English Language Proficiency of Immigrants and Refugees in the Twin Cities Metropolitan Area[1]

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ABSTRACT

Studies of the determinants of English language ability have generally focused on the largest immigrant groups in the United States. Much less is known about smaller, but significant regional concentrations of immigrants and refugees. This article presents data on four very distinct and understudied groups: Russians, Somalis, Hmong, and Mexicans in the Midwest. We found large differences in English language proficiency across the different national origin groups, even after controlling for background variables. These differences were not attributable to refugee status or to linguistic distance from English. Being Somali, migrating to the United States at a young age and having a college diploma were the best predictors of both spoken and written proficiency. The returns to higher education were particularly noteworthy – respondents with college diplomas were more than 29 times more likely than non-high school graduates to speak English well, and more than 20 times as likely to read well. Women appear to have benefited more than men from completing college in terms of spoken English proficiency since the male-female gap narrows among the highly educated. Length of time in the United States was a good predictor of whether an individual speaks English at home, regardless of age of entry to the country.

INTRODUCTION

Limited English language proficiency is a major barrier to effective integration to American society. It impedes access to health care services, schools, and government agencies; relegates workers to low-wage jobs with reduced likelihood of upward mobility; and leads to early school dropout and associated risk behaviours on the part of young people. It is also a key factor in what has been called

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Published by Blackwell Publishing Ltd.,
9600 Garsington Road, Oxford OX4 2DQ, UK, and
350 Main Street, Malden, MA 02148, USA.

International Migration Vol. 41 (5) 2003
ISSN 0020-7985

acculturative stress, "as children and their families negotiate a new system in which their native languages may not be understood, and in which they may not know the language of the host country"(Hernandez and Charney, 1998). Furthermore, when immigrant parents remain monolingual and their children do not speak the parents' language, children assume new roles and high rates of parent-child conflict ensue (Garcia Coll and Magnuson, 1997). Because of its centrality to economic, social, and educational advancement, acquisition of the language of the new country is a key indicator of integration (Conzen, 1992).

A number of researchers have studied the English language proficiency of Mexicans and other Latinos in the United States (Solé, 1990; Portes and Schauffler, 1996; Portes and Hao, 1998; Espinosa and Massey, 1997); others have compared the language skills of regional categories of census respondents, such as Europeans, Africans, Middle Easterners, and South Asians (Carliner, 2000), and of groups separated by the primary language spoken in their countries of origin (Espenshade and Fu, 1997). Chiswick and Miller (2000) have employed both of these variables in analyses of the determinants of English and French language proficiency in Canada. These analyses yield important information on levels and determinants of the English language abilities of North American immigrants, but broad regional and linguistic groupings can also mask dramatic differences in both the background characteristics and the language abilities of individual national origin groups. The category "Asians", for example, combines East Indians and Vietnamese immigrants – groups with vastly different linguistic abilities and socio-economic backgrounds. Similarly, analyses of "Hispanics" or "Spanish-speakers" combine immigrants at the top of the socio-economic spectrum (Cubans) and at the bottom (Mexicans).

An advantage of the present study is the presentation of data on several specific and understudied groups of immigrants: Somalis, Hmong, and Russians. These groups, in addition to Mexicans, represent the four largest immigrant groups settled in the Minneapolis/St. Paul "Twin Cities" metropolitan area. Using data from a multilingual telephone survey sponsored by the Wilder Foundation, we describe the self-reported English language ability of each of the four national origin groups and examine determinants of language proficiency.

PRIOR RESEARCH ON REGIONAL AND LINGUISTIC DIFFERENCES AS DETERMINANTS OF ENGLISH PROFICIENCY

There are well-documented and dramatic differences in the English language proficiency of US immigrants from different linguistic groupings and regions of origin. These differences generally persist after controls for education, age at migration, years in the United States, employment, and other variables. Espenshade and Fu

(1997) hypothesized that immigrants from countries where Romance languages are spoken well find it easier to learn English than immigrants from other countries. They used census and Current Population Survey (CPS) data to test an ordered logit model of the determinants of English language proficiency, and found that immigrants from countries where English is the official language had significant advantages in English proficiency. In their full regression model the effects of language of country of origin remained significant after all other background factors were controlled. Immigrants from countries where English was the official language and immigrants from Arabic-speaking countries reported higher levels of English proficiency than immigrants from Spanish-speaking countries. Once in the United States, immigrants differed in English proficiency according to length of time in the country, age at migration, and educational level.

