# Factors Constraining Subject Expression in European Portuguese Spoken in Hamburg. A Bi-Generational Corpus Investigation

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The present study investigates subject expression in two generations of Portuguese migrants living in Hamburg, Germany. Based on a corpus of oral speech, we aim to assess whether second generation heritage speakers (HSs) differ from first generation migrants with respect to the factors constraining subject realisation/omission in European Portuguese (EP), a null subject language, in contact with German, a non-null subject language. The results do not reveal evidence in favour of ongoing language change, given that there are neither quantitative nor qualitative differences between the two generations of speakers. They show very similar overall rates of subject omission (around 67%) and they reveal sensitivity to the very same determining factors of subject pronoun realisation/omission, namely person and number, verb type, switch reference (topic continuity [TC]/topic shift [TS]) and distance. This finding is in line with previous corpus studies investigating the spontaneous speech of different generations of bilingual speakers or comparing monolingual and bilingual speakers of the same null subject language (e.g., Flores-Ferrán, 2004; Nagy, 2015). We conclude that language contact per se does not necessarily lead to a diverging grammar at an inter-generational level, as long as stable input conditions allow for the acquisition of the constraints that are valid for null subject languages.

**Keywords:** subject realisation and omission, heritage speakers, spontaneous speech corpus, European Portuguese, inter-generational language change

## 1. Introduction

1 This study investigates subject realisation and omission in two generations of Portuguese migrants living in Germany, specifically in the city of Hamburg. Based on a comparative corpus investigation, we aim to assess whether second generation heritage speakers (HSs) differ from first generation migrants with respect to the factors constraining subject expression in European Portuguese (EP), a null subject language, in contact with German, a non-null subject language. The main question is whether the status of Portuguese as non-dominant heritage language and the dominance of German, a non-null subject language, has an effect on the development of this grammatical domain in speakers living in Germany.

2      This research is motivated by several observations. Studies on HSs have shown that this group of bilingual speakers may diverge in some respects from monolingual speakers of the same language. The comparison of two migrant generations enables us to answer the question whether the younger generation of speakers *initiates* linguistic changes based on their input conditions or whether HSs *promote* language change already existing in the older generation (Rinke & Flores, 2014; Rinke et al., 2018). The third option – and in our understanding not less relevant than the first two possibilities – is of course that this group of speakers acquires the grammatical properties under consideration adequately despite the potentially unfavourable input conditions and despite intense language contact. The distribution of subjects is a very good testing ground for such an investigation because it has been argued to be a vulnerable domain in bilingual language development. In addition, there exist a number of comparable studies on various languages, although most of them only consider a small subset of the factors that are considered here.

3      In contrast to non-null subject languages, consistent null subject languages allow for referential pronominal subjects to be either left unpronounced or realised by an overt subject pronoun. The choice between omission and realisation depends on a number of syntactic and pragmatic factors. In general, overt subject pronouns tend to be used in contrastive or ambiguous contexts, in contexts of TS or when the antecedent is distant in the discourse (Cardinaletti & Starke, 1994; Chomsky, 1981; Montalbetti, 1984). According to the cited literature, a null pronoun generally represents the unmarked choice. Although the transitions may be fluid and the choice between an overt or null pronoun is often not categorical and may depend also on individual preferences, different pragmatic contexts show different tendencies of subject realisation/omission (Barbosa, 1995; Calabrese, 1986; Carminati, 2002; Tsimpli et al., 2004).

4      Existing research disagrees with respect to potential differences between monolingual and bilingual speakers concerning subject expression and omission in a null subject language. A number of studies report a tendency for bilinguals to overuse overt subjects in their null subject language. It has been shown, for example, that different groups of bilingual speakers do not consistently associate an overt pronoun with a TS interpretation (Montrul, 2004; Otheguy et al., 2007; Polinsky, 2006; Tsimpli et al., 2004). On the other hand, several studies on speech corpora of bilingual populations have not found differences between bilingual and monolingual speakers or first generation migrants (Flores-Ferrán, 2004; Nagy, 2015; Schmitz et al., 2016).

5      The present study takes these conflicting results as a starting point to investigate spontaneous speech samples of 12 speakers of two generations of Portuguese migrants living in Germany in order to assess potential processes of inter-generational language change in the domain of subject expression.

## 2.     Background

### 2.1.     Pragmatic and syntactic factors determining subject use
in null subject languages

6   There are two central questions, which have been addressed in the study of null subject languages such as EP: first, the question of possible licensing rules for subject omission (Barbosa, 1995 and 2009; Chomsky, 1981; Holmberg, 2010; Jaeggli & Safir, 1989; Kato, 1999; Rizzi, 1982) and, second, according to what principles overt and null subjects are distributed in these languages. We will not go into detail with respect to the first question, since it is not the focus of this paper to discuss the syntactic licensing conditions that are met by null subject languages. These conditions are apparently related to the agreement and tense system of a language and have been claimed to be subject to parametric variation (with a number of sub-parameters, cf. Barbosa, 2009; Holmberg, 2010; Kato, 2000). In the present study, we will focus on the second question, namely the variable use of overt and null subjects depending on the discourse context.

7   It is important to point out that subject use is not variable across the board in null subject languages. In non-referential contexts, for example, where a non-null subject language would employ an expletive, null subject languages obligatorily show null pronouns (*pro*). Examples come from sentences with a raising verb like *parecer* ("to seem") or a weather verb like *nevar* ("to snow" [1a]), from impersonal constructions with *haver* ("there is" [1b]), copula constructions with *ser* ("to be" [1c]) and propositional arguments (example [1d]). In all these contexts, the use of a null subject is mandatory, hence they do not form part of the "envelope of variation" (Labov, 1972).

[1a]     *pro* Parece que *pro* chove   muito.
            seems that        rains   much
         'It seems that it rains a lot.'

[1b]     *pro* Havia fome.
            was hunger
         'There was hunger.'
         (1GEN_T1_100)

[1c]     *pro* Foi a      primeira  vez.
            was the   first       time
         'It was the first time.'
         (1 GEN_T4_1)

[1d]     *pro* Foi em 1968.
            was in 1968
         'It was in 1968.'
         (1 GEN _T8_91)

8    On the other hand, overt subjects are normally required if a new referent is introduced into the discourse. In this situation, a null subject would, in principle, not be adequate. This means that null subjects are generally only available in *pronominal* contexts, i.e. if either the referent is part of the discourse situation (1st and 2nd person) or can be identified through the discourse context or previous mention. Hence, null subjects compete in general with overt pronominal subjects, and not so much with overt Determiner Phrases (DPs)[1].

9    In the remainder of this section, we will present different factors that modulate the choice between an overt and a null subject. In general, the choice between different referential expressions depends on the degree of accessibility of the discourse referent (cf. Ariel, 1990). The accessibility of a referent depends on different factors such as recency and frequency of mention, its prominence in the conversation, the structural position and the grammatical function of the antecedent in prior discourse (Ariel, 1990; Arnold & Griffin, 2007; Fukumura & Van Gompel, 2011; Givón, 1983; Gundel et al., 1993). According to Ariel's (1990) *Accessibility hierarchy*, full names and definite descriptions refer to referents of low accessibility, overt pronouns are used to refer to more accessible referents than full names but less accessible referents than null pronouns; the latter are used to refer to highly accessible referents. Hence, when both overt and null pronouns are grammatical in a given language, the overt pronoun marks lower accessibility than the null pronoun. In a language like German, however, which does not possess null subjects, this differentiation does not apply and highly accessible referents are expressed by overt pronouns.

10    A general principle guiding pronoun choice was established by Chomsky (1981) in terms of the "Avoid pronoun principle" (and similar suggestions such as Cardinaletti and Starke's [1994: 89] "Minimise Structure" principle), which predicts that a null pronoun is the unmarked choice and an overt pronoun should only be used in cases of emphasis or contrast (see example [2]).

