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English use among older bilingual immigrants in linguistically concentrated neighborhoods: Social proficiency and internal speech as intracultural variation

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Abstract

This research focuses on patterns of English proficiency and use-of-English among older immigrants living in linguistically concentrated, ethnic neighborhoods. A sample (n=60) of older Puerto Ricans, who moved from the island to the mainland in their twenties, were divided into English proficiency groups (fluent, high intermediate, low intermediate) via the *Adult Language Assessment Scales*. Participants then provided self-ratings of their English proficiency (understanding, speaking, reading, and writing), their use of English in social domains (language spoken with own-family, in-laws, spouse, children, neighbors, and workmates), and their use of English in private psychological domains (language of talking to oneself, counting, writing notes to oneself, thinking, dreaming, praying, and expressing feelings). Finally, all participants completed the *Puerto Rican Bicultural Scale*. Results show a cohort of immigrant elders whose first language is protected by their ethnic neighborhoods but whose domestic and private lives are increasingly permeated by English. In particular, children emerge as powerful forces of language socialization in English for their parents. Further, there are important individual differences by level of proficiency, with a lowest proficiency group that is less acculturated, lower in socioeconomic status, and even more linguistically isolated than groups with higher proficiency. In essence, level of second language proficiency is a potent source of intracultural variation. Methodologically, the paper makes the important point that self-rated patterns of language use are consistent with scores on formal measures of proficiency. The paper also provides empirical verification of the logic of dividing language use into external, social speech and internal, psychological speech.

Keywords

English proficiency; intracultural variation; older immigrants; Puerto Ricans

This paper examines how *knowledge of English* as a second language maps onto self-reported *use of English* across a spectrum of social and psychological domains among older immigrants living in a linguistically concentrated, central city area. Theoretically, the paper draws on the notion that immigrants become bilingual by domain and not globally (Schrauf, 2002b), and further develops this framework by distinguishing two broad classes of speech domains (social speech and internal speech) that make variable demands upon, or provide different opportunities for, using English. By developing and empirically testing the structure of these domains, the stage is set for examining how linguistic knowledge, here

assessed via a formal test of proficiency, cross-cuts patterns of use both socially and in private, internal speech.

Briefly, within the context of the linguistic ‘protection’ offered by residence within an ethnic neighborhood, older immigrants exhibit a range of abilities in English, and not surprisingly they exercise these abilities variably according to interlocutor (social speech). However, a significant finding here is that use of English vs. the first language (Spanish) does not neatly coincide with public vs. domestic spaces, largely because children and grandchildren (in the domestic sphere) tend to expect conversation in English. In addition, among these elders the use of English becomes internalized in speech directed to the self (e.g. talking to oneself) or speech produced for the self (e.g. dreaming). For individuals with higher knowledge of English and more extensive patterns of English usage, the resulting interiorization of English corresponds to increasing levels of acculturation to American society. Interestingly, however, even among this group, adherence to the cultural customs, beliefs, and values of their home culture remains robust.

The picture is generated of a cohort of immigrant elders whose first language is protected by their ethnic neighborhoods but whose domestic and private lives are increasingly permeated by English. Nevertheless, there are important individual differences by level of proficiency, with a lowest proficiency group that is less acculturated, lower in socioeconomic status, and even more linguistically isolated than groups with higher proficiency. In essence, level of second language proficiency is a potent source of intracultural variation.

Methodologically, the paper represents an advance over prior research in two ways. First, previous research on English proficiency among US immigrants is based largely on self-reports in large survey data (Carliner, 2000; Davila & Mora, 2000; Mutchler & Brallier, 1999; Stevens, 1999). Self-reports in social and behavioral science are often looked upon with suspicion (Dunning et al., 2004), but some empirical research on language proficiency points to respectable correlations between formal measures and self-reported L2 proficiency. Blanche & Merino (1989) reviewed the literature on self-assessment and noted that “a number of studies included quantitative comparisons between these two types of measures, usually in the form of Pearson product-moment correlation coefficients. Values ranging from .50 to .60 were common, and higher values not uncommon” (p. 202). More recently, Jia et al (2002) studied adult immigrants in the US from a variety of L1 backgrounds and found a significant correlation ($r = .53$) between self-rated L2 proficiency (English) and performance on an English listening test (grammaticality judgments). In this paper, a formal test of proficiency is employed that looks at communicative abilities such as the comprehension and production of conversation and narrative as well as vocabulary and syntax. This makes it possible both to check the validity of self-ratings of proficiency and to characterize more carefully how proficiency levels affect patterns of use. Second, by exploring the structure of self-reported language-use, the paper provides empirical validation for dividing language-use into domains of social vs. internal speech. Moreover, self-reported use of speech in these domains is consistent with formally assessed proficiency, which in turn suggests the utility and validity of self-report.

The paper begins by reviewing prior research on linguistic concentration in ethnic neighborhoods and factors predicting English proficiency among Hispanic immigrants. After a discussion of bilingualism by domain and the logic of constructing and querying social vs. internal speech domains, a series of predictions are articulated that relate levels of proficiency and these domains of language use. These are formalized into hypotheses and the analyses are presented. Scores from the test of proficiency are used to create three proficiency groups (Fluent, High Intermediate, Low Intermediate). Self-report data on amount of English used in various social and personal activities is factor analyzed to check

the validity of the distinguishing two domains. Then relations between levels of proficiency and domains of use are systematically explored.

Linguistic and geographic concentration among older Hispanics

According to Census 2000, 45% of all foreign-born individuals in the US live in the central city areas of metropolitan areas. Such residence patterns are driven by many factors, including chain migration, kinship relations, and economic opportunity, but the linguistic resources in central city areas also play a key role in the acculturation of new immigrants, the maintenance of communal ties and sociocultural identity, and the acquisition of the second language (Farr, 2004; Torres, 1997; Zentella, 2002). Thus, ethnic neighborhoods, with high concentrations of speakers of the first language provide support and protection for this language while at the same time facilitating acculturation to American society and acquisition of English (Stevens, 1992). On the other hand, this linguistic concentration also correlates with lower levels of English proficiency. Based on US Census data, Mutchler and Brallier (1999) found that older Hispanics with poor English proficiency were likely to live in areas with 3 or more times the proportion of Hispanics as in the nation as a whole. In sum, individuals with low levels of English proficiency live in neighborhoods where the majority language is Spanish, and where opportunities to speak English are few and the stimulus to learn English is low. Although there are myriad differences in cultural groups in the United States, the Puerto Rican sample in this study represents exactly this feature: they live in geographically concentrated, Spanish-speaking neighborhoods in central Chicago.

Predicting the English proficiency of older Puerto Ricans

Numerous factors function to predict second language proficiency. In general, exposure to and engagement in English across multiple sociolinguistic contexts (i.e. access to linguistic resources) is a key predictor of high levels of proficiency. Access to English across multiple contexts is conditioned by the varied social identities of the learner, and include (minimally) race, ethnicity, gender, and culture (Pavlenko, 2000). Further, the motivation to learn English may be higher for voluntary (vs. involuntary) immigrants who actively choose to migrate, usually because the former believe that circumstances and life will be better as a result of migration (Ogbu, 2002). In general, the Puerto Ricans in this study emigrated in their youth and early adulthood during massive out-migration at a time of severe economic conditions on the island (Morales, 1987; Schrauf & Hoffman, 2007). Generally, they found entry-level service and factory jobs in Chicago, where their exposure to English was not high. For a variety of reasons, they remained at the bottom of the economic ladder, lived in ethnic neighborhoods, and experienced social discrimination over the course of their lives (Padilla, 1987). These sociopolitical factors have had the effect of limiting the sociolinguistic contexts in which these individuals were exposed to and invited to engage in English conversation, which adversely affected their ultimate proficiency (Brozgold and Centeno, 2007; Centeno, 2007; Zentella, 2002).

Other powerful predictors of second language proficiency include: age-at-immigration, frequency of English spoken in the home, and (for the second generation) mother's English proficiency (Jia et al, 2002). Thus, for the US immigrant population in general, analysis of census and other large survey data finds that the following factors predict *higher* proficiency: migration at an early age, higher education, receiving some years of formal education in the US, marrying a native born spouse, long residence in the US, and having long-term commitment to living in the US, such as buying a home versus renting (Espenshade & Fu, 1997; Stevens, 1999). In presenting their data on older Hispanics, Mutchler and Brallier (1999) summarized their findings as follows. For immigrants who migrated prior to 1965: as poverty worsens, as education decreases, and as Hispanic

geographic concentration increases, the likelihood of high proficiency in English goes *down*. Again, these conditions correspond to those that mark the population considered in this study: an older group (65+) of Spanish dominant Puerto Ricans, who migrated from the island to the mainland between the ages of 15–38, with a modal annual income under \$10,000, an average education of 7 years, and living in an urban area with relatively high concentrations of Hispanics.