Chiswick and Miller (2000) had similar findings in their analysis of the determinants of the use of English or French on the part of Canadian immigrants. Language ability was highest among immigrants whose languages were "linguistically closer" to English or French among those who were not refugees, and among those from former British, French, or European colonies. Length of time in Canada, early age at migration, and higher educational attainment were also strong predictors of language proficiency.

Carliner (2000) used data from the 1980 and 1990 censuses to examine the determinants of self-reported English proficiency among immigrants from seven categories of countries of origin: English-speaking countries, Mexico, other Western Hemisphere countries, other continental European countries, Africa and the Middle East, South Asia, and East Asia. His study did not support the linguistic difference hypothesis, but like Espenshade and Fu, he found large differences in English proficiency by region of birth, even after controlling for education, gender, age at migration, and years in the United States:

> Other things equal, Mexican immigrants are 32 percentage points less likely than continental Europeans (the reference group), to speak English fluently. Immigrants from other Western Hemisphere non-English speaking countries are about 2 percentage points less likely to be fluent, and East Asians are 17 percentage points less likely. However, immigrants from Africa and the Middle East, and especially from South Asia, are more likely than otherwise similar continental Europeans to speak only English or to speak it well (Carliner, 2000: 175).

What is not clear from the studies cited above is the extent to which important intragroup differences are masked by broad regional categories. Individuals classified as "Asian", for example, may vary enormously in linguistic ability and corresponding socio-economic determinants. For example, in 1990 in the United States the average household income for Hmong families, an Asian ethnic group settled in California, Minnesota, and Wisconsin, was US $19,155 – one-third that of Asian

Indians – and their unemployment rate was 21 per cent – 11 times higher than that of the Thai population in the United States (Hmong Population Research Project, 2000). The same study reported that 66 per cent of the Hmong in California and 59 per cent of the Hmong in Minnesota were linguistically isolated in 1990 (having no one in the household older than age 14 who speaks English very well). Westermeyer and Her (1996) also noted linguistic isolation on the part of Hmong adults in their longitudinal study of the first group of 102 Hmong refugees settled in Minnesota by the Office of Refugee Resettlement (ORR).

Similarly, studies that group all Spanish-speaking individuals together ignore the differences that exist between such Latino groups as Mexicans and Cubans, both before and after entry into the United States. In Mexico only 53 per cent of secondary school age children were enrolled in school in 1998 (UNESCO, 2001). Within the United States, Mexican immigrants average between seven and eight years of formal schooling (Borjas, 2000); Cuban immigrants, in contrast, have several advantages relative to Mexicans in the United States with regard to educational attainment. By virtue of extensive government investment in education within Cuba, immigrants and refugees from the island have very high literacy rates when they arrive in the United States, and Cuban immigrants in the United States average 11 to 13 years of schooling (Borjas, 2000). Moreover, relative to other Hispanics in the United States, Cuban workers have higher per capita incomes and a lower percentage of persons living in poverty (Therrien and Ramirez, 2001). These characteristics may support language acquisition in the United States, although Cubans are also more likely than other Latinos to live in "linguistically isolated households", where contact with the English language is limited.

Minnesota is a good place to compare the language proficiency of specific groups of immigrants and refugees because the state has a higher proportion of immigrants who are refugees than most other states. As a result, the Twin Cities is home to particularly diverse groups of residents from Asia, Africa, Latin America, and the former Soviet states. We employ data from a recent Twin Cities study of immigrants (Wilder, 2000) in which three of the four groups represent adults who came as refugees or have refugee family members. The purpose of the paper is to make comparisons across the national origin groups and to analyse the determinants of their varying levels of English language proficiency.

IMMIGRANTS AND REFUGEES IN MINNESOTA

In the twentieth century, immigration to Minnesota was dominated by émigrés from Scandanavia, Ireland, and Germany. In recent years there has been an influx of economic migrants from Latin America, and refugees from Africa, Asia, and the former Soviet states. While total numbers of immigrants pale next to those in the

coastal and border states, in most years Minnesota has a larger proportion of immigrants who are *refugees*[2] than other states. In the 1990s this proportion ranged from 24 per cent to 46 per cent in Minnesota, as compared with 6 per cent to 16 per cent nationwide. In the following section we briefly describe the history of the largest groups of refugees in the state, including Hmong who came to Minnesota in the late 1970s and early 1980s, Russians, and Somalis who came in the 1990s.