[2]    *Ela* ia      para   o campo e    *eu* tinha   que   ir com ela.
       she went   to     the field and I had     to    go with her
       'She went to the field and I had to go with her.'
       (1GEN_T8_31)

11    Overt and null pronominal subjects are also employed differentially depending on whether a subject referent continues the topic of a preceding sentence (topic

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continuity [TC]) or shifts to a new topic (topic shift [TS]) (Calabrese, 1986). Tsimpli et al. (2004) assume that overt pronouns are marked by the interpretable feature [+TS] (*topic shift*) and null pronouns by the feature [-TS] (*topic continuity*). As a consequence, a null subject tends to continue the subject referent of the previous sentence when two referents are available, whereas an overt subject shifts the topic to the object of the previous sentence (see [3]). This preference has also been formulated in terms of a processing principle, the *Position of Antecedent Hypothesis* (PAH) by Carminati (2002). As shown by Lobo and Silva (2016), the PAH is also valid in EP (cf. Rinke & Flores, 2018).

[3]    a.    O rapaz$_i$    cumprimentou    o avô$_j$        quando pro$_i$/??$_j$    chegou a casa.
             the boy    greeted    the grandfather    when        arrived at home
       b.    O rapaz$_i$    cumprimentou    o avô$_j$        quando ele$_j$/??$_i$    chegou a casa.
             the boy    greeted    the grandfather    when he        arrived at home
       'The boy greeted the grandfather when he came home.'
       (Lobo & Silva, 2016: 321)[2]

12      In discourse, an overt pronoun is also used to establish a discourse link to a preceding referent, when another referent intervenes. We refer to these contexts as TS contexts (see [4]). By using the overt pronoun, the speaker signals a TS from the preceding referent (the son Manuel) to an anterior antecedent (in the example the husband, *pro$_i$*). In addition to reference shift, distance is also relevant. The more distant the antecedent is, the less accessible it is and the more likely it is that an overt pronoun will be employed.

[4]    *pro$_i$* Trabalhou    lá        um ano    de contrato.
             worked        there    one year    with contract

       Ao fim de   um ano *pro$_i$*    regressou a Portugal.
       after        one year        returned to Portugal

       Já *pro$_j$*    tínhamos    o nosso filho,    já        tinha nascido    *o Manuel.*
       already    had        the+our son    already    had born        the Manuel

       E    *ele* disse    que lhe custava    muito estar    na Alemanha...
       and    he said        that him find+hard    very to+be    in Germany

       'He worked there during one year on a contract. After one year, he returned to Portugal. We had already our son, Manuel was already born. And he said that it was hard to be in Germany...'

13      In a corpus of newspaper interviews from Lisbon and Rio de Janeiro, Barbosa et al. (2005) investigated the distribution of 3rd person overt and null pronoun

2.    The question marks are taken from the original examples and refer to potential alternative interpretations, which are only possible if certain pragmatic conditions are met.

subjects in European and Brazilian Portuguese. They reported that, overall, 22% (36) of these subjects were realised by an overt pronoun in EP, whereas 78% (126) were null subjects. The authors also showed that subject realisation was influenced by the position and distance of the antecedent. Barbosa et al. (2005) distinguished different patterns depending on the position (subject vs. distinct function) and distance (matrix clause, adjacent main clause, non-adjacent clause) of the antecedent. The results for the different patterns showed that overt subject use in EP varied between 3% in the condition with a subject antecedent in the matrix clause (1/40), 11% in the condition with a subject antecedent in an adjacent clause (6/55), 29% in the condition with a non-subject antecedent in an adjacent clause (8/28) and 33% in the condition with an antecedent in a non-adjacent clause (8/24).

14    A number of different factors exert an influence on the choice between overt and null subject: e.g., contrast, TS/TC, position/syntactic function of the antecedent, distance, or person and number. Pronoun realisation appears to be more frequent with reference to the speaker. This is shown by Cantero Sandoval (1978) for Mexican Spanish, where the 1st person singular pronoun *yo* is by far the most frequently realised overt pronoun. Barrenechea and Alonso (1973) show, for Argentinian Spanish, that *vos* (2nd person singular) is the most frequently realised pronominal form. In addition, Silva-Corvalán (1994) found that overt pronouns are more frequent in the singular than in the plural in Spanish spoken in the United States.

15    Another factor is verb semantics. According to Enriquez (1984: 118) epistemic and perception verbs and, in particular, verbs expressing an opinion show a tendency for pronoun realisation because these verbs encode a higher degree of subjectivity (cf. also Silva-Corvalán, 1994). However, as shown by Posio (2014), subject realisation in verbs like EP *achar* [think, find] and Spanish *creer* [think] may differ cross-linguistically. In Spanish, the realisation of subject pronouns in the "I think" construction is twice as high as in the corresponding Portuguese construction. According to Posio (2014: 16), "attributing the frequent subject pronoun expression in Spanish entirely to functional factors is implausible". The author proposes that the higher proportion of subject realisation in Spanish in comparison to EP is related to the more advanced degree of grammaticalisation of Spanish *creer* in comparison to Portuguese *achar*.

16    Furthermore, some authors suggest that the realisation of overt pronouns also correlates with the ambiguity of morphological verb endings. For example, Spanish dominant bilinguals in Silva-Corvalán's (1994) study of Spanish in Los Angeles showed sensitivity to morphological ambiguity with a higher proportion of subject pronouns in ambiguous contexts. However, Enríquez (1984), in a study of Madrid Spanish, did not find an effect of verbal ambiguity: morphologically ambiguous verb forms (e.g., 1st/3rd p. sing. imperfect *hablaba* [I/he/she spoke]) were not more likely to be used with overt subjects than verb forms with unambiguous number and person distinctions (e.g., *hablo* [I speak]).

17      Summing up, different factors determine the choice between overt and null subjects in discourse. Null pronouns are the unmarked option and are used to refer to highly accessible referents, TC, and less distant antecedents. Overt pronouns tend to be employed in contexts in which the referent is less accessible or contrastive, when TS occurs, when the antecedent is more distant and, presumably, when the verbal form is ambiguous. In general, overt pronouns also appear to be more frequent with epistemic and declarative verbs, to occur more with 1st person reference and to be more likely with singular than with plural verb forms.

## 2.2.    A note on German

18      German is a non-null subject language. Hence, it does not show the same variable distribution of null and overt subjects as Portuguese. Nevertheless, subject pronouns can be omitted in German under certain conditions. The respective phenomenon is called topic drop (see example [5]). Topic drop occurs frequently in spoken (colloquial) German and refers to a sentence structure in which the sentence-initial constituent is phonologically deleted.

[5]     A:  Was   ist   denn   mit    Sophia?
            what  is    then   with   Sophia
        A:  'What's the matter with Sophia?'

        a.  B:  Ist mir   fremd gegangen.
                is   me    cheated
            B:  'She cheated on me.'

        b.  B:  Hab'  ich seit   drei   Wochen   nicht   mehr   geseh'n.
                have  I since  three  weeks     not    more   seen
            B:  'I haven't met her for three weeks.'

        (examples from Fries, 1988: 20)

19      As can be seen in example [5], topic drop applies not only to subjects but also to other types of constituents, e.g. objects (see [5b]) or Verb Phrase-constituents. Datives, genitives and prepositional phrases cannot be dropped. The phenomenon is generally analysed as "pronoun zap" (Huang, 1984), a construction in which a pronoun has been moved to the sentence initial position (Specifier Complement Phrase [SpecCP]) and is subsequently deleted. Since topic drop represents a case of "pronoun omission", it shares some pragmatic commonalities with EP-type null subjects; for example, both phenomena presuppose that the reference of the omitted constituent can be deduced from the context (i.e., they represent old information/ are topics). In German, this is generally the case with overt pronouns as well.

20      However, despite this commonality and some of its pragmatic consequences (e.g., definiteness and preferentially short distance of the referent, if it has been mentioned in the previous context), null subjects and topic drop are fundamentally different in many respects. In contrast to null subjects in EP, German topic drop is highly restricted.

21    Syntactically, topic drop is only licensed in sentence-initial position, which is crucially *not the syntactic subject position* in German, but the so-called "Vorfeld"-position (= SpecCP), since German is a verb-second language. This position may be occupied by very different syntactic constituents. This explains why topic drop, in contrast to pro drop (i.e., drop of the subject), involves different types of constituents, not only subjects (Fries, 1988).