As noted above, extant studies on older immigrants' English proficiency generally rely on self-ratings of English proficiency in response to Likert style questions on large-scale survey instruments. In the research reported in this paper, participants were both asked for self-ratings of their English proficiency *and* assessed via a formal test of English proficiency (Adult Language Assessment Scales: Duncan & De Avila, 1991). This provides a more sensitive test of the relations between demographic predictors of proficiency and actual proficiency levels since the formal test is less prone to the subjective bias endemic to self-ratings (Dunning, Heath, & Suls, 2004). In addition, participants' self-ratings can be directly compared to their scores on the test.

Bilingualism by domain

In an obvious sense, the immigrant's second language acquisition is driven by communicative need, and the need to communicate in the second language is not equally great across all domains of experience. From a cognitive and linguistic viewpoint (Schrauf, 2002), the notion of experiential *domain* may be constructed out of literatures concerning cognitive domains (Langacker, 1987), cultural domains (Borgatti, 1994), and discourse domains (Whyte, 1992, 1995; Young, 1999). Thus, the argument is that the immigrant comes to cultural and communicative competence in particular domains by acquiring domain-specific knowledge and the ability to adopt the appropriate speaker stance, dialect, register, vocabulary, use of metaphor and cultural reference, and so on, relevant to those domains (Centeno, 2007; Davies, 1989; Hymes, 1972, 1989; Savignon, 1972, 1983). This way of thinking about domains involves a thematic classification, perhaps spatially distributed across speaker groups; what Bloemmart, Collins, and Slembrouck (2005) have referred to as “‘truncated multilingualism’—linguistic competencies which are organized topically, on the basis of domains or specific activities.”

This paper takes an alternate view of domains. Rather than characterizing domains by topic, here they are characterized as social and mental patterns of language use. For example, immigrants married to compatriots may reasonably expect to speak the first language with their blood relatives and in-laws but the second language with workmates or friends outside the neighborhood (Schrauf & Rubin, 1998). These *classes of social others* (e.g. in-laws vs. neighbors) can be further grouped into those representing public spaces (e.g. speech with workmates) vs. those representing private spaces (e.g. speech with one's spouse). This latter distinction (domestic vs. private) is analytically imposed and ideological (see Gal, 2005). To wit, spaces in which kin relations predominate are labeled 'domestic' or 'private,' and spaces in which non-kin relations predominate are labeled 'public.'

In a multilingual society, social domains are rarely ever sites of pure monolingualism. In fact much research on the sociolinguistics of bilingualism has shown that bilinguals regularly use the resources available to them from both languages in codeswitched communication. Codeswitching is driven by myriad factors, including the proficiency of both interlocutors (see Torres, 1997), the roles and social status of each participant, and stylistic effect (Ritchie & Bhatia, 2004). Far from representing a deficient form of speech, codeswitching often represents the creative use of dual linguistic resources in achieving rich

cross-cultural and innovative cross-linguistic meaning (Zentella, 2002, 2003). As Centeno notes:

“Rather than being monolinguals in each language, differences in communication environments (i.e. home, school, and work) and language socialization routines across languages (i.e. conversation and reading and writing modalities) make bilinguals’ overall linguistic knowledge summative in nature with both languages complementing each other” (2007, p. 199).

The older Puerto Ricans who form the subjects of this paper are no exceptions to this sociolinguistic creativity, and, as will be apparent, they rarely identify social domains as belonging *purely* to either English or Spanish.

On the other hand, for example, there is mental self-talk, comprising a domain of internal or self-directed speech. Research shows that silent *inner speech* develops very early in life (around 6 years of age) as the internalization of children’s self-talk out loud, and that it is an important means of self-regulation, task management, and problem solving (Beaudichon, 1973; Berner, 1971; Deutsch & Stein, 1972; Dickie, 1973; Frauenglass & Diaz, 1985; Gaskill & Diaz, 1987; Goodman, 1981; Kohlberg et al., 1968; Rohrkemper, 1986). In adulthood we retain the propensity to “talk to ourselves,” and such speech retains its self-regulatory function. It seems logical to assume that higher proficiency in and exposure to English would predict greater interiorization of the language—a kind of ‘Anglicization’ of the mind (see Pavlenko, 1998).

This intuitive classification of speech domains (social and internal) that reflects the challenges, opportunities, and consequences of speaking English must be tested empirically. One of the goals of this paper is provide evidence for this typology in the form of a factor structure based on the self-reported language behaviors of older immigrants. Two broad domains are treated here. However, it is important to note that social vs. internal domains are not mutually exclusive: obviously, social and psychological domains involve considerable overlap as well as complex interactions.

Formal assessments of English proficiency and patterns of use

By using a formal test of English proficiency to establish *basic knowledge of English*, and by deriving and empirically justifying a reasonable classification of *domains of English usage*, we will have set the stage to ask how knowledge of English as a second language across a spectrum of proficiency maps onto self-reported use of English across a spectrum of social and internal domains.

Knowledge of English and Social Domains

In the English-dominant society of the US, public spaces are generally monolingual English spaces. For example, the workplace, the government, the medical system are all situations in which bilinguals are often more highly constrained to use English. This is not absolutely the case, of course, particularly for Spanish speakers. For instance, government offices often have materials available in Spanish, and Title VI has required that medical facilities receiving federal funding must provide translation resources for limited English proficiency patients. Further, bilingual communication and codeswitching may be common on the jobsite (as in some factories or the service industry). Nevertheless, Spanish retains its minority status in such situations, and bilinguals always potentially face the need to use English. In such public, social contexts, then, one would predict that basic knowledge of English—knowledge about vocabulary and syntax and the ability to combine them in meaningful spoken and written texts—would correlate fairly highly with English usage. Not surprisingly, people with more linguistic knowledge in English will speak more English.

On the other hand, private spaces would seem to be quintessentially first language, monolingual spaces. Many years ago, Fishman (1972) argued that, at the level of societal bilingualism, as the second language becomes the language of the immigrant/ethnic community, the first language will be relegated to more intimate social and family domains. Thus, domestic domains would be mother tongue spaces, and again, this would be particularly true in linguistically concentrated neighborhoods where there is considerable support for first language usages. Here, given that individuals are dominant in the first language, basic knowledge of English should *not* predict English usage, since, once the need is removed, and once the social context favors the mother tongue, people will speak the first language.

The reality, however, is that these domestic spaces are structured by multiple generations, and there is considerable evidence that proficiency in and usage of English increases from the first (immigrant) generation to the third generation (Alba et al., 2002). There is also evidence that cultural groups differ in rates of mother-tongue maintenance, and that Spanish speakers in the US are particularly likely to preserve Spanish into the third generation (Schrauf, 1999). Thus, one would expect that children of older Puerto Rican immigrants would be bilingual. It is logical to predict that older adults will speak more English with members of the next generation (particularly their own children) and least English with members of their own generation. Put simply, one's own children become a stimulus to learning and using English.

In this paper, the prediction is that older adults' self-reported use of English in public domains (e.g. speech with workmates and neighbors) will be more frequent than in domestic domains (e.g. speech with one's family-of-origin, one's in-laws, and one's children). These results should replicate the findings of Torres (1997) who studied use of Spanish and English among Puerto Ricans in Brentwood, New York. However, use of English in these domains will be qualified by differing levels of basic knowledge of English. That is, a person with higher levels of language knowledge in English will also speak more English in both public and private spheres than an individual with lower levels of language knowledge. Further, in the domestic domain, immigrants will be seen to communicate with their (now adult) children in both English and Spanish, but mostly in Spanish with their own relatives and in-laws, reflecting a generational bilingualism.