At the end of the Vietnam War large numbers of Asian refugees settled in Minnesota, including what later became one of the largest settlements of Hmong residents in the United States. The Minnesota Department of Health (2000) estimates that 21,561 Laotian refugees (both Hmong and lowland) have been resettled since 1979. These numbers reflect primary refugee resettlement, but many more residents have moved to Minnesota as secondary migrants from other parts of the United States. In the late 1990s the Hmong population of Minnesota increased substantially with the influx of a large number of family and clan members from Fresno, California (Ronningen, 2000). By 2000 there were 42,863 Hmong residents in Minnesota – a 255 per cent increase since 1990 (US Census Bureau, 2000).

With the break-up of the Soviet Union in the late 1980s came a wave of Russian refugees – Jews, Baptists, and Pentecostal Christians seeking political asylum. In 1980 no Russian refugee arrivals were recorded in Minnesota, but since 1987 more than 3,000 Russian-speaking Jews alone have settled in Minneapolis. Many are quite elderly; nearly half are older than age 55, and some are in their nineties (The Minneapolis Foundation, 2002).

In 2000 three-quarters of the primary refugee arrivals to Minnesota were from sub-Saharan Africa (Somalia, 55%; Ethiopia, 10%; Liberia, 8%; Sierra Leone, 3%). On-going civil war and famine in that region has led to continued applications for refuge and asylum. There were an estimated 34,469 foreign-born Minnesotans from Africa in 2000, a 621 per cent increase since 1990 (Migration Policy Institute, 2002).

In addition to African, Asian, and Eastern European refugees, there are many immigrants in Minnesota, particularly from Latin America. Mexicans have long come to the Midwest as seasonal workers, but in recent years a strong economy and the availability of jobs in food processing and manufacturing has led to a surge in the number of Mexican and Tejano residents in Minnesota (Fennelly and Leitner, 2002). There were some 42,000 Mexicans in the state in 2000 (Migration Policy Institute, 2002) and more than 137,000 Spanish speakers (US Census Bureau, 2000). Mexicans represent the largest foreign-born group in both the United States (27.6%) and Minnesota (16%) (Migration Policy Institute, 2002). It is difficult to obtain precise demographic information on this relatively dynamic immigrant population

compared with refugees, for whom reliable entry data are more readily available. Many Latinos and other immigrants come to Minnesota from California, Texas, and from other Midwestern states in search of jobs.

The presence of such a broad range of immigrants and refugees means that many residents of Minnesota speak foreign languages. Statewide, 9 per cent of the Minnesota population speaks a language other than English at home; the corresponding figure is 12 per cent in the Twin Cities metropolitan area. Spanish is the most common foreign language. Percentages of foreign language speakers and linguistically isolated adults are also much higher in the metro area than in the rest of the state (see Table 1).[3] Seventy-six per cent of the linguistically isolated population resides there, more than one-third of whom speak either Spanish (37%) or an Asian language (35%) (US Census Bureau, 2000). However, "Asian" is a very heterogeneous category that includes groups with high levels of English proficiency and literacy, such as East Indians and Filipinos, as well as groups with very low levels, such as the Hmong.

TABLE 1

NUMBER AND PERCENTAGE OF ADULTS IN LINGUISTICALLY ISOLATED HOUSEHOLDS IN MINNEAPOLIS-ST PAUL URBANIZED AREA, BY LANGUAGE SPOKEN IN THE HOME, US CENSUS 2000*

Language spoken	Number	Per cent
Spanish	19,736	37.1
Indo-European language	8,323	15.5
Asian language	18,821	35.4
Other language	6,365	12.0
Total	53,154	100.0

Note: *Adults older than age 18; a linguistically isolated household is one in which all members age 14 and older have at least some difficulty with English.

Source: US Census, 2000, SF3, PCT 13-sample data.

METHODS

Description of Wilder survey

The data for our analysis of the determinants of English language proficiency come from a probability sample of immigrants residing in the Twin Cities metropolitan area – home to a majority of immigrants in the state. In late 1999 and early 2000 the Wilder Research Center and the *St. Paul Pioneer Press* conducted 1,119

multilingual telephone interviews with adults selected randomly from households in neighbourhoods likely to have a high concentration of immigrants (the latter determination was made based upon 1990 census data and 1999 school district enrolment data). Interviewers screened more than 12,000 randomly selected households and identified 4,415 immigrants eligible for the study. Of these, 1,512 were invited to participate and telephone interviews were completed with 1,119 adults (74%). In the original survey, interviews were conducted with individuals representing the largest immigrant groups in the metro area. Respondents were given the choice of being interviewed in English or in Hmong, Somali, Russian, or Spanish. Forty-four per cent of the interviews were conducted in English and 56 per cent in one of the other languages.

