Asturian, the regional language of Asturias (Spain), and Spanish have been in contact since the 14th Century. Despite the fact that language shift is gradually taking place in Asturias in favor of Spanish, some linguistic features of Asturian are still being used in the Spanish of Asturian speakers (Sánchez Álvarez 1979, D’Andres 2001). Among these features is the vowel present in the masculine singular morpheme /-u/, as opposed to Spanish /-o/ as in “el perru” (‘the dog’) vs. Spanish “el perro” (Antón 1995, Prieto 1991). The appearance of the high variant in the urban varieties of the language is a consequence of the borrowing of the Asturian morpheme; however, speakers show variation in its use, alternating between the Asturian and Spanish variants. This study is the first to explore quantitatively the linguistic and extra-linguistic factors that govern this alternation.

The data for the study was collected in Gijón, the largest city in Asturias, using sociolinguistic interviews (Labov, 1984). Thirty speakers were interviewed, 14 females and 16 males, with ages ranging from 23 to 65 years old. All the tokens that fell into the contexts where variation occurs were extracted from the data. Two dependent variables were analyzed: F1 and F2 frequencies, as measured in Praat. Formant values were treated as both continuous and categorical, dividing them into two separate variants, /-o/ and /-u/.

The tokens were coded for the following independent linguistic variables: quality of the stressed vowel, preceding segment, lexeme language, lexical frequency (probability), lexical category and mass/count distinction (only for nouns). Tokens were also coded for five social factors: gender, education, occupation, age and the degree of familiarity between interlocutors. A mixed effects model using speaker as a random effect was developed using the lmer function (Bates, Maechler & Bolker, 2011) in R (R Development Core Team, 2007).

The same results were found for the continuous and categorical analyses for the first formant while no significant effects of the independent variables were observed in either case for the second formant. The quality of the stressed vowel, education, age and the degree of familiarity between interlocutors were significant predictors of final vowel height. F1 frequency was significantly lower when the stressed vowel was /i/, in low education levels, in older generations and when the interviewer and interviewee had a strong first order tie (Milroy, 2002). The results of the categorical analysis show that the odds of finding the Asturian variant /-u/ are significantly higher in the same factor levels, confirming the morphological nature of the alternation.

The quantitative analysis reveals that the morphological alternation is constrained phonetically. The effect of the stressed vowel on the final vowel is explained by vowel-to-vowel coartication, motivated by the prosodic strength of the stressed position (Walker 2004, 2005). The role of age and education confirms the declining use of Asturian features among the population under study and the stigmatization of the language (Llera Ramo 1994, Amado Rodriguez et al. 1993, D’Andres 1993). This shows that the interspeaker variation observed in final back vowels in Asturian Spanish is not random. The use of the Asturian variant is partially phonetically motivated and also correlated with certain demographic categories. The effect observed for the familiarity between interlocutors explains the existence of intraspeaker variation and points to the use of Asturian features as a mechanism to construct a particular urban and regional identity (Schilling-Estes 2002, Coupland 2007).