Knowledge of English and Domains of Internal, Self-Directed Speech

Research in the sociocultural tradition inspired by Vygotsky suggests that inner speech (vocalized self-talk or mental self-talk) emerges as a result of exposure to and engagement in social speech (Frawley, 1997; Lantolf & Thorne, 2006; Wertsch, 1991). In this sense, self-talk is derivative from social speech, and social and inner-directed speech are highly interdependent. Early research on bilingual children's private speech (self-talk out loud) showed that they produced less self-talk than their monolingual counterparts, but later work showed that proficiency levels moderated this difference. That is, more vs. less proficient bilinguals produced more private speech (Diaz, Padilla, & Weathersby, 1991). It is reasonable to assume that *bilingual* private speech becomes internalized as *bilingual* inner speech, and in fact some research shows that bilinguals use either language internally according to context and task demands (see Lantolf & Thorne, 2006, pp. 83–94). This raises the issue whether the bilingual's languages may be differentially useful as resources for inner thought (Schrauf, 2002a). For instance, recalling memories from the homeland is more efficient and more detailed when done in the first language, since that language serves as a better trigger for, and integrator of, information related to the homeland (Schrauf, 2000, 2002a).

Bilingual preference for, and/or use of, either language for domains of inner thought has been investigated via self-report. Vaid and Menon (2000) asked college age, Spanish-English bilinguals which language(s) they preferred for mental arithmetic (e.g. counting, figuring a discount) and found that language of early formal instruction, length of residence, onset of bilingualism, and relative dominance were best predictors. Language of dreaming was best predicted by language dominance. Language of thinking to oneself was best predicted by length of residence, language of elementary instruction, and proficiency. Larsen et al. (2002) looked at self-reported language preferences for domains of inner speech among older, Spanish-English speaking immigrants (who migrated in early adulthood) and found that earlier age-at-immigration correlates with greater internal use of the second language in such mental activities as talking to oneself, writing a note to oneself, thinking in words, doing math, and praying.

In the analyses presented in this paper, individuals of varying proficiency levels were asked about their relative use of English in cognitive and affective areas—glossed here as the domain of internal speech. It is predicted that persons with higher proficiency in English will show greater use of English in mental, internal speech and in affectivity; persons with lower proficiency will show less.

Knowledge of English and Acculturation

Finally, it is an interesting issue whether and how English proficiency correlates with acculturation. Acculturation is a complex process in which the personality of the immigrant, pre-migration development and education, language proficiency (in both languages), cultural and linguistic characteristics of the receiving community, and attitudes of the majority culture all play a role (see Brozgold and Centeno, 2007 for a brief review). Further, acculturation and concomitant second language acquisition do not occur globally for the immigrant but may be qualified by considerable change (assimilation) in some experiential domains (e.g. professional contexts) and little change in others (e.g. religion; Schrauf, 2002b).

However, research on the *measurement* of acculturation is somewhat less sophisticated than these comments might lead one to expect. The majority of available instruments measure global adjustment (see Matsudaira, 2006), and in fact research consistently shows that the factor accounting for the majority of variance in measures of acculturation to mainstream US society is self-reported English proficiency (Clark & Hofsess, 1998). In recent years, the measurement models underlying these instruments have shifted from an essentially unilinear, assimilationist model (e.g. “becoming more Anglo means becoming less Puerto Rican”) and towards a bilinear model allowing for separate measures of both culture-of-origin and culture-of-adoption (e.g. one can be highly engaged with *both* one’s Puerto Rican cultural orientation as well as one’s Anglo orientation, or with one rather than the other; Kim & Abreu, 2001). Moreover, research shows considerable individual variation in bicultural adjustment (Benet-Martinez et al., 2002).

In the research reported in this paper, a measure of global (i.e. not domain specific) acculturation is used, and the prediction is made that higher proficiency in English will predict higher Anglo acculturation scores. Were we to see a concomitant de-emphasis on Puerto Rican values, customs and beliefs on the part of high English proficiency individuals, then we might be justified in assuming a unilinear, assimilationist model of acculturation. Alternatively, were high English proficient individuals to score high on Puerto Rican values, then we would be more likely to favor the bilinear acculturation model of more recent scales.

Hypotheses

The paper proceeds as follows. After a description of the instruments used, the paper reports the results of the Adult Language Assessment Scales and the subsequent division of the sample into Low, Mid-, and High Proficiency groups. Then, the factor structure of self-ratings of English ability and self-reported language use are presented to justify the distinction between social domains and domains of inner speech. These results are used to test the following hypotheses.

Concerning the relation between knowledge of English and patterns of use in the social domains, the following predictions are made. Hypothesis 1 predicts that use of English will be qualified by knowledge of English (i.e. high proficiency groups will use more English in daily life than low proficiency groups). Hypothesis 2 predicts that self-reported use of English in the public sphere will be more frequent than in the domestic sphere. Hypothesis 3 predicts that older immigrants will speak more English with their children compared with other interlocutors, and least English with their own relatives and in-laws, again compared with other interlocutors. Concerning the relation between English proficiency and use of English in domains of internal speech, Hypothesis 4 predicts that individuals with higher knowledge of English will use more English in both cognitive and affective domains. A final aim of the paper (exploratory in nature) investigates whether increasing proficiency in English is accompanied by a decreasing sense of identification with the culture-of-origin. This would be true if immigrants with high English proficiency had a tendency to shed the customs, values, and beliefs of their culture-of-origin.

Participants and setting

A total of 75 older individuals, who were born in Puerto Rico and who moved from the island to the mainland in adolescence and young adulthood, were recruited into the study via talks in senior centers and newspaper advertisements. The Folstein Mini Mental State Exam (Folstein et al., 1975) was used as a cognitive screen. Participants completed a Spanish translation (Sano et al., 1997) in which the serial-sevens item was replaced by spelling the word “mundo” (“world”) backwards (Marshall et al., 1997) and “no ifs, ands, or buts” was replaced by “más vale tarde que nunca” (“better late than never”; Mulgrew et al., 1999). Fifteen persons scored below 26 on the MMSE and were eliminated from the following analyses leaving a final sample of 60 individuals. Demographic information for the total sample is found in Table 1 (under ‘Total Sample’). In general, 44 female and 16 male participants had a mean age of 69.35 years ($SD = 6.90$) and had completed an average of 7.12 years of education ($SD = 3.95$). Mean age-at-immigration in the sample ranged from 15 to 38 years old ($M = 22.13$; $SD = 7.09$). All participants had married Spanish-speaking spouses. About half of the sample (55%) reported an annual income of less than \$10,000 and a third (37%) an income between \$10,000 and \$30,000. Occupations listed were: laborer (63%), home keeper (14%), food service (5%), teacher’s assistant (5%), city inspector (3%), plus one each of seamstress, social worker, teacher, real estate agent, and secretary.

Participants in the study lived in and around the Humboldt Park neighborhood in Chicago, whose center is Division Street, historically associated with urban riots in 1966 in which Puerto Ricans in the city protested against housing discrimination, police injustice, and economic conditions in the neighborhoods (Padilla, 1987). The riots manifested a growing ethnic consciousness and solidified neighborhood pride, reflected to this day in the numerous Puerto Rican civic organizations, the consistent election of Puerto Rican aldermen, and, most visibly, in two iron sculptures representing the Puerto Rican flag towering over the Division Street at the entrance and exit to the shopping district. The area is home to numerous Spanish language Catholic and Protestant churches, Spanish retail outlets and grocery stores, a major Spanish social service agency, and bilingual schools. It is the

setting for Fiestas Puertorriqueñas (Puerto Rican Festival) during June of each year. Geographic concentrations of Hispanics in and around Humboldt Park were generated by consulting the US Census by participants' zip codes. On average, participants lived in areas with 47% Hispanics among Anglos and others.

The Puerto Ricans in this sample may have been exposed to English as children in school on the island but they seemed to have learned it only after arrival on the mainland. Despite opposition on the island, the US government legislated the teaching of English in schools in 1898, but by the time the individuals in this sample reached school age (late 1930's), the Comisionado de Educación had determined to postpone the teaching of English until the 6th grade (Rodriguez-Bou, 1999). Given that the mean years of education of the sample is 7 years, it seems likely that few if any subjects received much formal instruction in English, and, where English was taught, it is probable that children spoke no English outside of the language classes themselves.

Instruments

In this study, *knowledge of English* was measured via the Adult Language Assessment Scales - ALAS (Duncan & De Avila, 1991). *Patterns of English usage* were measured via self-reported language use in social and psychological domains using a language background questionnaire developed for this purpose. Finally, *acculturation* was measured via the Puerto Rican Bicultural Scale - PRBS (Cortes et al., 1994; Cortes et al., 2003).

1. The Adult Language Assessment Scales

(A-LAS; Duncan & De Avila, 1991) are designed as a proficiency test for adult speakers of English as a second language. The A-LAS includes subsections covering speech production and comprehension in both artificial tasks (e.g. picture naming to test vocabulary; picture description to test sentence construction) and more naturalistic tasks (e.g. answering questions about a taped conversation, producing a narrative summary of a radio newscast).