All of the respondents in the Wilder study lived in "immigrant enclaves" in the Minneapolis/St. Paul metropolitan area because Wilder used a sampling frame of neighbourhoods known to have high concentrations of immigrants. If these enclaves attract immigrants who speak little or no English, then our results will understate the English language proficiency of immigrants in the Twin Cities (Carliner, 2000; Garrett and Stevens, 1996), and we can only generalize to immigrants living in concentrated ethnic neighbourhoods. This is not as great a problem as it might appear because the majority of foreign-born residents in Minnesota live in "enclaves" in the metropolitan area. Eighty-seven per cent of the refugees who came to Minnesota between 1990 and 2000 settled in the seven-county metro area (Minnesota Department of Health, 2000). As a result of this and earlier settlements, the Twin Cities metro area is home to 96 per cent of Hmong speakers in the state, 91 per cent of Russian speakers, and 88 per cent of persons speaking African languages (US Census Bureau, 2000). Spanish speakers are more dispersed across Minnesota, with only 60 per cent in the metro area.

Because we were interested in comparing the language abilities of members of specific ethnic groups (rather than comparisons of large regional categories of immigrants) we selected a subsample of 830 respondents from groups shown in Table 2. The term "ethnic group" is used loosely to avoid cumbersome language in describing the heterogeneous sample. Three of the four groups in the study came to the United States from a variety of countries, rather than one point of origin. These immigrants are bound together by their self-identification as "Russians", "Somalis", or "Hmong". The majority entered the United States as refugees or to be reunited with family members who entered as refugees fleeing from civil war or persecution. The prevalence of refugee status among respondents from these three groups is evident in the reasons for departure from their countries of origin. Almost all of the Hmong adults (97%) and a large majority of the Somalis (78%) stated that they had left their countries because of "fighting and danger"; nearly half (48%) of Russian adults also agreed with this statement.

TABLE 2

RESPONDENTS SELECTED FOR ANALYSIS
FROM THE 2000 WILDER SURVEY

Regional Group	Original sample number	Cases analysed	Number	Per cent
Latinos	203	Mexicans	139	16.7
Former Soviet Union	217	Russians	198	23.9
Africans	234	Somalis	218	26.3
Asians	395	Hmong	275	33.1
Total	1,049	Total	830	100.0

By contrast, Mexicans in the study entered the United States as immigrants, rather than as refugees.[4] Mexican respondents are identified by country of birth, rather than by self-identification as members of an ethnic group; they do, however, represent a sub-set of respondents who defined themselves as "Hispanic" in the survey.

There were several questions on language proficiency in the Wilder study (see Table 3). Respondents were asked to rate their spoken English language ability, their English reading ability, and whether they spoke English at home. The correlations among these variables ranged from .41 to .79 (Table 4).

TABLE 3

WILDER SURVEY QUESTIONS ON LANGUAGE

Questions	Response codes
What language do you speak most of the time now in your home?	1=English; 0=other
How well would you say you speak English?	1=cannot speak English; 2=speak a little bit; 3=speak well, but have a little trouble understanding; 4=speak and understand very well
Can you read English well enough to understand a daily newspaper that is written in English?	1=yes; 0=no
If yes, would you say that you can read the newspaper:	1=a little; 2=some; 3=completely
Being an immigrant in the United States probably causes a number of different kinds of stress. Right now, what *one* thing causes you the most stress?	1=language mentioned; 0=language not mentioned
Are you taking English language classes now to improve your English skills?	1=yes; 0=no

TABLE 4

PEARSON CORRELATIONS AMONG LANGUAGE VARIABLES

	Speak well	Read well	English at home
Speak well	1.0	.79*	.44*
Read well	-	1.0	.40*
Speak English at home	-	-	1.0

Note: *Correlation significant at p<.001 (two-tailed).

In Table 5 we present the percentage distributions of the language variables among the four ethnic groups: Mexicans, Russians, Somalis, and Hmong. Russian and Hmong respondents are least likely of the four groups to speak English in the home (2% and 3% respectively). Somalis were two to three times more likely than any other ethnic group to report that they speak and understand English very well and were the most likely to read English language newspapers and to be enrolled in English language classes. Since we have no measure of language ability before migration, it is unclear whether Somalis arrived with superior knowledge of English, or to what extent their higher levels of enrolment in ESL classes have paid off.

