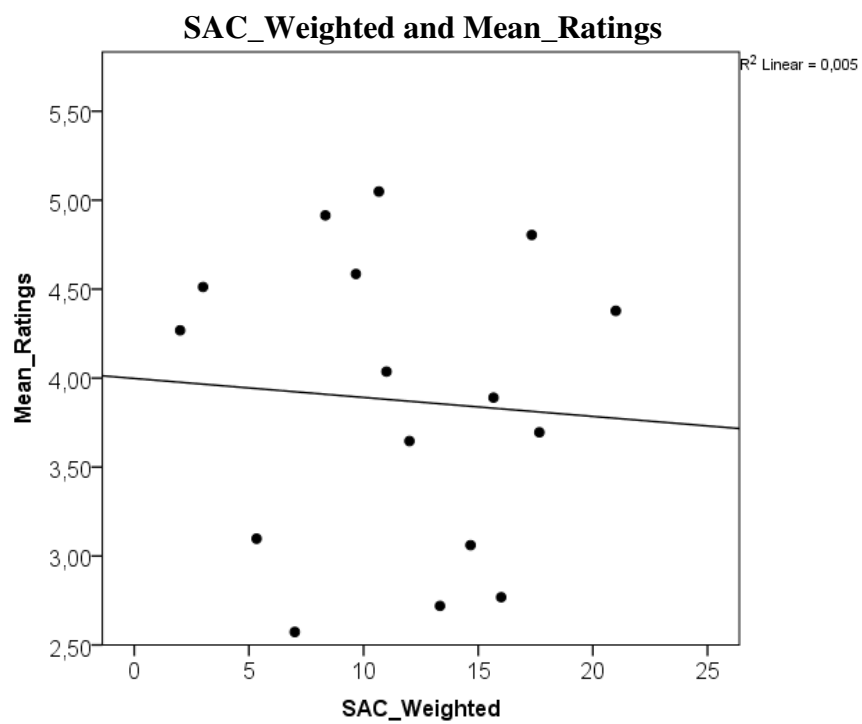
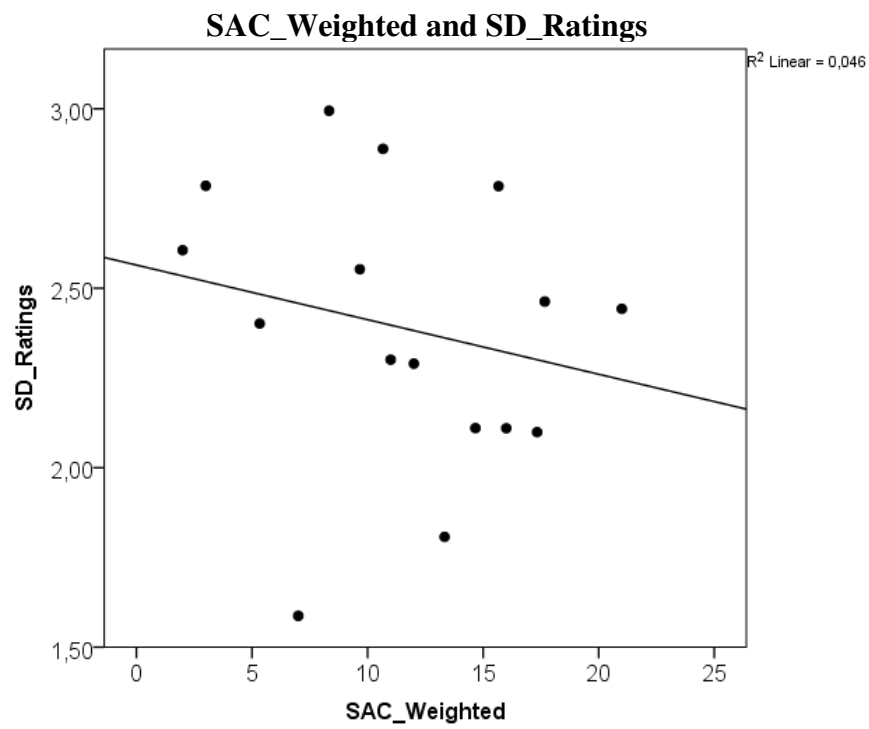
	SD_Ratings	Mean_Ratings
Mann-Whitney U	25,000	29,000
Wilcoxon W	61,000	65,000
Z	-,735	-,315
Asymp. Sig. (2-tailed)	,462	,753
Exact Sig. [2*(1-tailed Sig.)]	,505 ^b	,798 ^b

a. Grouping Variable: L_H_SAC_Total

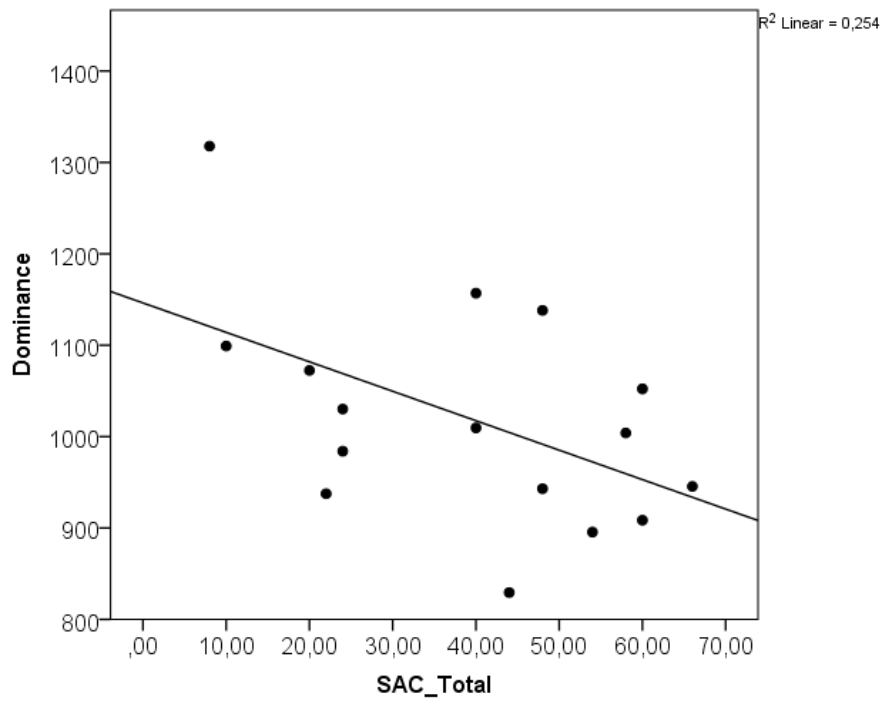
b. Not corrected for ties.

Analysis: Scatterplots





SAC_Total and Dominance



SAC_Weighted and Dominance