Vocabulary—This section assesses oral production of vocabulary and includes subsections on nouns, verbs, and adjectives. Nouns were generated in response to 20 line-drawings. For verbs, participants were required to provide a verb in the present progressive (*-ing* form) describing 10 pictures. For adjectives, participants were asked to provide the antonym to each of 10 words pre-recorded and played on audiocassette.

Conversation—The “Conversation” section examines comprehension of oral speech in conversation and oral production. Participants listened to a pre-recorded conversation between two individuals discussing the services of a job referral agency and subsequently answered ten questions about that conversation.

Making Sentences—assesses oral production of sentence length utterances. Participants see ten line drawn pictures (e.g. two people in a restaurant, a dog barking at a postman) and are required to make up a complete sentence describing each one. Responses were tape-recorded and subsequently rated by bilingual coders.

Newscast—assesses oral comprehension and oral production of narrative length text. Individuals listened to a pre-recorded television “newscast” about a woman giving birth to twins aboard a flight from Manila to San Francisco. After listening to the tape, participants summarized the events announced in the newscast. Again, this production was taped and subsequently judged by bilingual coders.

Two bilingual Puerto Rican elementary and middle school teachers from the Chicago school system coded responses according to the prescription of the Scoring Manual (Duncan & De Avila, 1991). The coders were trained on fifteen examples in modules of five until they reached 100% agreement on the last module. They then coded the 60 taped portions with 93% agreement (discrepancies on the four contested scores were resolved in conference). Summary scores for the whole test were computed according to the prescriptions in the test manual.

2. The Language Background Questionnaire

This instrument was devised for the purposes of this assessment. In addition to the standard demographics questions, the following demographic predictors of English proficiency (Espenshade & Fu, 1997, Mutchler & Brallier, 1999, and Stevens, 1999) are of particular interest for this study: current age, age-at-immigration, education (in years), socioeconomic status, language/culture of spouse, ownership of home/renting, and frequency of visits to Puerto Rico.

a. Demographic Information—Socioeconomic status is measured via two items querying: (a) current level of assets, and (b) current income. In research with older individuals, level of assets gives some indication of negotiable wealth in light of (usually) reduced post-retirement annual income (Robert & House, 1996). Likert style response formats for current income were: 1 = less than \$10,000, 2 = between \$10,000 and \$19,999, 3 = between \$20,000 and \$29,999, 4 = between \$30,000 and \$39,000, and 5 = over \$40,000. Participants were asked whether they were currently renting or owned their own home. SES was calculated by averaging responses from both items. Participants reported frequency of visits to Puerto Rico on a seven- point Likert scale (1 = more than once a year, 2 = once a year, 3 = once every two years, 4 = once every five years, 5 = once every 10 years, 6 = once since I left, 7 = never).

b. Self-Rated English Proficiency—Participants were asked to rate their proficiency in the four traditional language modalities (understanding, speaking, reading, and writing) in both languages (English and Spanish) on Likert Scales. Questions were worded as follows: “Please indicate your abilities and knowledge for each language: Understanding Spanish, Understanding English, Speaking Spanish, Speaking English, Reading Spanish, Reading English, Writing Spanish, Writing English. Ratings were: 1 = almost none, 2 = some, 3 = functional, 4 = very good, 5 = like a native speaker. (Though this paper is focused on English proficiency and patterns of use, the self-ratings of Spanish are useful as comparisons).

c. The Domain of Social Speech—Questions probing language-use (for both languages) were phrased as follows: “At present, what language do you use when speaking to the following persons? (1) your significant other, including boyfriend/girlfriend/partner/spouse, (2) your children--if any, (3) your in-laws, (4) your family, including parents, siblings, aunts, uncles, etc, (5) your friends, (6) your work-mates, (7) your neighbors. Likert scales were provided for each question for each language, with anchors 1 = never, 2 = sometimes, 3 = half the time, 4 = most of the time, 5 = always. Thus, the structure of the scales allowed a person to indicate that conversation with a particular class of people was either wholly monolingual (a score of 1 or 5), tipped largely toward one language (a score of 2 or 4), or balanced across languages (a score of 3).

d. The Domain of Internal or Self-Directed Speech—The same English usage ratings were used for the domain of internal speech. The nine items comprising this domain were grouped into cognitive and affective categories. The use of either language in cognitive

tasks was surveyed by asking questions about the following: (1) languages used in talking to oneself, (2) writing oneself a note, (3) thinking in words, and (4) making mental calculations. The use of either language in affective domains included questions about language used when (5) praying, (6) the language in which the participant dreamed, (7) language used in swearing, (8) the language preferred for the expression of feelings, and the (9) language preferred for hearing/telling jokes.

3. Puerto Rican Bicultural Scale

(Cortes et al., 1994; Cortes et al., 2003). All participants completed the Puerto Rican Bicultural Scale, an 18 item-scale developed and validated for Puerto Ricans living on the mainland United States. Separate subscales of 9 items each measure endorsement of Puerto Rican and American culture. Validation of the scale by its authors on a larger sample of Puerto Ricans on the island and on the mainland suggested that two questions be eliminated, and for this research, this modified 16-item BSPR was used (Cortes et al. 2003).

Results

The Adult Language Assessment Scales and Self-Rated Proficiency

The total possible score for the A-LAS is 100. Subsections contribute weighted amounts to the total: Vocabulary (20%), Conversations (20%), Making Sentences (25%), and Newscast (35%). The mean score for the sample was 70.36 (S.D. = 14.0). The scoring manual provides ranges for each level of competence, and numbers of individuals falling into each category were as follows: 81–100 Fluent (N= 17), 61–80 High Intermediate (N=30), 41–60 Low Intermediate (N=11), 21–40 High Beginner (N=2), 0–20 Low Beginner (N=0). Since there were only two individuals in the High Beginner category, these participants were added to the Low Intermediate group, bringing that group to 13 participants. (All analyses were run both with and without High Beginners in the Low Intermediate group, and results were the same).

Table 1 presents the demographic, some linguistic, and acculturation data for each proficiency group, plus results of planned comparisons between them. There were significant differences in age-at-immigration across the groups ($F(2,57) = 6.76, p < .001$). Since previous literature shows that age-at-immigration correlates inversely with self-reported English proficiency (Jasso & Rosenzweig, 1990; Stevens, 1999), planned comparisons were conducted. These showed that Low Intermediate individuals were significantly older at immigration than either Fluent ($t(60) = 3.60, p < .001$) or High Intermediate individuals ($t(60) = 2.82, p < .01$), while no significant difference on age-at-immigration emerged between the Fluent and High Intermediate groups ($t(60) = 1.29$).

The literature shows that lower SES correlates with lower self-reported proficiency (Jasso & Rosenzweig, 1990). Comparisons of competence groups here show that Fluent and Low Intermediate Groups differed significantly ($H = 5.95, p < .05$) while Fluent and High Intermediate Groups were not different. Although education is usually associated with SES, in this sample education levels were not significantly different across the proficiency groups. Again, in demographic studies of immigrant English proficiency, owning one's own home is an indicator of commitment to remaining in the US and correlates positively with higher self-reported English proficiency (Stevens, 1992, 1999). This was true for the proficiency groups here. Chi-square tests showed a significant difference between Fluent and Low Intermediate groups (chi-square = 5.13, $p < .05$) and between High Intermediate and Low Intermediate groups (chi-square = 4.95, $p < .05$), reflecting higher levels of home ownership among higher English competence groups.

High linguistic concentrations of Hispanics increases the likelihood of self-reports of low English proficiency (Mutchler & Brallier, 1999). For this analysis, high concentration of Hispanics is defined as an area where over 33% of the population is Hispanic. Since the national average is 12.5%, 'high concentration' here is 2.6 times higher than the national average. As would be predicted, participants in the Low Intermediate competence group lived in zip codes with higher proportions of Hispanics than either Fluent (chi-square = 5.28, $p < .05$) or High Intermediate groups (chi-square = 4.26, $p < .05$). Finally, Puerto Ricans differ from other Hispanic groups in the US because they are US citizens and can visit the island freely. Frequency of visits to the country of origin predicts longer maintenance of the mother tongue into the second and third generations (Schrauf, 1999) and very likely within first generation immigrants as well. However, in this sample, no significant differences emerged between competence groups in visits to Puerto Rico.