22    The second crucial difference between topic drop and pro drop is that the former is restricted to the colloquial register and to narratives in German; no such restriction exists with respect to the latter in EP. Null subjects represent the unmarked option of subject realisation in Portuguese. Corpus studies reveal a proportion of up to 80% of null subjects in discourse (cf. Barbosa et al., 2005), whereas topic drop is a marked option in German (Schäfer et al., 2018). It occurs in 5-15% of the corpus (cf. Reich & Horch, 2017) and cannot be considered a "general syntactic pattern" of German because it occurs in very specific conversational positions and has delineated pragmatic functions (Auer, 1993). For example, topic drop occurs frequently with 1st person subjects and correlates pragmatically with expression of speaker attitudes, evaluations, elaborations and comments (Auer, 1993). Interestingly, these are contexts in which null subject languages tend to show higher rates of subject *realisation* (see Section 2.2). This shows that the two constructions do not only differ syntactically but also pragmatically.

23    Consequently, pronoun resolution in contexts such as [3], where the PAH applies to null and overt subjects in Portuguese, works quite differently in German: pronominal subjects generally mark TC, whereas TS is marked by a demonstrative (sentence [6] is the German equivalent of example [3]; cf. Bosch et al., 2003; Wilson et al., 2009).

[6]    Die Mutter$_i$  begrüßte  die Großmutter$_j$  als sie$_i$/diese$_j$        in die Küche kam.
       the mother   greeted    the grandmother   when she/this one  in the kitchen came
       'The mother greeted the grandmother when she entered the kitchen.'

24    Crucially, a null subject would be ungrammatical in German in contexts such as [6] because it is excluded in subordinate contexts. But this might not be the only reason. In fact, topic drop cannot be equated with *topic continuity*, as shown by Schäfer et al. (2018). In a rating task, the authors showed that topicality of the constituent does not have an effect on the acceptability of topic drop.

### 2.3.    Previous studies on subject realisation and omission in bilingual speakers

25    Since studies on this topic are numerous, this literature overview cannot be exhaustive. As already mentioned, the studies investigating subject expression have yielded conflicting evidence concerning potential differences between bilingual and monolingual speakers. We will discuss studies on various null subject languages, in particular Spanish, because null subject languages behave similarly with respect to

the distribution of overt and null subjects (Barbosa, 1995). Minor cross-language differences are not relevant for this overview.

26    Experimental studies on different groups of bilingual children and adults have repeatedly revealed an overuse of overt subject pronouns in contexts of TC. As for long-term immigrants, the studies by Tsimpli et al. (2004) (native speakers of Italian with near-native L2 English) and Kaltsa et al. (2015) (native speakers of Greek with L2 Swedish) revealed that these speakers associate overt pronouns less often with TS than monolingual controls, which is interpreted as L1 attrition.

27    A similar effect of overusing the overt pronoun in contexts of TC, where a null subject would be more appropriate, has been reported for bilingual children. A Spanish-English bilingual child investigated by Paradis and Navarro (2003) showed higher rates of overt subjects and used them in pragmatic contexts diverging from the monolingual children in the same study. Nevertheless, the use was not completely "un-Spanish-like" (Paradis & Navarro, 2003: 387). Similar findings were reported in Serratrice et al.'s (2004) study of a bilingual English-Italian child (1;10-4;6) who was sensitive to the pragmatics of the distribution of overt and null subjects but showed instances of pragmatically inappropriate overt subject pronouns. Sorace et al. (2009) investigated the use of overt and null subjects in an acceptability judgement task including TC/TS contexts. Their study included bilingual English-Italian (in the United Kingdom and in Italy) and Spanish-Italian children (in Spain) as well as monolingual Italian children and adults as control group. The results showed an effect of age and language of the community: younger children with English as the environmental language accepted more overt pronouns in contexts where a null pronoun would be more appropriate. This effect was, however, not only found in the English-Italian group but also in the (older) Spanish-Italian bilinguals, suggesting that cross-linguistic influence from English cannot be the only explanation for the divergent behaviour of the English-Italian bilinguals. This conclusion is supported by Rinke and Flores (2018) in a study comparing German-Portuguese and Spanish-Portuguese bilingual children and teenagers to monolingual Portuguese children and adults. In a comprehension experiment, the bilinguals in this study also interpreted more overt subjects in terms of TC. However, there was no effect of the environmental language of the participants and this behaviour was also attested in younger monolingual children. Hence, the pronoun typology of the bilingual's language pair was not relevant.

28    An overuse of overt pronouns in null subject contexts has also been found in adult HSs. For example, Polinsky (2006) reported that, in Russian, a resumptive pronoun signals TS, but Russian HSs use resumptive pronouns with any subject and/or topic regardless of topic discontinuity. Kaltsa et al. (2015) (Greek HSs in Sweden) and Keating et al. (2011) (Spanish-English early bilinguals) confirmed that HSs did not consistently show a preference for associating the overt subject pronoun with TS or even preferred to use the overt pronoun in TC contexts. Montrul (2004) reported that in an oral narrative production task, advanced HSs of Spanish with English as dominant language did not differ from the monolingual

group but speakers with an intermediate level of proficiency produced more overt and fewer null subjects than monolinguals. Interestingly, the intermediate HSs in this study did not only use more overt pronouns in TC contexts but also more null subjects in TS contexts.

29      Corpus studies investigating the spontaneous speech of bilinguals have only partly confirmed these findings. One such study is Otheguy et al. (2007), which compared speakers of different dialect regions (Caribbeans vs. Mainlanders) and different generations (recently arrived vs. speakers born/raised in New York) with respect to subject use. The results revealed that New York born and raised speakers (NYBR) had a higher rate of overt pronouns than newcomers (38% vs. 30%). They also found evidence for dialectal influence on NYBR Mainland speakers from NYBR Caribbean speakers concerning the conditioning factors of null/overt subject use. Shin and Otheguy's (2009) investigation of New York Spanish also showed that bilinguals born and raised in New York City were less sensitive to continuity of reference in the 1st and 2nd person, whereas they behaved like monolinguals with respect to the 3rd person singular. The authors argued in favour of a functional explanation of change, because the bilinguals maintained the functional differentiation between overt and null subjects in the context where it is functionally relevant.

30      Silva-Corvalán's (1994) study on three groups of Spanish-English bilinguals living in Los Angeles was not conclusive concerning potential differences between bilingual and monolingual speakers towards subject use. For example, the group of bilinguals born and raised in the United States, who were expected to produce the highest rate of overt pronouns, showed in fact the lowest proportion of overt subjects. In addition, most constraints on null pronoun variation were in agreement with non-contact varieties of Spanish. However, the bilinguals born in the United States did not always follow some of the constraints that influenced the choice of Spanish dominant bilinguals, showing a decrease in the strength of the coreferentiality constraint (i.e., the constraint of using a null subject in TC contexts). Furthermore, they appeared to have lost the verbal ambiguity constraint (the preferential use of overt pronoun forms with morphologically ambiguous verbs).

31      Bayley and Pease-Alvarez (1997) investigated subject pronoun expression in Mexican immigrant children living in California, asking whether contact with English led to higher rates of subject realisation. The authors (1997: 368) concluded that their results "provide no support for the hypothesis that bilingual Spanish is developing in the direction of greater overt pronoun use, the option that is congruent with English". In fact, they argued "that English dominant children are less likely to choose overt pronouns than are Spanish dominant children, although this result may be in part a consequence of the task".

32      A similar conclusion was reached by Flores-Ferrán (2004) in a study on Puerto Rican residents in New York City. The study compared New York residents with speakers residing on the island and concluded that Puerto Rican residents in New York City do not diverge from speakers living on the islands with respect to

the expression of overt subject pronouns "in patterns, frequencies, and probability weights" (Flores-Ferrán, 2004: 69). The author claimed that "there is more evidence in this study that points toward a noncontact hypothesis than to a contact hypothesis" (Flores-Ferrán, 2004: 69).