Some of the differences in English proficiency among the focus groups may be masked by gender differences. For three of the ethnic groups there are dramatic differences in the English language proficiency of men and women (Table 6). Mexican, Somali, and Hmong women are much more likely than men to speak no English. Only 1 per cent of Somali men speak no English, compared with 18 per cent of Somali women. Both Mexican and Hmong women are almost three times as likely to speak no English as men. This gender difference in speaking ability was not observed among the Russians. About three-quarters of Russian men and Russian women speak some English, and the rest are fairly evenly divided between respondents with strong or no English.

On the other hand, women reported lesser reading abilities than men in each of the four immigrant/refugee groups. These bivariate analyses of language ability do not control for labour force participation, and women in each group were less likely than men to be working for pay. We also found educational differences by gender among the adults in our sample; similar percentages of Mexican and Russian men and women had graduated from high school, but Somali and Hmong women were much less likely than men of their ethnic groups to have a high school diploma.

TABLE 5

PERCENTAGE DISTRIBUTIONS ON MEASURES
OF LANGUAGE PROFICIENCY OF MEXICAN, RUSSIAN, SOMALI,
AND HMONG IMMIGRANTS IN THE TWIN CITIES, WILDER SURVEY, 2000

Language variables	Mexicans n=139	Russians n=198	Somalis n=218	Hmong n=275	Total n =830
Speak English at home*					
Yes	7.2	2.0	10.1	2.9	5.3
No	92.8	98.0	89.9	97.1	94.7
Total	100.0	100.0	100.0	100.0	100.0
Read English newspaper*					
Yes	48.2	51.5	74.3	38.9	52.8
No	51.8	48.5	25.7	61.1	47.2
Total	100.0	100.0	100.0	100.0	100.0
Self-reported language proficiency*					
Cannot speak	26.1	16.3	10.6	40.	24.3
Speak a little	39.1	50.5	19.3	36.7	35.8
Speak well but have a little trouble	19.6	19.9	30.7	11.6	20.0
Speak and understand very well	15.2	13.3	39.4	11.6	20.0
Total	100.0	100.0	100.0	100.0	100.0
Taking English classes*					
Yes	21.4	30.6	50.8	17.3	28.1
No	78.6	69.4	49.2	82.7	71.9
Total	100.0	100.0	100.0	100.0	100.0
Self-reported reading proficiency*					
None	51.8	48.5	25.7	61.1	47.2
Read some	13.7	11.6	8.3	10.5	10.7
Read a little	12.2	24.2	22.9	13.1	18.2
Read completely	22.3	15.7	43.1	15.3	23.9
Total	100.0	100.0	100.0	100.0	100.0

Note: *Chi square p<.0001.

TABLE 6

SELF-REPORTED ENGLISH PROFICIENCY AND EDUCATION BY GENDER AMONG MEXICAN, RUSSIAN, SOMALI AND HMONG IMMIGRANTS IN TWIN CITIES, WILDER SURVEY, 2000, BY PER CENT

English proficiency	Mexicans		Russians		Somalis		Hmong	
	M	F	M	F	M	F	M	F
Speaking ability								
Cannot speak	13.6	37.5	15.2	16.9	1.0	18.3	19.5	55.4
Speak a little	42.4	36.1	48.5	51.5	12.2	25.0	47.5	28.7
Speak well but have a little trouble	21.2	18.1	22.7	18.5	32.7	29.2	20.3	5.1
Speak and understand very well	22.7	8.3	13.6	13.1	54.1	27.5	12.7	10.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reading ability								
None	42.4	60.3	43.3	51.5	10.2	38.3	42.5	75.2
A little	7.6	19.2	9.0	13.0	5.1	10.8	15.3	7.0
Some	18.2	6.8	23.9	24.4	21.4	24.2	21.2	7.0
Completely	31.8	13.7	23.9	11.5	63.3	26.7	21.2	10.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Working for pay								
Yes	86.4	49.3	26.9	16.9	76.3	41.7	60.2	33.1
No	13.6	50.7	73.1	83.1	23.7	58.3	39.8	66.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Education								
Less than high school	59.1	60.5	9.0	3.1	16.7	47.5	49.2	79.2
High school grad.	30.3	29.6	35.8	42.0	45.8	43.2	41.5	16.8
College diploma	10.6	9.9	55.2	54.9	37.5	9.3	9.3	4.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Tables 7 and 8 compare the four ethnic groups on a variety of characteristics. With the exception of gender, there are statistically significant differences in the percentages and means of each of the background variables across the four groups. The acute disadvantage of Hmong residents in the Twin Cities can be noted. Although the Hmong have been in the United States the longest, they were least likely to have graduated from high school; they were also less likely to be employed than any ethnic group, except the Russians, many of whom were retirement age.