All participants self-rated their abilities to understand, speak, read, and write both Spanish and English. Figure 1 represents these self-ratings split out by proficiency group as determined by the ALAS scores. Generally Spanish abilities are at ceiling ("native speaker") on the 5-point Likert Scale (dotted lines in the figure). A 3×4 mixed model ANOVA on self-ratings of Spanish abilities, with English Proficiency group (Fluent, High Intermediate, and Low Intermediate) as the between subject factor and Modality (understanding, speaking, reading, writing) as the within subjects factor showed no main effect of proficiency group ($F(2,57) = 1.43$, n.s.), a main effect of modality ($F(3,171) = 5.8$; $p < .001$), and no significant interaction. A Tukey's post hoc test on modalities showed that self-ratings of writing abilities differed significantly from the understanding, speaking, and reading. Not surprisingly, participants' self-ratings of English were lower than their self-ratings of Spanish, and they were consistent with their scores on the formal assessment of English ability, with Fluent groups scoring higher than High Intermediate, and High Intermediate scoring higher than Low Intermediate.

A 3×4 mixed model ANOVA on self-ratings of English abilities, with English Proficiency group (Fluent, High Intermediate, and Low Intermediate) as the between subject factor and Modality (understanding, speaking, reading, writing) as the within subjects factor, showed a main effect of proficiency group ($F(2,57) = 25.61$; $p < .001$), a main effect of modality ($F(3,171) = 14.56$; $p < .001$), and no significant interaction. Tukey's post hoc tests showed that all three proficiency groups were significantly different from one another, and within modality, that self-ratings of writing were significantly different from the other three modalities (which did not differ between themselves). These results suggest that self-ratings are consistent with the scores from the formal assessment of English proficiency.

The Factor Structure of Self-Rated Ability in English and Self-Reported Patterns of Use

As indicated above, self report questions with Likert response scales were constructed and grouped into (a) self-ratings of English abilities (4 questions), (b) self-reports of English use with social others (7 questions), and (c) self-reports of English use in inner speech and mental activities (9 questions). These three categories were selected a priori, and here a factor analysis of participant responses is conducted as an empirical check on the a priori categorization. The 20 questions were entered into a principal components factor analysis. Using the standard extraction criteria of an eigenvalue >1 and using Varimax raw rotation, four factors were extracted (first four eigenvalues = 8.29, 1.61, 1.32, 1.26) accounting for 62% of the total variance after rotation. Three of the internal speech variables cross-loaded on more than one factor and were eliminated (language of notes to oneself, language preferred for jokes, and language of praying). Table 2 shows the remaining variables and their loadings, which reflect the original categorization. Factor 1 represents the domain of internal, self-directed speech, and factor 2 represents the self-ratings of English proficiency. Variables representing the domain of social speech were divided between two factors. Factor

3 represents nuclear and extended family members and workmates (probably because many workmates are in fact Spanish speaking), and Factor 4 comprises only neighbors and friends. A factor composed of two factors is understood to be unstable, and hence for the remaining analyses, variables composing Factors 3 and 4 will be combined. Thus, the three factors reproduce the initial structuring of the self-rate and self-report questions into three categories: English abilities, the domain of social speech, and the domain of internal speech.

English Proficiency and Patterns of Use in Social Domains

Figure 2 displays usage of English by the three proficiency groups (Fluent, High Intermediate, and Low Intermediate) in each of two broad classes of social domain: *public domains* are pictured on the left of the chart (speech with FRIENDS, NEIGHBORS, WORKMATES), *private domains* on the right (speech with significant other or SPOUSE, one's CHILDREN, one's FAMILY of origin, and one's IN-LAWS). Of particular note in this chart is that overall usage of English is fairly low in private domains. Group means hover between 1.5 and 3.3 (where a rating of 1 means the person 'never' speaks English with this interlocutor and 3 means the person speaks English 'about half the time').

a. Speech in Social domains: General—Hypothesis 1 predicted that, in general, groups with higher vs. lower abilities in English would use more English, and Hypothesis 2 predicted that participants would use more English in public spaces than private spaces. Data were analyzed via a 3×7 repeated measures ANOVA, with proficiency group as the between-subjects factor and interlocutor as the within-subjects factor. In accord with Hypothesis 1, a main effect of group reflects that high proficiency groups reported significantly more use of English than the low proficiency group ($F(2,57) = 6.27, p < .01$). Planned comparisons indicate that the Low Intermediate group differed significantly from the Fluent ($t = 3.54, p < .001$) and High Intermediate ($t = 2.93, p < .01$) groups but that Fluent and High groups did not differ ($t = 1.09$). A main effect of social category showed significant differences in English usage according to interlocutor ($F(6,342) = 30.21; p < .001$). Planned comparisons (using contrast vectors) show that English usage is significantly greater in public contexts than private ones ($F(2,57) = 49.54; p < .001$), which supports Hypothesis 2. No interaction emerged between proficiency group and the seven domains in this analysis.

b. Speech in Social Domains: Private Spaces—Hypothesis 3 predicts that, within private spaces in the social domain, participants will use more English with their children than with other interlocutors and least English with relatives and in-laws. A 3 (Proficiency Group: Fluent, High Intermediate, Low Intermediate) $\times$ 4 (Interlocutor: SPOUSE, CHILDREN, FAMILY, IN-LAWS) ANOVA showed the expected main effect of group ($F(2,57) = 7.69, p < .01$) and a main effect of interlocutor ($F(3,171) = 48.23, p < .001$). Planned comparisons showed a significant difference between the CHILDREN and all others ($F(1,57) = 87.45, p < .001$), between IN-LAWS and all others ($F(1,57) = 58.37, p < .001$), and between FAMILY and all others ($F(1,57) = 22.95, p < .001$). Finally, a significant interaction between proficiency group and interlocutor ($F(6,171) = 2.61, p < .05$) also emerged. Post hoc comparisons show significant differences between means for English spoken with CHILDREN and all other domains for Fluent and High Intermediate individuals, but not for Low Intermediate individuals. In essence, older people with higher knowledge of English speak bilingually in Spanish and English with their (now adult) children, whereas people with lower proficiency in English speak mostly Spanish with their children.

c. Speech in Social domains: Public Spaces—No particular prediction was made concerning use of English across classes of interlocutors in the public spaces. A 3

(Proficiency Group: Fluent, High Intermediate, Low Intermediate) $\times$ 3 (Interlocutor: FRIENDS, WORKMATES, NEIGHBORS) ANOVA showed the expected main effect of group ($F(2,57) = 3.17, p < .05$), whereby more proficient individuals reported use of more English than less proficient individuals. A significant effect of domain ($F(2,114) = 5.28, p < .01$) emerged, and post hoc comparisons show that participants speak more English with workmates than with friends and neighbors. No interaction was observed between proficiency group and class of interlocutors in public contexts.

English Proficiency and Domains of Internal or Self-Directed Speech

The factor analysis identified six self-report activities that loaded onto the domain of internal, self-directed speech, and these have been sorted into cognitive and affective activities. The left side of Figure 3 shows fluent, high-intermediate, and low intermediate groups' usage of English in cognitive domains: talking to oneself (SELF), thinking in words (THINK), and doing math (MATH). The right side shows affective domains: the language in which the participant dreams (DREAM), the language used in swearing (SWEAR), and the language preferred for the expression of feelings (FEEL). Hypothesis 4 predicted that individuals with higher English proficiency would report greater use of English across both cognitive and affective domains.

a. Speech in Internal Domains: Cognitive Activities—Use of English in the cognitive domain was analyzed via a 3×3 repeated measures ANOVA with proficiency group as the between subjects factor and cognitive activity as the within subjects factor. An expected main effect of group shows that high proficiency individuals report more use of English across all 3 activities ($F(2,57) = 6.23; p < .01$) with no main effect of activity and no interaction. Planned comparisons showed significant differences between High Intermediate and Low Intermediate Groups ($t = 2.18, p < .05$), and between Fluent and Low Intermediate Groups ($t = 3.53, p < .01$). However, the difference between Fluent and High Intermediate Groups only approached significance ($t = 1.90, p = .06$).

b. Speech in Internal Domains: Affective Activities—Use of English in affective domains was analyzed via a 3×3 repeated measures ANOVA, with proficiency group as the between subjects factor and affective activity as the within subjects factor. Again, a main effect of group showed that high proficiency individuals reported more use of English across all activities ($F(2,57) = 5.79; p < .01$). Planned comparisons showed significant differences between Fluent and Low Intermediate Groups ($t = 3.40, p < .01$), but differences only approaching significance between Fluent and High Intermediate ($t = 1.99, p = .05$) and between High Intermediate and Low Intermediate ($t = 1.94, p = .06$). A main effect of domain ($F(4,228) = 8.35; p < .001$) also emerged, and post-hoc tests (Tukey) showed that participants used more English in swearing than for other activities. No interaction emerged between proficiency group and affective activity.