33     Torres Cacoullos and Travis (2010) investigated the variable use of the 1st person singular pronoun *yo* in New Mexican Spanish which is a contact variety of Spanish in contact with English. The authors concluded that bilingual speakers follow "the same grammatical patterning as has been identified for non-contact varieties, and that this is the case regardless of the degree of bilingualism of the speakers" (Torres Cacoullos & Travis, 2010: 241). The authors found a slightly higher rate of subject expression in the presence of code-switching which they attributed to a cross-linguistic priming effect and not to a change induced by language contact with English.

34     Nagy (2015) investigated subject expression across different generations of speakers of different heritage languages spoken in Toronto (Cantonese, Italian and Russian), showing that first and second/third generation immigrant speakers never differed in their rate of overt subject expression. With respect to the constraints conditioning subject use, the author found that the different generations of speakers of Cantonese and Italian did not diverge, but that the first generation of Russian speakers differed from the second/third generation with respect to grammatical person and negation. Crucially, this difference could not be attributed to the influence of English (Nagy, 2015).

35     Finally, the study by Schmitz et al. (2016) compared first and second generation speakers of Spanish and Italian living in Germany. Based on informal conversations, the authors analysed the overall frequency of null/overt subjects, the effect of grammatical person and pragmatic appropriateness. The results revealed that the bilingual speakers did not diverge from monolingual controls, neither in terms of the frequency of subject realisation nor with respect to the appropriateness of overt subject pronouns.

36     In the present study, we will take the observations of previous studies as a starting point for the comparison of two generations of a population of speakers that have not yet been investigated. In doing so, we will combine different factors that have been considered in other studies in order to determine potential quantitative and qualitative differences between the two generations. More precisely, we will focus on grammatical person, verb type, reference switch, ambiguous inflectional morphology and the syntactic role of the referent.


## 3.    The Portuguese community in Hamburg

37     Migration from Portugal to other European countries, including Germany, began during the period of the Portuguese dictatorship (mid 1950s), and was motivated by the Colonial war in Africa and the impoverishment of a very significant proportion

of the Portuguese population, especially in rural areas of the country. The migration flow to Germany increased after Portugal and Germany signed a bilateral agreement on labour recruitment in 1964, with the aim of controlling the temporary stay of Portuguese labourers in Germany (Pinheiro, 2010). Hamburg was the city that attracted most Portuguese migrants due to the harbour, where a significant part of Portuguese men worked (Freund, 2007).

38        From 1955 to 1973 almost 166,000 Portuguese migrants, most of them male labourers, were working in Germany as so-called "guest workers" (*Gastarbeiter*). Part of this population returned to Portugal in the period of 1970-1980, when Portugal became a democratic state and the return was incentivised by the German government; the other (larger) part requested a license to bring their families, including their children, to Germany (Pinheiro, 2010). The return to Portugal later in life was always a lifetime aim for many of these 1st generation families. To achieve this aim, educating their children in Portuguese was always seen as a requirement (Azevedo, 2003). The newly arrived children, or the inborn second generation, should be prepared to join the Portuguese school system in the event of a return to Portugal. Thus, access to formal education in Portuguese was a growing demand of first generation parents in the 1970s, particularly in areas with large communities, as was the case of Hamburg (Azevedo, 2003). In this period, several so-called "Portuguese schools" (*escolas portuguesas*, officially named *Curso de Língua e Cultura Portuguesas* – "Portuguese Language and Culture Courses") were founded as complementary afternoon schools in many German cities. These classes were offered either by the Portuguese consulates or by the Portuguese Catholic Mission in Germany.

39        One of the first Portuguese schools in Germany was founded by the Portuguese Catholic Mission in Hamburg, starting in January 1973 (Azevedo, 2003), which was followed by the establishment of several classes organised by the Portuguese consulate in Hamburg. Even though their enrolment was not compulsory, the vast majority of children who immigrated to Hamburg or were born in this period attended these classes.

40        At this point, it is crucial to highlight that during the first three decades of their existence, the "Portuguese schools" in Germany taught Portuguese as the native language, with an identical curriculum in the subject "Portuguese" as in the home country. Some courses also included the subject "History and Geography of Portugal" and, in more advanced grades, also "Portuguese Literature". The classes took place once or twice a week in the afternoon or on Saturdays (three to six hours a week).

41        It is not the aim of this overview to go into further details about the reorganisation of these "Portuguese Language and Culture Courses", which function now as a well-established network called "Teaching Portuguese Abroad" (*Ensino de Português no Estrangeiro – EPE*) under the aegis of the Portuguese Ministry of Foreign Affairs (through the Camões – Institute of Cooperation and Language), with specific regulations, its own curriculum and teachers hired by the Ministry

(Coordenação do Ensino Português na Alemanha, 2018). Importantly, six decades after the establishment of the first generation of Portuguese migrants in Hamburg, unsurprisingly, the Portuguese and Portuguese-descendant population living in Hamburg is currently very diverse. It ranges from fourth generation children, who no longer speak Portuguese, to newly immigrated first generation families who mainly speak Portuguese at home. Between these extremes lies a multiple range of profiles of Portuguese-speaking children and adults with different levels of proficiency and different types of connections to the home country (Melo-Pfeifer & Schmidt, 2016).

42      The "Teaching Portuguese Abroad" network has adapted to these ongoing changes, no longer teaching Portuguese as a native language, but offering heritage language courses with a differentiated curriculum and a "Framework of Reference for Teaching Portuguese Abroad" (*Quadro de Referência para o Ensino Português no Estrangeiro – QuaREPE*, Grosso et al., 2011). The classes now include children from various generations of speakers, from different backgrounds (including from other Portuguese-speaking varieties, e.g. Brazilian or Cape Verdean Portuguese) and diverse levels of proficiency.

43      From the sample of 12 adult speakers of EP, whose oral data are analysed in the present study, six belong to the first generation who immigrated to Hamburg as young adults in the 1970s, when the labour agreement was signed. All six speakers had returned to Portugal some time before the interviews were conducted (less than five years), having lived in Germany for more than 30 years. The other six belong to the second generation of Portuguese speakers, who were born in Hamburg in the 1980s into first generation families. They belong to the generation of in-born Portuguese-descendants who attended the Portuguese afternoon schools in a period when it was still framed as an extension of the homeland school. The next section gives more detailed information about the speaker samples.

## 4.    Corpus

### 4.1.    Speakers

44      The corpus is composed of 12 oral interviews with a duration of approximately one hour each. All interviews were carried out individually, tape-recorded and transcribed. The interviewees talked about topics related to their own life and their parents' experiences, their attitudes towards bilingualism and biculturalism, issues of language use and the perceived similarities and differences between Portugal and Germany at various levels. All interviews were conducted in Portuguese, with some instances of code-switching in the second generation corpus. The interviews were conducted by two researchers who themselves had been members of the Portuguese community in Hamburg. Interviews took place in the period of 2008-2011.

45      The six first-generation migrants (1GEN) were between 48 and 70 years old when the data were gathered (mean age: 59.8; SD: 6.8). All immigrated to Hamburg as young adults in search of better living conditions and lived there for at least 30 years. They

were low-educated and had working class jobs in Hamburg, where they raised their children. All accomplished the aim of building a house in Portugal and returning to their home country, but they maintained a link to Germany through family members who remained there (e.g., descendants who did not return with their parents). All speakers stated that they were much less fluent in German than in Portuguese, the only language used within the family and with the members of the Portuguese community. Apart from the family, they had daily contact with Portuguese through their Portuguese-speaking neighbours, going to church, being members of Portuguese associations, visiting Portuguese restaurants and cafés and through the media (mainly radio at this time). They also visited Portugal regularly, at least once a year.