TABLE 7

CHARACTERISTICS OF MEXICAN, RUSSIAN, SOMALI AND HMONG IMMIGRANTS IN TWIN CITIES, WILDER SURVEY, 2000, BY PER CENT

Characteristics	Mexicans n=139	Russians n=198	Somalis n=218	Hmong n=275	Total n=830
Gender[NS]					
Male	47.5	33.8	45.0	42.9	42.0
Female	52.5	66.2	55.0	57.1	58.0
Total	100.0	100.0	100.0	100.0	100.0
Married (spouse in MN)*					
Yes	52.2	58.4	29.5	70.2	53.6
No	47.8	41.6	70.5	29.8	46.4
Total	100.0	100.0	100.0	100.0	100.0
Have children in MN*					
Yes	61.9	78.7	46.3	88.7	70.7
No	38.1	21.3	53.7	11.3	29.3
Total	100.0	100.0	100.0	100.0	100.0
Education*					
Less than high school	59.9	5.1	33.6	65.9	41.7
High school diploma only	29.9	39.9	44.4	27.7	35.4
College diploma or higher	10.2	55.0	22.0	6.4	22.9
Total	100.0	100.0	100.0	100.0	100.0
Work for pay*					
Yes	67.2	20.3	57.1	44.7	45.9
No	32.8	79.7	42.9	55.3	54.1
Total	100.0	100.0	100.0	100.0	100.0
Time in US*					
<5 years	24.6	13.6	32.1	0.7	26.1
5+ years	75.4	86.4	67.9	99.3	73.9
Total	100.0	100.0	100.0	100.0	100.0

Notes: NS=not significant; *chi square p<.0001.

TABLE 8

CHARACTERISTICS OF MEXICAN, RUSSIAN, SOMALI, AND HMONG IMMIGRANTS IN WILDER SURVEY, 2000 (N=830)

Variables	Mexicans n=138	Russians n=196	Somalis n=217	Hmong n=273
Mean age*	32.7	64.7	32.9	40.7
s.d.	10.8	15.8	12.5	15.6
Mean age at migration*	20.5	55.5	26.1	25.7
s.d.	8.5	15.6	11.9	14.5
Mean years in United States*	13.3	9.3	6.8	15.1
s.d.	13.4	6.2	6.0	5.9

Note: *ANOVA F ratio p<.0001.

The most striking differences between the Russians and other groups in the study are their dramatically higher educational levels and their advanced age – both at time of interview and at time of entry to the United States. Only 40 per cent of the Mexicans and 34 per cent of the Hmong in the sample had a high school diploma; by contrast, 95 per cent of the Russians had at least a high school diploma and 78 per cent had some college – about four times the percentage of Mexicans and 4.5 times the percentage of Hmong. While the average age of other immigrants at entry was between 21 and 26, the average age for Russians was 56 (*fully 35 years older* than the mean age for Mexican immigrants).

The Somalis were the most recent immigrants – about one-third had been in the United States less than five years. The average Somali has been in the United States for seven years, compared with nine years for the Russians, and 13 and 15 years for the Mexicans and Hmong respectively (although the standard deviation for Mexicans is quite large). In spite of their more recent arrival, the Somalis are second only to the Russians in completed schooling; two-thirds had graduated from high school and 41 per cent had completed some college. Many Somalis emigrated without other family members; they were the least likely of all the groups to be living with a spouse or children in Minnesota.

There was no question on mother tongue in the Wilder survey, but 21 per cent of the Somali respondents said that they spoke a language other than Somali or English in the home, with the largest number mentioning speaking Amharic. This is likely to be the result of long stays in refugee camps. Sixteen per cent of the Somalis in the sample were born in Ethiopia or Eritrea and others emigrated to the United States from Nigeria, Liberia, Kenya, South Africa, or other countries. By contrast only 4 per cent of the Mexicans and Russians and 3 per cent of the Hmong

mentioned speaking a language other than Spanish, Russian, Hmong, or English in the home.

INDEPENDENT VARIABLES IN THE MODEL

Country of origin

We have already discussed some of the ways in which country of origin may affect language proficiency. Country (or geographic region in some studies) serves as a proxy for language spoken in the home country, linguistic proximity of that language to English, and pre-migration opportunities for exposure to English, as well as a host of economic and social status variables that may correlate with opportunities and incentives to learn English.