English Proficiency and Acculturation

An exploratory aim of the study addresses whether increasing knowledge of English accompanies higher levels of acculturation to Anglo culture and decreasing identification with Puerto Rican customs, beliefs, and values. Anglo and Puerto Rican subscale scores from the Puerto Rican Bicultural Scale (Cortes et al., 1994; Cortes et al., 2003) were used as dependent variables. Results are shown in Figure 4).

A 3 (group: Fluent, High Intermediate, and Low Intermediate) $\times$ 2 (subscales: Anglo and Puerto Rican) ANOVA showed an overall main effect of subscale ($F(1,57) = 44.00, p < .001$), reflected in higher overall scores across groups on the Puerto Rican subscale than the American subscale. A significant interaction ($F(2,57) = 5.34, p < .01$) between group and

subscale (see Figure 3). Post hoc tests suggest significant differences in Anglo culture scores (Low Intermediate differs from Fluent and High Intermediate) but no significant differences between groups in Puerto Rican culture scores. In sum, higher competence in English predicts differences in Anglo acculturation but all groups remain equivalently high in identification with Puerto Rican culture.

Discussion

The framework for this research on English proficiency and patterns of English usage assumes that immigrants become variably bilingual in different domains of experience and not globally (Schrauf, 2002). Here, however, domains have been conceived, not in terms of topical knowledge (e.g. the domain of religion or the domain of finances), but rather as psychosocial patterns of use. Two of these form the subject of this study: domains of social speech and domains of internal, self-directed speech.

Participants in the study were older Puerto Ricans living in a central city area with high concentrations of other Spanish speakers. Their socioeconomic status was not high, and generally represented lifetime employment in factory and service industries. Levels of English proficiency are predictably low in such neighborhoods, and in fact such co-residence is a primary factor in mother-tongue maintenance into the third generation for ethnic groups in the U.S. (Schrauf, 1999). By formally assessing language knowledge and obtaining self-reports of language use in domains of both social speech and internal or self-directed speech, this research brings to light important variations in the linguistic practice of these individuals.

In general, although the range of English proficiency runs from fluent to high intermediate to low intermediate, the self-reported *usage* of English was rather limited. It should be noted that the domains of social and internal speech that were queried span multiple social and private contexts, in which the factors driving language choice may include proficiency, habit, social status, performance of sociocultural identity, and a host of other factors, plus bilingual creativity (Brozgold & Centeno, 2007; Ritchie & Bhatia, 2004). Given the likert scales used for judging language preference/use ran from 1 = never to 5 = always, a score of 3 in any domain represents bilingual use of both languages, presumably in codeswitching. Thus, middle scores (i.e. 2–4) represent usage of both languages and codeswitching, which may be driven as much by sociolinguistic factors as by pure proficiency. However, even the most fluent group did not report shifting primarily to English versus Spanish in any social or internal speech domain. In ethnic neighborhoods with high concentrations of first language speakers, this is not surprising. However, over the lifespan some older immigrants have in fact learned more English than others. Concordantly, participants with higher levels of language knowledge report a greater use of English across both social and internal speech domains

Further, the analysis confirms that older immigrants use more English in public vs. private domains. In public domains, participants spoke most English with workmates, and less with friends and neighbors. Although work may have involved considerable use of Spanish with other Spanish-speaking workmates, at some level English would have been required, and the self-reports reflect this. On the other hand, self-reported English is less common in private domains, where (again) the expectation that one speak English would be predictably lower. In accord with Fishman's observation (1972), as the second language takes root in an ethnic community, the first language is confined more and more to intimate social and family domains.

Nevertheless, kinship and family domains are by no means first language, monolingual domains. Generally, older immigrants reported speaking more English with their children and least English with members of their families-of-origin and in-laws. Put simply, parents are challenged both to learn and to speak English by their children. The 'next generation' brings English into the most intimate of domains: the family.

This result is qualified, however, by knowledge of English. Participants with greater knowledge of English spoke bilingually with their children; participants with low levels of English knowledge spoke very little English with their children. There are many reasons why this might be the case. Participants in the Low Intermediate group were older at immigration, and so perhaps immigrated with older children who would also be late-learners of English as a second language. Also, participants in the Low Intermediate group were less likely than other groups to buy their homes and more likely to rent, which may reflect an intention to return to the island. This in turn could conceivably stimulate a greater allowance, if not insistence, on speaking Spanish within the family. Finally, in comparison with Fluent and High Intermediate groups, individuals in the Low Intermediate Group lived in areas with *highest* concentration of other Spanish speakers, which would offer considerable reinforcement outside the home for children's Spanish.

In domains of internal, self-directed speech, higher vs. lower English proficiency groups reported thinking, talking to themselves, and counting more in English and reported more use of English in expressing feelings, swearing, and dreaming. Nevertheless, this 'Anglicization of the mind' does not correlate with assimilation to Anglo culture and a fading sense of being Puerto Rican. Although individuals with higher levels of English proficiency also have high scores on a test of American acculturation, their scores on a test of Puerto Rican cultural orientation is also high (near ceiling). Thus, biculturalism accompanies bilingualism among these older immigrants. This is consonant with bilinear models of acculturation in the measurement literature according to which 'becoming more of one does not imply becoming less of the other' (Kim & Abreu, 2001).

A consistent finding across these analyses is that, although use of English is low in general across domains for all proficiency groups, the groups do show variability across domains as well—speaking more English in some domains rather than others. The exception is that the group with lowest competence also shows least variability within a very restricted range of practice. This makes intuitive sense, but it points up the fact that within linguistically concentrated, ethnic neighborhoods, there is a population of individuals who, despite living in the United States for decades, still speak quite limited English. Since this group is also marked by lower socioeconomic and lower educational levels, they are particularly disadvantaged in US society. As social services and public health efforts address then needs of linguistic minorities among the elderly, this is a vulnerable group in particular need of attention.

This study also makes two methodological contributions to the study of multilingualism among older immigrants. First, the results show that self-ratings of language proficiency are consistent with scores on formal tests of proficiency. Prior research on English proficiency among older samples has relied on self-rated language abilities (Carliner, 2000; Davila & Mora, 2000; Mutchler & Brallier, 1999; Stevens, 1999). However, in younger (generally college-age) samples, experimental research correlating self-ratings with grammaticality judgements (e.g. Jia et al., 2002), or classroom based research correlating self-ratings with educational assessments (Blanche & Merino, 1989), have shown correlations in the .50 - .60 range. Nevertheless, there is little evidence that older immigrants, particularly those who have learned English informally, are as accurate as younger individuals in classroom settings. In this sample of older individuals, self-ratings of English abilities mirrored the

proficiency groups created using scores from the Adult Language Assessment Scales. This suggests that older individuals, whose second language abilities have probably fossilized for many years, are quite capable of fairly accurate self-ratings.

A second methodological contribution is the empirical testing of the self-report language-usage questions and subsequent confirmation of their division into two domains: social speech and internal, self-directed speech. Two points may be made about these domains. First, self-reported usage was consistent with the formal test of proficiency: groups with higher proficiency reported more use, and groups with lower proficiency reported less usage. This suggests that people are selecting usage levels from the Likert scale that reflect their actual abilities. This is not the same, however, as saying their self-reports reflect their actual use. A more objective measure of usage (presumably observational) would be necessary to test the relationship. Second, the factor analysis confirmed that questions designed to probe two different domains seemed in fact to do so. This suggests that future studies might profitably address the development of proficiency (or fossilization or attrition) in both social and internal domains.

Limitations of the study include the following. Sample sizes are small in comparison to the samples used in large, survey-style, database studies, and therefore inferences to the larger population of inner city immigrants must be made with caution. Too, there are important cultural differences between Puerto Ricans and other Hispanic groups (and indeed all other immigrant groups) in the United States. Not the least among these are the facts that Puerto Ricans are US citizens who come to the mainland legally and are free to visit Puerto Rico at will. This could reduce the pressure to learn English, since a return to the homeland is always a possibility. Methodologically, proficiency in English was assessed formally by the Adult Language Assessment Scales and patterns of use were assessed by self-report. Other formal measures of proficiency may well be more sensitive to English language skills, particularly as these may be expected to vary across contexts (Bachman, 1990; Bachman & Palmer, 1996). Self-reports are rough indicators of actual practice, and a linguistic ethnography of discourse practices would give an even richer and more valuable picture of individual variation.