46    As for the six speakers belonging to the second generation of Portuguese migrants in Germany (2GEN), they were between 26 and 31 years old when they were interviewed (mean age: 28.7; SD: 3.2). All were born in Germany to Portuguese first-generation parents, but at the time of data collection they were no longer living with their parents. All speakers stated that they were fully bilingual, but felt much more comfortable in speaking German, which was claimed to be their dominant language. Furthermore, all speakers reported a significant decrease in the use of Portuguese from adolescence to adulthood. While Portuguese was the dominant language spoken at home with their parents and with the Portuguese community, as adults they used predominantly German in their daily interactions, including with their partners. All attended the Portuguese classes described above up to adolescence and used to visit Portugal regularly during the summer holidays, while they lived with their parents. Even though they still showed a tight link to Portugal and to the family living in Portugal, they saw Germany as their effective home country.

47    In sum, the 1GEN speakers represent the typical profile of Portuguese first generation migrants, who migrated to Germany when the migration flow started. Portuguese is their native language, being much more present in their daily life than German, the societal language. Conversely, the 2GEN speakers represent typical second generation HSs, who grew up with a steady presence of Portuguese in their daily life during childhood and adolescence, having acquired some literacy skills in their heritage language; however, they are dominant in German and use the societal language considerably more often than the heritage language.

## 4.2.    Coding

48    For the present study, 300 clauses per speaker were extracted from the whole corpus, amounting to a sample of 3,600 tokens. These were coded manually according to the variables presented in Table 1.

49    In a second step, we excluded all clauses with non-pronominal subjects. From the resulting sample, we further excluded all clauses with propositional and with impersonal null subjects (see Section 3.2 for "mandatory" null subjects). The remaining sample of 2,335 clauses includes only sentences where variation between a pronominal or a null subject is licensed.

|   | Variable | Factors |
|---|----------|---------|
| **1** | verb | all verbs used in the sample |
| **2** | verb type | epistemic and volition verbs / other verbs |
| **3** | clause type | main / subordinate clause |
| **4** | subject type | pronominal / null / ind. NP / def. NP / relative pronoun / *wh*-pronoun / demonstrative / quantifier / reflexive clitic / clause |
| **5** | person | 1st / 2nd / 3rd person |
| **6** | number | singular / plural |
| **7** | distance of the antecedent | adjacent / non-adjacent |
| **8** | syntactic function of the antecedent | subject / non-subject complement |
| **9** | switch reference | switch / no switch with regards to the subject referent |
| **10** | contrastive function | overt pronoun marks contrastive focus / or not |
| **11** | 1st-3rd p. sing. form overlap | overlap / no overlap |
| **12** | change of interlocutor | switch from the interviewer to the interviewee / no switch |

Table 1 – Coding variables

## 5.    Research questions

50    As already mentioned in the introduction, the central aim of the present study was to analyse the linguistic constraints that trigger subject pronoun realisation or omission in the speech of two different generations of Portuguese long-term residents in Hamburg. In particular, we address two research questions:

> 1. What are the linguistic variables determining pronominal subject realisation/ omission in the speech of first and second generation speakers of EP living in Germany?

51    In line with the studies discussed in Section 3.1, we have coded for different factors, which were identified in the literature to determine the choice between an overt and a null subject pronoun in discourse. As already mentioned, we expect null subjects to be generally more frequent (the unmarked option) and to occur in contexts where the referent is highly accessible. They are also expected in contexts of TC (no switch reference), and with relatively close antecedents. Overt pronouns are expected to occur with less accessible and more distant antecedents or when TS occurs. Ambiguous verbal morphology, epistemic and declarative verbs, 1st person and singular referents are also expected to trigger the use of overt pronominal forms.

52    If speakers show these effects, this means that EP, spoken under the sociolinguistic circumstances described above for the Portuguese community in Hamburg, is constrained by the same factors that trigger subject realisation and omission in other varieties of consistent null subject languages, including homeland Portuguese (cf. Barbosa et al., 2005; Lobo & Silva, 2016; Rinke & Flores, 2018).

53    Our second research question focuses on cross-generational differences concerning subject expression in the two immigrant generations:

> 2. Do second generation speakers (HSs), who are dominant in the majority language, German, differ from first generation speakers with respect to pronominal subject realisation/omission, quantitatively and/or qualitatively?

54    If Portuguese second generation speakers show a similar tendency of subject over-realisation as has been observed, for instance, in speech corpora of HSs of Spanish in the United States (Otheguy et al., 2007; Shin & Otheguy, 2009; Silva-Corvalán, 1994) or in several experimental studies on bilingual speakers (Kaltsa et al., 2015; Sorace et al., 2009; Tsimpli et al., 2004), we expect to find overall higher rates of overt pronouns in the 2GEN sample compared to the 1GEN sample. In this case, what triggers variation is the language contact situation, i.e. the daily presence of a dominant environmental non-null subject language, independently of the daily use of Portuguese.

55    If, on the other hand, language transmission between different immigrant generations is very stable in speech communities where the home language is valued and actively used, as is the case of EP in the context described in this study, there will be no considerable differences between the sub-samples. This has been shown in corpus studies where two immediate generations of the same speech community were analysed (e.g., Flores-Ferrán, 2004; Montrul, 2016; Nagy, 2015; Schmitz et al., 2016; Torres Cacoullos & Travis, 2010). This outcome would not exclude the possibility that language change may affect speech communities in language contact settings over time, but it would indicate that variation may also be an ongoing, stable process that does not necessarily lead to change from one generation to the other but takes several generations with various degrees of language use to become visible.

## 6.    Results

56    The total number of tokens analysed in the whole corpus is 2,335. Table 2 shows the overall distribution of overt and null subjects in the corpus (both samples together).

| null | % | overt | % | all |
|------|------|------|------|------|
| 1,553 | 66.5% | 782 | 33.5% | 2,335 |

Table 2 – Overall distribution of null/overt subjects (raw counts and percentages)

57    In the next step, we present the results of the mixed-effects logistic regression model applied to all the corpus samples, which assesses the effects of the independent linguistic variables. Then, the proportion of null/overt subjects per variable will be discussed by discriminating the results for each sample.

## 6.1.    Mixed-effects logistic regression model

58    For the statistical analysis a mixed-effects logistic regression model was used in Rbrul (Johnson, 2009), with speaker as random effect, the type of subject (overt vs. null) as binary dependent variable (with null as application value) and the following independent variables: verb type (target vs. other), grammatical person and number (six factors: 1st p. sing., 1st p. pl., 2nd p. sing., 2nd p. pl., 3rd p. sing., 3rd p. pl.), switch reference (TS vs. TC) and generation (1GEN vs. 2GEN).

59    The model revealed a predictive effect of switch reference ($p < 0.001$), verb type ($p < 0.001$) and grammatical person and number ($p < 0.001$), but no predictive effect of generation ($p = 0.771$). Table 3 shows the statistical results (logodds, proportion and factor weight).

| variable | factor | logodds | tokens (n) | proportion (%) | factor weight | $p$ (sig) |
|---|---|---|---|---|---|---|
| switch reference | TC contexts | 0.741 | 1,331 | 79.3 | 0.676 | < 0.001 |
| | TS contexts | -0.741 | 1,003 | 49.6 | 0.323 | |
| verb type | other verbs | 0.586 | 2,123 | 68.8 | 0.642 | < 0.001 |
| | epist./vol. verbs | -0.586 | 211 | 43.6 | 0.358 | |
| person_number | 2nd p. sing. | 0.834 | 43 | 74.4 | 0.697 | < 0.001 |
| | 1st p. pl. | 0.349 | 202 | 70.8 | 0.586 | |
| | 3rd p. pl. | 0.198 | 84 | 64.3 | 0.549 | |
| | 1st p. sing. | -0.073 | 1,357 | 67.1 | 0.482 | |
| | 3rd p. sing. | -0.390 | 471 | 61.4 | 0.404 | |
| | 2nd p. pl. | -0.918 | 8 | 37.5 | 0.285 | |
| generation | 2GEN | 0.048 | 1,087 | 65.8 | 0.512 | = 0.771 |
| | 1GEN | -0.048 | 1,247 | 67.1 | 0.488 | |
| log.likelihood (-1,289.005) / AIC (2,598.01) / R2.fixed (0.161) / R2.random (0.07) / R2.total (0.231) | | | | | | |

Table 3 – Mixed-effects logistic regression model (whole corpus)

60    Regarding switch reference, the high logodd values for TC in contrast to TS contexts (0.741 vs. -0.741) confirm a higher probability for null subjects to occur in contexts of TC. There is a lower probability for null subjects to occur with certain verb types (epistemic/volitional verbs), which will be presented below (-0.586

vs. 0.586 logodds for all remaining verbs). The model also shows that the grammatical person plays a role, with 1st and 3rd person plural showing a higher likelihood of occurring with null subjects than the 1st and 3rd person singular. The 2nd person singular and plural are on the extreme point of the list, with 2nd person singular showing the highest and the 2nd person plural showing the lowest probability of triggering a null subject. Note, however, that the number of tokens for the 2nd person is relatively low.