Conclusion

By employing a formal test of English proficiency and collecting self-reports of patterns of use of English, this research presents a more detailed picture of English among older immigrants than is possible with large database, survey style research. Not surprisingly, considerable variation exists in both knowledge of the language and patterns of use, but it is the interactions of these that are of greatest interest. Findings include the following. First, even within linguistically concentrated ethnic neighborhoods, and within these, in the family itself where the mother-tongue would encounter least resistance, it is not uncommon for older adults to be speaking English regularly with their adult children. That is, linguistically concentrated neighborhoods are crosscut by the bilingualism of the 'next generation.' Secondly, even among individuals highly proficient in English, and for whom acculturation to American society is quite advanced, the adherence to and active commitment to Puerto Rican customs, beliefs and values remains high (at ceiling). This confirms that acculturation scales (for which language items account for a great deal of variance) are most appropriate when they allow for explicitly bicultural expression. Third, the research also confirms that, even after many years of residence in the U.S., there exist individuals who are functionally monolingual in the first language. These individuals live in contexts of greater linguistic isolation and rank at lower socioeconomic levels than their more proficiency counterparts.

In terms of method, the research suggests that older immigrants' self-ratings of second language proficiency and self-reports of patterns of language use are fairly accurate. Finally, by systematically analyzing self-reports of language use in the two domains of social speech and internal, self-directed speech in the light of the formal test of English proficiency, the research provides additional evidence for the utility of the 'bilingualism-by-domain' approach to analyzing immigrant second language use.

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References

- Alba RD, Logan J, Lutz A, Stults B. Only English by the third generation? Loss and preservation of the mother-tongue among grandchildren of contemporary immigrants. *Demography*. 2002; 39(3): 467–484. [PubMed: 12205753]
- Bachman, LF. *Fundamental considerations in language testing*. New York: Oxford University Press; 1990.
- Bachman, LF.; Palmer, AS. *Language testing in practice*. Oxford: Oxford University Press; 1996.
- Beaudichon J. Nature and instrumental functions of private speech in problem solving situations. *Merrill-Palmer Quarterly*. 1973; 19:117–131.
- Benet-Martinez V, Leu J, Lee F, Morris M. Negotiating biculturalism: Cultural frame-switching in biculturals with 'oppositional' vs. 'compatible' cultural identities. *Journal of Cross-Cultural Psychology*. 2002; 33:492–516.
- Berner, E. Private speech and role taking abilities in preschool children; Minneapolis. Paper presented at the Paper presented at the Biennial Meetings of the Society for Research in Child Development; 1971.
- Blanche P. Using standardized achievement and oral proficiency tests for self-assessment purposes: the DLIFLC study. *Language Testing*. 1990; 7(2):203–229.
- Blanche P, Merino B. Self-assessment of foreign language skills: Implications for teachers and researchers. *Language Learning*. 1989; 39:313–340.
- Blommaert J, Collins J, Slembrouck S. Spaces of multilingualism. *Language and Communication*. 2005; 25:197–216.
- Borgatti SP. Cultural domain analysis. *Journal of Quantitative Anthropology*. 1994; 4:261–278.
- Brozgold, A.; Centeno, JG. Sociocultural, societal, and psychological aspects of bilingualism. In: Centeno, JG.; Anderson, RT.; Obler, LK., editors. *Communication disorders in spanish speakers: Theoretical, research, and clinical aspects*. Clevedon, UK: Multilingual Matters; 2007. p. 67-81.
- Carliner G. The language ability of U.S. immigrants: Assimilation and cohort effects. *International Migration Review*. 2000; 34:158–182.
- Centeno, JC. Considerations for an ethnolinguistic framework for aphasia intervention with bilingual speakers. In: Ardila, A.; Ramos, E., editors. *Speech and language disorders in bilinguals*. Nova Scotia Publishers; 2007. p. 195-212.
- Clark, L.; Hofsess, L. Acculturation. In: Loue, S., editor. *Handbook of immigrant health*. New York: Plenum; 1998. p. 37-59.
- Cortes DE, Deren S, Andia J, Colon H, Robles R, Kang S-Y. The use of the Puerto Rican Biculturalism Scale with Puerto Rican Drug Users in New York and Puerto Rico. *Journal of Psychoactive Drugs*. 2003; 35(2):197–207. [PubMed: 12924742]
- Cortes DE, Rogler LH, Malgady RG. Biculturalism among Puerto Rican adults in the United States. *American Journal of Community Psychology*. 1994; 23:339–356.
- Davies A. Communicative competence as language use. *Applied Linguistics*. 1989; 10:157–170.
- Davila A, Mora MT. English fluency of recent Hispanic immigrants to the United States in 1980 and 1990. *Economic Development and Cultural Change*. 2000:369–389.

- Deutsch F, Stein A. The effects of personal responsibility and task interruption on the private speech of preschoolers. *Human Development*. 1972; 15:310–324.
- Dickie, J. Unpublished doctoral dissertation. East Lansing, MI: Michigan State University; 1973. Private speech, the effect of the presence of others, task and interpersonal variables.
- Duncan, SE.; De Avila, EA. *Adult Language Assessment Scales*. Monterey, CA: CTB Macmillan/McGraw-Hill; 1991.
- Dunning D, Heath C, Suls JM. Flawed self-assessment: Implications for health, education, and the workplace. *Psychological Science in the Public Interest*. 2004; 5(3) Supplement to Psychological Science.
- Espenshade TJ, Fu H. An analysis of English-language proficiency among U.S. immigrants. *American Sociological Review*. 1997; 62:288–305.
- Farr, M. *Ethnolinguistic Chicago: Language and literacy in the city's neighborhoods*. Mahwah, New Jersey: LEA; 2004.
- Fishman, JA. *The sociology of language*. Rowley, MA: Newbury; 1972.
- Folstein MSF, McHugh PR. Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*. 1975; 12:189–198. [PubMed: 1202204]
- Frauenglass MH, Diaz RM. Self-regulatory functions of children's private speech: A critical analysis of recent challenges to Vygotsky's theory. *Developmental Psychology*. 1985; 21(2):357–364.
- Frawley, W. *Vygotsky and cognitive science: Language and the unification of the social and computational mind*. Cambridge: Harvard University Press; 1997.
- Gal S. Language ideologies compared: Metaphors of public vs. Private. *Journal of Linguistic Anthropology*. 2005; 15(1):23–37.
- Gaskill, MN.; Diaz, RM. The relation between private speech and cognitive performance. Unpublished manuscript. University of New Mexico, Albuquerque; 1987.
- Goodman SH. The integration of verbal and motor behavior in preschool children. *Child Development*. 1981; 52:280–289.
- Hymes, D. On communicative competence. In: Pride, JP.; Holmes, J., editors. *Sociolinguistics*. Penguin: Harmondsworth; 1972.
- Hymes D. Postscript (to Volume 10, Number 2: Selected papers from the proceedings of the BAAL/AAAL joint seminar 'Communicative Competence Revisited'). *Applied Linguistics*. 1989; 10:244–250.
- Jasso, G.; Rosenzweig, MR. *The new chosen people: Immigrants in the United States*. New York: Russell Sage Foundation; 1990.
- Jia G, Aaronson D, Wu Y. Long-term language attainment of bilingual immigrants: Predictive variables and language group differences. *Applied Psycholinguistics*. 2002; 23:599–621.
- Kim, BSK.; Abreu, JM. Acculturation measurement: Theory, current instruments, and future directions. In: Ponterotto, JG.; Casas, JM.; Suzuki, LA.; Alexander, CM., editors. *Handbook of multicultural counseling*. 2nd edition ed.. Thousand Oaks, CA: Sage; 2001. p. 394-424.
- Kohlberg L, Yaeger E, Hjertholm E. Private speech: Four studies and a review of theories. *Child Development*. 1968; 39:691–736. [PubMed: 5687321]
- Langacker, RW. *Foundations of cognitive grammar*. Vol. 1. Stanford: Stanford University Press; 1987. Theoretical Prerequisites
- Lantolf, JP.; Thorne, SL. *Sociocultural theory and the genesis of second language development*. New York: Oxford University Press; 2006.
- Larsen S, Schrauf RW, Fromholt P, Rubin DC. Inner speech and bilingual autobiographical memory: A Polish-Danish cross-cultural study. *Memory*. 2002; 10(1):45–54. [PubMed: 11747575]
- Marshall SC, Mungas D, Weldon M, Reed B, Haan M. Differential item functioning in Mini-Mental State Examination in English- and Spanish-speaking older adults. *Psychology and Aging*. 1997; 12(4):718–725. [PubMed: 9416639]
- Morales, J. *Puerto rican poverty and migration: We just had to try elsewhere*. New York: Praeger; 1986.

- Mulgrew CL, Morgenstern N, Shetterly SM, Baxter J, Baron AE, Hamman RF. Cognitive functioning and impairment among rural elderly Hispanics and non-Hispanic Whites as assessed by the Mini-Mental State Examination. *Journals of Gerontology: Psychological Sciences*. 1999; 54B:223–230.
- Mutchler JE, Brallier S. English language proficiency among older Hispanics in the United States. *The Gerontologist*. 1999; 39(3):310–319. [PubMed: 10396889]
- Ogbo, JU. Cultural amplifiers of intelligence: IQ and minority status in cross-cultural perspective. In: Fish, JM., editor. *Race and intelligence: Separating science from myth*. Mahwah, New Jersey: LEA; 2002. p. 241–278.
- Padilla, FM. *Puerto Rican Chicago*. Notre Dame, Indiana: Notre Dame Press; 1987.
- Pavlenko A. Second language learning by adults: Testimonies of bilingual writers. *Issues in Applied Linguistics*. 1998; 9(1):3–19.
- Pavlenko A. Access to linguistics resources: Key variable in second language learning. *Estudios de Sociolingüística*. 2000; 1(2):85–105.
- Ritchie, A.; Bhatia, TK. Social and psychological factors in language mixing. In: Bhatia, TK.; Ritchie, A., editors. *The handbook of bilingualism*. Malden, MA: Blackwell; 2004. p. 337–352.
- Robert S, House JS. SES differentials in health by age and alternative indicators of SES. *Journal of Aging and Health*. 1996; 8(3):359–388. [PubMed: 10165980]
- Rodríguez Bou, I. La educación en Puerto Rico. In: Alegria, RE.; Rivera; Rivera Quinones, E., editors. *Historia y cultura de Puerto Rico: Desde la época pre-columbiana hasta nuestros días*. San Juan, Puerto Rico: Fundación Francisco Carvajal; 1999. p. 157–198.
- Rohrkemper M. The functions of inner speech in elementary school students' problem solving behavior. *American Education Research Journal*. 1986; 23:303–313.
- Sano M, Mackell JA, Ponton M, Ferreira P, Wilson J, Pawluczyk S, et al. The Spanish Instrument Protocol: Design and implementation of a study to evaluate treatment efficacy instruments for Spanish speaking patients with Alzheimer's disease. *Alzheimer's Disease and Related Disorders*. 1997; (11 Supplement):S57–S64.
- Savignon, SJ. *Communicative competence: An experiment in foreign language teaching*. Philadelphia, PA: Center for Curriculum Development; 1972.
- Savignon, SJ. *Communicative competence: Theory and classroom practice*. Reading, MA: Addison-Wesley; 1983.
- Schrauf RW. Mother tongue maintenance among North American ethnic groups. *Cross-Cultural Research*. 1999; 33(2):175–192.
- Schrauf RW. Bilingual autobiographical memory: Experimental studies and clinical cases. *Culture & Psychology*. 2000; 6(4):387–417.
- Schrauf RW. Bilingual inner speech as the medium of cross-modal retrieval in autobiographical memory. *Behavioral and Brain Sciences*. 2002a; 25:698–699.
- Schrauf RW. Comparing cultures within subjects: A cognitive account of acculturation as a framework for cross-cultural study. *Anthropological Theory*. 2002b; 2(1):101–118.
- Schrauf RW, Hoffman L. The effects of revisionism on remembered emotion: The valence of older, voluntary immigrants' pre-migration autobiographical memories. *Applied Cognitive Psychology*. 2007; 21:895–913.
- Schrauf RW, Rubin DC. Bilingual autobiographical memory in older adult immigrants: A test of cognitive explanations of the reminiscence bump and the linguistic encoding of memories. *Journal of Memory and Language*. 1998; 39(3):437–457.
- Stevens G. The social and demographic context of language use in the United States. *American Sociological Review*. 1992; 57:171–185.
- Stevens G. Age at immigration and second language proficiency among foreign-born adults. *Language in Society*. 1999; 28:555–578.
- Torres, L. *Puerto Rican discourse: A sociolinguistic study of a New York suburb*. Mahwah, New Jersey: LEA; 1997.
- Wertsch, JV. *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, Mass: Harvard University Press; 1991.

- Whyte, S. Discourse domains revisited: Expertise and investment in conversation. In: Bouton, L.; Kachru, Y., editors. *Pragmatics and Language Learning*. Vol. Vol. 3. Urbana, IL: Division of English as An International Language, University of Illinois; 1992. p. 81-103.
- Whyte S. Specialist knowledge and interlanguage development. *Studies in Second Language Acquisition*. 1995; 17:153–183.
- Young R. Sociolinguistic approaches to SLA. *Annual Review of Applied Linguistics*. 1999; 19:105–132.
- Zentella, AC. Spanish in new york. In: Garcia, O.; Fishman, JA., editors. *The multilingual apple: Languages in new york city*. New York: Mouton de Gruyter; 2002.

Figure 1. Self-rated Spanish (dotted lines) and English (solid lines) across four modalities
 Ratings were: 1 = almost none, 2 = some, 3 = functional, 4 = very good, 5 = like a native speaker.

Figure 2. English in social domains

Group means for self-reported use of English for each domain of social interlocutor. On the left are interlocutors in the public domain, on the right, interlocutors in the domestic or private domain.

Figure 3. English in psychological domains

Proficiency group means for self-reported use of English for cognitive (left side of graph) and affective domains (right side of graph).

Figure 4. Competence in English and acculturation

Graph representing the interaction between competence group and scores on the Bicultural Puerto Rican Scale.

Table 1

Sample Characteristics: Fluent, High Intermediate, and Low Intermediate Proficiency Groups

Variable	Total Sample	Fluent (1)	High Intermediate (2)	Low Intermediate (3)	Post hoc
N	60	17	30	13	
Age	69.35 (6.90)	66.47 (5.71)	70.23 (6.73)	71.08 (7.99)	3 = 2 = 1
Age at Immigration	22.13 (7.09)	19.00 (7.19)	21.53 (4.99)	27.62 (8.14)	3 > 1, 2
SES level ^a	1.53 (.80)	1.84 (.98)	1.52 (.79)	1.15 (.24)	3 < 1, 2
Own Home ^b	.53	.65	.60	.23	3 < 1, 2
Education	7.12 (3.95)	8.94 (3.77)	6.57 (4.09)	6.00 (3.24)	3 = 2 = 1
Linguistic Concentration ^c	.76	.59	.73	1.00	3 > 1, 2
Frequency of Visits to Puerto Rico ^d	3.38 (1.18)	3.35 (1.17)	3.23 (1.04)	3.17 (1.48)	3 = 2 = 1
Acculturation – American scale	24.50 (3.84)	26.00 (3.92)	25.20 (3.53)	20.92 (3.57)	3 < 1, 2
Acculturation – Puerto Rican scale	28.17 (3.13)	28.35 (2.76)	28.03 (3.10)	28.23 (3.83)	3 = 2 = 1

Note: The numbers in parentheses in column heads refer to numbers used for illustrating significant differences in the last column titled “post hoc.”

^aSES levels are means of categorical responses concerning assets and annual family income.

^bOwn Home is the proportion of individuals in this proficiency category who own their own home versus rent.

^cLinguistic Concentration is the proportion of individuals in this proficiency category who live in zip code areas with over 33% Hispanics in the population.

^dVisits to Puerto Rico are measured on a Likert scale where 1 = more than once a year, and 7 = never. See text for details.

Table 2

Factor Analysis of Self-Ratings of Ability in English and Self-Reported Patterns of Use

	Factor 1	Factor 2	Factor 3	Factor 4
Amount of English used for:				
1. Thinking in Words	0.58			
2. Expressing Emotion	0.76			
3. Dreaming	0.75			
4. Talking to Oneself	0.65			
5. Swearing	0.49			
6. Counting	0.82			
Self-rated ability to:				
7. Understand English		0.71		
8. Speak English		0.61		
9. Read English		0.87		
10. Write English		0.86		
Amount of English spoken with:				
11. Workmates			0.54	
12. Significant Other			0.63	
13. Own Children			0.61	
14. In-Laws			0.68	
15. Own Family			0.74	
16. Friends				0.65
17. Neighbors				0.75