**61**    As for the extra-linguistic variable generation, the logodds are close to zero, indicating that there is no probability for one of the generations to show higher rates of omission. The overall proportion of null subjects is 65.8% in the 2GEN sample and 67.1% in the 1GEN sample.

## 6.2.    Distribution of null and overt subjects in the two generations and individual variation

**62**    The total number of tokens analysed in the whole corpus was 2,335. 1GEN has 1,247 tokens, ranging from 158 to 256 tokens per speaker (mean: 207.8; SD: 35.8). In the 2GEN sample, the total number of analysed tokens is 1,088 (161 to 204 tokens per speaker, mean: 181.3; SD: 16.1). Table 4 presents the overall proportion of subject realisation/omission per 1st and 2nd generation speaker.

| | Speaker | null | % | overt | % | all |
|---|---|---|---|---|---|---|
| **1GEN** | 1G_1 | 151 | 59.0% | 105 | 41.0% | 256 |
| | 1G_2 | 109 | 61.9% | 67 | 38.1% | 176 |
| | 1G_3 | 160 | 77.3% | 47 | 22.7% | 207 |
| | 1G_4 | 140 | 63.1% | 82 | 36.9% | 222 |
| | 1G_5 | 110 | 69.6% | 48 | 30.4% | 158 |
| | 1G_6 | 167 | 73.2% | 61 | 26.8% | 228 |
| | **Total 1GEN** | **837** | **67.1%** | **410** | **32.9%** | **1,247** |
| **2GEN** | 2G_1 | 151 | 79.9% | 38 | 20.1% | 189 |
| | 2G_2 | 95 | 46.6% | 109 | 53.4% | 204 |
| | 2G_3 | 120 | 72.3% | 45 | 27.7% | 165 |
| | 2G_4 | 132 | 72.9% | 49 | 27.1% | 181 |
| | 2G_5 | 87 | 46.3% | 101 | 53.7% | 188 |
| | 2G_6 | 131 | 81.4% | 30 | 18.6% | 161 |
| | **Total 2GEN** | **716** | **65.8%** | **372** | **34.2%** | **1,088** |
| **Total (all)** | | **1,553** | **66.5%** | **782** | **33.5%** | **2,335** |

Table 4 – Proportion of null/overt subjects (raw counts and percentages)

63     Results demonstrate that all 1GEN speakers produce more null subject structures than overt pronouns, confirming the overall tendency to omit more than to realise subjects; the omission rate ranges from 59% to 77.3% in 1GEN. In the 2GEN sample the proportion of null subjects is also higher than the rate of overt pronouns (65.8% null subjects against 34.2% overt pronouns). Two speakers (2G_2 and 2G_5) demonstrate an inverse pattern with the rates of overt subjects slightly surpassing the rate of null subjects (only 46.6% and 46.3% null subjects).

64     In the next step, we will look at the omission rates per speaker and per grammatical person (see Table 5).

|  | Speaker | 1st p. sing. | 1st p. pl. | 2nd p. sing. | 2nd p. pl. | 3rd p. sing. | 3rd p. pl. |
|---|---|---|---|---|---|---|---|
| **1GEN** | 1G_1 | 58%<br>51/88 | 68.4%<br>26/38 | 33.3%<br>2/6 | 66.7%<br>2/3 | 59.1%<br>65/110 | 45.5%<br>5/11 |
| | 1G_2 | 52.7%<br>48/91 | 73.0%<br>27/37 | – | – | 63.6%<br>21/33 | 86.7%<br>13/15 |
| | 1G_3 | 80.5%<br>103/128 | 68.9%<br>31/45 | 100%<br>1/1 | 0%<br>0/2 | 88.2%<br>15/17 | 71.4%<br>10/14 |
| | 1G_4 | 66.4%<br>95/143 | 61.5%<br>8/13 | 66.7%<br>2/3 | – | 64.3%<br>34/62 | 100%<br>1/1 |
| | 1G_5 | 75.5%<br>74/98 | 46.2%<br>6/13 | 100%<br>4/4 | – | 54.8%<br>24/32 | 18.2%<br>2/11 |
| | 1G_6 | 72.1%<br>101/140 | 95.7%<br>22/23 | 80%<br>8/10 | – | 63.8%<br>30/47 | 75%<br>6/8 |
| | **Total 1GEN** | **68.6%<br>472/688** | **71.0%<br>120/169** | **70.1%<br>17/24** | **40%<br>2/5** | **62.8%<br>189/301** | **61.7%<br>37/60** |
| **2GEN** | 2G_1 | 75%<br>108/144 | – | 100%<br>1/1 | – | 80%<br>8/10 | 100%<br>34/34 |
| | 2G_2 | 43.4%<br>53/122 | 72.7%<br>16/22 | 71.4%<br>5/7 | – | 34.2%<br>13/38 | 53.3%<br>8/15 |
| | 2G_3 | 74.8%<br>92/123 | 83.3%<br>10/12 | – | – | 59.1%<br>13/22 | 62.5%<br>5/8 |
| | 2G_4 | 75.3%<br>67/89 | 68.2%<br>15/22 | 80%<br>4/5 | 33.3%<br>1/3 | 64.3%<br>27/42 | 88.9%<br>16/18 |
| | 2G_5 | 43.4%<br>43/99 | 62.5%<br>15/24 | 100%<br>1/1 | – | 56%<br>14/25 | 51.3%<br>20/39 |
| | 2G_6 | 82.6%<br>76/92 | 100%<br>4/4 | 80%<br>4/5 | – | 77.1%<br>27/35 | 80%<br>20/25 |
| | **Total 2GEN** | **65.6%<br>439/669** | **71.4%<br>60/84** | **78.9%<br>15/19** | **33.3%<br>1/3** | **59.3%<br>102/172** | **74.1%<br>103/139** |
| **Total (all)** | | **67.1%<br>911/1,357** | **76.6%<br>180/235** | **74.4%<br>32/43** | **37.5%<br>3/8** | **61.5%<br>291/473** | **70.4%<br>140/199** |

Table 5 – Rate of null subjects per grammatical person

65    The distribution per grammatical person confirms an overall tendency to omit more subjects than to realise them in all persons (except for the 2nd person plural that is used by only two speakers in a total of 8 sentences and does not allow for any interpretation). The overall rate of omission ranges from 61.5% (3rd person singular) to 76.6% (1st person plural). In general, the 1st and the 3rd person plural present higher rates of omission than the respective singular persons, as already shown by the logodds in Table 3. This pattern emerges more clearly in the 2GEN sample.

66    There are some individual exceptions to the overall tendency of omitting more than realising the subjects, e.g. lower omission rates in speakers 1G_1 and 1G_5 in the 3rd person plural, which may be mainly attributed to the low number of tokens. Speaker 2G_2 omits less in the 1st and the 3rd person singular and speaker 2G_5 in the 1st person singular.

67    We turn now to the verb types. The speakers use a total of 164 different verbs. A look at the omission rates per verb shows that three verbs clearly differ from all other verbs in the two samples, namely *achar* [to think], *dizer* [to say] and *querer* [to want]. These are the only verbs which are used more with overt pronouns than with null subjects, contrary to all other verbs. Table 6 indicates the mean rate of subject omission with *achar*, *dizer* and *querer* (named "epist./vol. verbs") in comparison with all other verbs in both samples.

| | *achar* [to think] | *dizer* [to say] | *querer* [to want] | epist./vol. verbs | remaining verbs |
|---|---|---|---|---|---|
| 1GEN | 33.3% 8/24 | 25% 7/28 | 45.9% 17/37 | 36% 32/89 | 69.4% 559/805 |
| 2GEN | 48.4% 32/64 | 40.7% 11/27 | 50% 16/32 | 48.8% 60/123 | 67.9% 657/967 |
| **Total (all)** | **45.5% 40/88** | **32.7% 18/55** | **47.8% 33/69** | **43.4% 92/212** | **68.6% 1,216/1,772** |

Table 6 – Null subjects with epist./vol. vs. remaining verbs (raw counts and percentage)

68    Results demonstrate that the rate of null subjects ranges between 25% and 50% with the epistemic/volitional predicates (overall mean: 43.4%), in contrast to the 69.5% (1GEN) and 67.9% (2GEN) of overall omissions with the remaining verbs (overall mean: 68.6%).

69    In the next step, switch reference is analysed. Table 7 presents the rate of null subjects in TC and TS contexts for the 3rd and for the 1st person for the two samples.

70    The results in Table 7 show a clear difference between the omission rates in TC and TS contexts for both 1st and 3rd person contexts in both samples. In TC contexts, i.e. when the subject pronoun refers to a referent that was previously mentioned, the mean proportion of null subjects is 79.7% in 3rd person contexts. This proportion is almost identical in 1st person contexts, i.e. there is a clear tendency for speakers to omit the 1st person pronoun when no switch of the referent occurs (79.2%). As

for the TS contexts, the proportion of null subjects is lower than in TC contexts for both 1st and 3rd person sentences in both samples. If we compare 1st and 3rd person, the proportion of omissions in TS contexts is lower in 3rd person contexts (1GEN: 35.6%; 2GEN: 44.2%) than in 1st person sentences (1GEN: 52.3%; 2GEN: 51.6%). This means that the speakers still show some tendency to omit the 1st person subject pronoun, even when the previous referent was not a 1st person. This tendency is much lower in 3rd person contexts, where the accessibility of the referent appears to have a stronger effect on the choice between null and overt subjects. Also with regards to this variable, both generations perform similarly.

|  |  | 1 GEN | 2 GEN | Total |
|---|---|---|---|---|
| **1st person** | TC contexts | 81%<br>418/516 | 76.8%<br>308/401 | 79.2%<br>726/917 |
|  | TS contexts | 52.3%<br>193/369 | 51.6%<br>165/320 | 52%<br>358/689 |
| **3rd person** | TC contexts | 80.6%<br>176/216 | 77.7%<br>146/188 | 79.7%<br>322/404 |
|  | TS contexts | 35.6%<br>52/146 | 44.2%<br>50/113 | 39.4%<br>102/259 |

Table 7 – Null subjects in TS vs. TC contexts (raw counts and percentage)

71    In a further step, verb form ambiguity was assessed. As described above, in EP there is an overlap between the 1st and the 3rd person singular in some verbal tenses with most verbs (e.g., *eu morava* [I lived] / *ele morava* [he lived]). In order to analyse whether avoidance of ambiguity plays a role in subject expression, we compiled a sub-sample of 1st and 3rd person singular tokens and quantified the proportion of overt/null subjects in conditions where the forms overlap in contrast to non-ambiguous contexts. We distinguish between TS and TC contexts in order to see whether verb ambiguity leads to more subject realisation in TC contexts where a null form would instead be expected. Results are given in Table 8.

|  |  | 1GEN | | 2GEN | | Total | |
|---|---|---|---|---|---|---|---|
|  |  | null | overt | null | overt | null | overt |
| **overlap** | TC contexts | 80.7%<br>192/238 | 37.4%<br>52/139 | 73%<br>65/89 | 44.1%<br>30/68 | 78.6%<br>257/327 | 39.6%<br>82/207 |
|  | TS contexts | 19.3%<br>46/238 | 62.6%<br>87/139 | 27%<br>24/89 | 55.9%<br>38/68 | 21.4%<br>70/327 | 60.4%<br>125/207 |
| **no overlap** | TC contexts | 73.3%<br>310/423 | 36%<br>68/189 | 67.7%<br>289/427 | 41.4%<br>92/222 | 70.5%<br>599/850 | 38.9%<br>160/411 |
|  | TS contexts | 26.7%<br>113/423 | 64%<br>121/189 | 32.3%<br>138/427 | 58.6%<br>130/222 | 29.5%<br>251/850 | 61.1%<br>251/411 |

Table 8 – Null/overt subjects in TS vs. TC contexts in overlap/no overlap conditions
(raw counts and percentages)

72    The results show similar rates of subject realisation/omission in both conditions, i.e. there is no evident tendency to produce more overt subjects in contexts where the 1st and the 3rd person forms overlap. In TC contexts, the overall mean proportion of null subjects is 78.6% in 1st-3rd person overlap and 70.5% in no overlap contexts. Overt pronouns are used in 60.4% of TS contexts in overlap conditions and in 61.1% of TS contexts when the forms do not overlap.

73    Since form ambiguity was not introduced in the main model due to the high number of non applicable tokens, we ran a second mixed-effects regression model with this sub-sample. Again the subject type is included as dependent variable, speaker as random effect, group and form ambiguity as independent variables. The model confirms that neither group ($p$ = 0.618) nor form ambiguity ($p$ = 0.678) are predictive.

74    Finally, we looked at the antecedent of the 3rd person subject pronoun, namely at the proportion of null/overt subjects according to the distance of the referent (adjacent to the previous clause vs. more than one clause distant) and according to the syntactic function of the antecedent (subject or non-subject constituent) (see Table 9).

| | | 1GEN | | 2GEN | | Total | |
|---|---|---|---|---|---|---|---|
| | | null | overt | null | overt | null | overt |
| distance | adjacent | 79.3% 188/237 | 20.7% 49/237 | 69.6% 78/112 | 30.4% 34/112 | 76.2% 266/349 | 23.8% 83/349 |
| | non-adjacent | 30.2% 35/116 | 69.8% 81/116 | 46.2% 42/91 | 53.8% 49/91 | 37.2% 77/207 | 62.8% 130/207 |
| syntactic function | subject antecedent | 63.8% 190/298 | 36.2% 108/298 | 66.4% 162/244 | 33.6% 82/244 | 64.9% 352/542 | 35.1% 190/542 |
| | non-subject antecedent | 62% 31/50 | 38% 19/50 | 58.3% 21/36 | 41.7% 15/36 | 60.5% 52/86 | 39.5% 34/86 |

Table 9 – Null/overt subjects in (non-)adjacent contexts and syntactic role of the antecedent (raw counts and percentage)

75    The results in Table 9 reveal diverse patterns for null and overt 3rd person subjects in contexts of adjacent and non-adjacent antecedents with considerably higher rates of omission in adjacent contexts (1GEN: 79.3%; 2GEN: 69.6%; mean: 76.2%) than in contexts where the antecedent is more distant in both samples (1GEN: 30.2%; 2GEN: 46.2%; mean: 36.2%). For overt pronouns, the inverse pattern is revealed, with an overall proportion of 23.8% (1GEN: 20.7%; 2GEN: 30.4%) overt 3rd person pronouns in adjacent sentences and 62.8% (1GEN: 69.8%; 2GEN: 53.8%) in non-adjacent contexts.

76    As for the syntactic function of the antecedent, the results show that the overall proportion of omission is similar with subject (mean: 64.9%) and with non-subject antecedents (mean: 60.5%).

## 7.    Discussion and conclusions

77    Coming back to our two research questions, we will first discuss the relevance of different factors determining the distribution of overt and null subject pronouns in the two samples (1GEN/2GEN) and then consider the role of language contact. Table 10 gives an overview of the linguistic variables analysed in this study and their relevance concerning subject pronoun realisation/omission in the speech corpus.

| Variable | Predictor | Shaping/Comment |
|---|---|---|
| verb type | ✓ | epistemic and volitional predicates like *achar/dizer/querer* favour subject realisation |
| person and number | ✓ | effect of number: 1st p. sing. and 3rd p. sing. are more likely to be realised, 1st p. pl. and 3rd p. pl. are more likely to be omitted |
| switch reference | ✓ | clear tendency for omission in no-switch contexts, more subject realisation in switch contexts |
| 1st-3rd p. sing. form overlap | - | ambiguity of the verbal morphology does not lead to more subject realisation |
| distance of the antecedent | ✓ | the closer the antecedent, the more likely subject pronoun omission is |
| syntactic function of the antecedent | - | the distribution of null and overt subjects is not different across subject and non-subject antecedents |

Table 10 – Relevance of the coded factors for realisation/omission of the subject pronoun[3]

78    In general, our results for EP are in line with most findings of the studies reviewed in the background sections regarding the linguistic variables that constrain subject expression in consistent null subject languages.

79    As shown by Enriquez (1984), Silva-Corvalán (1994) and Posio (2014), the rate of subject omission/realisation may be modulated by verb semantics in null subject languages. It appears that certain verb types, including some epistemic, perception and volitional verbs, more often trigger the use of overt subject pronouns than other verbs do. This pattern has been confirmed in our speech samples, where the epistemic verbs *achar* and *dizer* and the volitional verb *querer* show significantly lower rates of null subjects (43.4%) than other verbs (68.6%). We may therefore conclude that similar verb semantic constraints operate equally in the domain of subject expression in EP spoken in Hamburg compared to other monolingual and contact varieties.

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3.    The results for other factors such as clause type and change of interlocutor have not been reported in detail in this study for reasons of space. They did not turn out to have an effect on subject realisation/omission.

80    In addition to verb semantics, person and number also play a role in the speech samples analysed. In particular, number seems to be a relevant factor for pronoun realisation. We have shown that 1st and 3rd person singular subjects are more likely to be realised than their plural counterparts. Silva-Corvalán (1994), for instance, revealed a similar pattern of higher rates of overt pronouns in singular forms than in the plural in Spanish spoken in Los Angeles. The same is observed for (Calabrese) Italian spoken in Toronto and in southern Italy (Nagy, 2015).

81    In addition to verb semantics and grammatical person and number, the choice between a null and an overt subject is constrained by the (no)switch-referent effect, i.e. if the referent of the subject pronoun is the same as in the previous sentence (TC) or if it shifts to another referent (TS). Results show that this variable is highly predictive: speakers are sensitive to switch, preferring an overt pronoun when the referent shifts from the previous sentence and resorting more to null subjects in contexts where the subject shares a referent with the subject of the preceding clause. This tendency, which applies for 1st and for 3rd person forms, is fully in line with the switch-referent effect described for many other null subject languages and contact varieties (Barbosa et al., 2005; Calabrese, 1986; Carminati, 2002; Tsimpli et al., 2004).

82    The results concerning the role of verb form ambiguity support Enríquez' (1984) findings on Madrid Spanish where overlap of verb endings of 1st and 3rd person did not turn out to play a role for subject realisation (contrary to Silva-Corvalán's [1994] findings for Spanish dominant speakers in Los Angeles).

83    Barbosa et al.'s (2005) study on a written corpus of EP (and Brazilian Portuguese) focused on two additional factors, namely distance and syntactic function of the antecedent. Their results showed that distance is a very important factor shaping subject pronoun realisation in EP, whereas the syntactic function of the antecedent seems to be less relevant. These results are corroborated in the present study. Both generations of speakers are very sensitive to the distance of the antecedent with almost reversed patterns of subject use with adjacent and non-adjacent antecedents. However, the syntactic function of the antecedents did not turn out to play a decisive role for subject pronoun realisation/omission.

84    We have seen that a central question regarding the expression of subjects is whether, in general, bilingual populations tend to over-realise overt pronouns and to relax the strength of pragmatic constraints such as co-referentiality (Silva-Corvalán, 1994). Particularly experimental studies, which use comprehension or elicited production tasks (e.g., Keating et al., 2011; Tsimpli et al., 2004), have pointed into this direction. This hypothesis is, however, not consensual. In fact, many corpus studies fail to show quantitative differences between bilingual populations in migration settings and homeland varieties in the domain of subject expression (Bayley & Pease-Alvarez, 1997; Flores-Ferrán, 2004; Nagy, 2015; Nagy et al., 2018; Torres Cacoullos & Travis, 2010). The present study does not include data from Portuguese spoken in Portugal, so we do not establish a direct comparison with a monolingual EP-speaking population. However, our data allow us to conclude that the overall rate of null subjects is very

similar in the two generation samples: 67.1% in the 1GEN sample and (even lower) 65.8% in the 2GEN sample. Thus, there is no decreasing use of null subjects (or an increasing use of overt pronouns) from one generation to the other. Furthermore, the overall rate of null subjects in the whole corpus (66.5%) is similar to omission rates reported for other null subject languages: 59.5% for Mexican adults in Montrul (2016); 70% in the corpus of spontaneous speech of Mexican Spanish by Cantero Sandoval (1978); 55% in Cameron's (1992) study on Puerto Rican Spanish spoken in San Juan; 62% in Cifuentes' (1980-1981) study on Chilean Spanish; and 67% for Spanish dominant bilinguals in Silva-Corvalán (1994). Overall, we can conclude that speakers omit more than they produce subjects and they do so in comparable rates to native speakers of other null subject varieties. This also rules out a potential cross-linguistic influence from German, where the omission of subject pronouns is restricted to topic drop constraints, as shown in Section 2.2.

85    Nevertheless, we also observe a considerable degree of individual variation, especially in the second generation of speakers investigated here. Two speakers in particular (2G_2 and 2G_5) omit fewer subjects than other speakers and even show a tendency towards subject realisation. The performance of these speakers may be arbitrary and related to individual preferences. However, it may also be the case that the individual differences in the second generation are a reflex of the typical variation in HS populations, which in turn may be related to different degrees of language use and proficiency, as discussed by Montrul (2004).

86    Despite the individual variation found in the 2GEN sample, the present study does not reveal evidence to support a language change hypothesis, given that there are neither quantitative nor qualitative differences between the two generations of speakers. The informants showed not only very similar overall rates of subject omission (1GEN: 67.1%; 2GEN: 66.5%), the two generations also reveal sensitivity to the very same determining factors of subject pronoun realisation/omission, namely person and number, verb type, switch reference (TC/TS) and distance. This finding is in line with many previous corpus studies investigating the spontaneous speech of different generations of bilingual speakers or comparing monolingual and bilingual speakers of the same null subject language, as presented in Section 2 above.

87    How, then can the deviating results between such studies and most experimental research on subject pronoun realisation be explained? To some extent, the different outcomes of these studies may be due to methodological differences, as discussed by Nagy (2015) at some length. The author points out that HSs may show a differential behaviour in unfamiliar tasks as opposed to typical everyday conversational behaviour and when tested by a researcher in a comprehension/judgement task in a university lab versus when speaking in an open-ended conversation to a member of the same speech community.

88    Although the phenomenon investigated in the present study showed stable cross-generational variation, it cannot be excluded that, from a long-term perspective, there may be a shift towards subject pronoun realisation in Portuguese spoken

in Hamburg. In this study, two immediately adjacent generations of the same community with a strong presence of the Portuguese language in their everyday lives were investigated. Furthermore, they belong to the first two generations of Portuguese migration in Hamburg, who settled or were born there in the 1960s to 1980s. Once the use of Portuguese decreases in subsequent generations – which may already be the case now, i.e. 50 years later – resulting in less favourable conditions for the acquisition of the language, speakers may start to be less proficient in their heritage language and potentially show a differential linguistic behaviour. This seems to be the case in some of the Spanish communities investigated in the United States (e.g., in Silva-Corvalan's [1994] study).

**89**    As a final point, the present study has not revealed evidence in favour of ongoing language change. This leads us to the assumption that language contact per se does not necessarily result in a diverging grammar at an inter-generational level. We may safely conclude that, as long as stable input conditions allow for the acquisition of the constraints that are valid for null subject languages, no changes in subject pronoun expression are expected in a contact variety such as EP in Hamburg.

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