Age at migration and years in the United States

Stevens (1999) has summarized the literature on second language acquisition and described two sets of theories: (1) maturational constraints – a theory posited by linguists and psychologists that maturational and biological characteristics constrain the ability of individuals to acquire high levels of language proficiency after puberty; and (2) the exposure theory proffered by sociologists and economists who emphasize the importance of opportunity and time as the primary determinants of language acquisition. In our models of the determinants of language proficiency, "age at migration" is a maturational constraint variable and "years in the United States" is an exposure variable, while "age at migration" has both maturational and exposure components. Since the ability to learn a language declines with age, individuals who immigrate before puberty are likely to have physiological advantages in learning a second language (maturational), but are also more likely to enter American schools and have other opportunities to be exposed to English speakers and to English language media.

Educational level

Years of completed schooling and graduation status, whether in the home country or in the United States, have consistently been shown to be strong positive correlates of English language proficiency (Jasso and Rosenzweig, 1990; Espenshade and Fu, 1997; Carliner, 2000). Schooling can influence language proficiency in a variety of ways, including opportunities for formal language instruction, as well as the acquisition of other cognitive skills that facilitate language learning (Gillian, 1999). Students who attend school in the United States may also have greater opportunities for interaction with English-speaking peers than students who are educated in non English-speaking environments or who leave school before grad-

uation. Some of the relationship of educational attainment with English proficiency is also likely to be spurious, in that the opportunity to attain high levels of schooling (whether in the home country or the United States) is available to students who are likely have other economic and motivational characteristics that promote second language acquisition.

Gender

In many countries males have status advantages that increase their opportunities for language acquisition relative to women. These include higher educational and occupational expectations for males that increase both exposure to English and motivation to learn the language. Once in the United States there may be other gender differences in exposure if women are less likely than men to leave the ethnic community. In Somali and Hmong communities, for example, women also have fewer opportunities than men for education and work outside the home.

ORDINAL REGRESSION RESULTS

Determinants of spoken and written English proficiency

Since the variables measuring spoken and written English proficiency are ordinal, we fitted two ordinal logistic regression models using SPSS, and employed a model similar to that used by Espenshade and Fu (1997) in their analysis of the determinants of English language proficiency among foreign-born respondents in the 1989 Current Population Survey. Variables in regression models are defined in Table 9. Factors included national origin, gender, and completed education. Marital status and children in the household were included in a separate test model (not shown); neither variable significantly changed the log odds of English proficiency. The covariates in the models are number of years in the United States and age at time of migration – variables shown to be predictive of English language proficiency in other studies.

The variable measuring years of schooling does not distinguish between education completed before or after emigration to the United States. In order to separate out the effects of primary and secondary schooling completed outside of the United States, we ran separate regressions for individuals who were 25 years of age or older at the time of entry to the United States.

There were too many missing cases in the variable measuring current enrolment in English classes to include it in the analysis. In any case, the causal direction of this variable is ambiguous; individuals may be enrolled in classes because their English is poor or may speak good English because they are taking ESL classes.

TABLE 9

VARIABLES AND FACTORS USED IN REGRESSION ANALYSIS

Variables	Coding categories
Dependent variable	
English ability	1=cannot speak; 2=speak just a little; 3=speak well but have a little trouble; 4=speak and understand very well
Factors	
National origin	1=Mexican; 2=Russian; 3=Somali; 4=Hmong
Gender	1=male; 2=female
Diplomas*	1=college or higher; 2=high school diploma only; 3=less than high school
Covariates	
Years in the United States	Coded as number of years
Age at migration	Coded as age in years since entry into the United States

Note: *Coded from high to low so that less education would be the omitted (reference) category in the regression model.

Our response categories for the speaking proficiency and reading proficiency variables ranged from one (lowest level of speaking/reading ability) to four (highest level of speaking/reading ability). The equations for the regressions were as follows:

Response categories:
1. Lowest level of speaking/reading ability
2.
3.
4. Highest level of speaking/reading ability

$$\left.\begin{matrix}\Pi_1(x)\\ \Pi_2(\tilde{x})\\ \\ \Pi_3(x)\\ \Pi_4(\tilde{x})\end{matrix}\right\} \Pi_j\left(\underset{\sim}{x}\right) = P_r \text{ (level j/predictors } \underset{\sim}{x}\text{)}$$

$$\gamma_1\left(\underset{\sim}{x}\right) = \Pi_1(\underset{\sim}{x}) \;=\; \Pr \text{ (highest level / } \underset{\sim}{x}\text{)}$$

$$\gamma_2\left(\underset{\sim}{x}\right) = \Pi_1(\underset{\sim}{x}) + \Pi_2(\underset{\sim}{x}) = \Pr \text{ (level 1 or 2/ } \underset{\sim}{x}\text{)}$$

$$\gamma_2\left(\underset{\sim}{x}\right) = \Pi_1(\underset{\sim}{x}) + \Pi_2(\underset{\sim}{x}) + \Pi_3(\underset{\sim}{x}) = \Pr \text{ (level 1, 2, or 3/ } \underset{\sim}{x}\text{)}$$

$$\gamma_2\left(\underset{\sim}{x}\right) = \Pi_1(\underset{\sim}{x}) + \Pi_2(\underset{\sim}{x}) + \Pi_3(\underset{\sim}{x}) + \Pi_4(\underset{\sim}{x}) + \ldots \Pi_j(\underset{\sim}{x}) \;=\; \text{j}$$

$$Log\left(\frac{\gamma_j}{1-\gamma_j}\right) = G_j + \text{(coefficient of years in United States) years in United States} + \text{(coefficient of age at migration) age at migration} + \text{parameter for level of education} + \text{parameter for gender} + \text{parameter for country of origin}$$

The coefficients in the model can be interpreted as the relative odds or the proportionate improvement in English language ability produced by a one-unit increment in the independent variable.

The results of the ordinal logistic regressions are shown in Tables 10 and 11. For each of the independent variables in the model, a positive regression coefficient means that a one-unit increase in the value of the relevant variable is expected to raise a respondent's English proficiency.[5] We tested for interactions among all of the factors and covariates in the three regression models; the only significant interactions were those between gender and education as predictors of spoken English ability. These were retained in the logit model in Table 10.

In each model a Wald statistic was computed to test the null hypothesis that the coefficient is equal to zero, i.e. that it has no predictive power. We present z-scores, which are the square roots of the Wald statistics. The chi-square for the overall model tests the null hypothesis that the log likelihood of the model that was fitted does no better job of predicting English proficiency than the intercept alone.

Language ability

Overall, the logit models are well fitted; i.e. the variables included are individually and collectively good predictors of both spoken and written English language proficiency. The first logit model (Table 10) compares the cumulative probability of how an individual with the characteristics included in the model *speaks and understands* English relative to a reference individual (female, Hmong, non-high school graduate). The model in Table 11 describes the cumulative probability of *reading* English well. Because the results are similar, we will discuss them together.

Being Somali and having a college diploma are the best predictors of both speaking and reading English well (judging by the size of their coefficients in each of the models). In the logit models Hmong respondents are the reference group to which others are compared. They are also the group with the lowest levels of English language ability. We calculated exponents for the regression coefficients (not shown) in order to interpret the relative magnitude of the odds ratios. After controlling for years of residence in the United States, age at migration, gender,

and education, the odds of being in any given proficiency category or higher of English *speaking and comprehension* are as follows:

For Mexicans, exp {0.67}= almost 2 times that of the Hmong
For Russians, exp {2.98}= almost 20 times that of the Hmong
For Somalis, exp {3.33}= almost 28 times that of the Hmong

In other words, after controlling for background characteristics, Somali and Russian respondents have dramatically higher spoken English language skills than either Mexicans or Hmong respondents.

TABLE 10

ORDERED-LOGIT COEFFICIENTS FROM THE REGRESSION OF ENGLISH-SPEAKING PROFICIENCY OF IMMIGRANTS ON SELECTED VARIABLES

Independent variables	Full sample		Immigrated after age 25	
	Coefficient	z-score[1]	Coefficient	z-score
Years in the United States	0.11***	8.12	0.12***	5.45
Gender – male	1.23***	5.12	1.58***	3.90
Education				
College diploma or higher	3.38***	10.37	4.17***	8.54
High school diploma only	1.92***	7.95	2.71***	6.21
Education/gender interaction				
Male, college diploma	-1.21*	3.04	-1.44*	2.61
Male, high school diploma	-0.53^{NS}	1.58	-0.56^{NS}	1.00
Age at migration to the United States	-0.09***	12.83	-0.07***	7.21
Ethnic group				
Mexican	0.67*	2.99	1.98***	4.12
Russian	2.98***	8.59	2.36***	4.63
Somali	3.33***	13.01	3.46***	7.49
Threshold parameter estimate				
Cannot speak English	-0.30^{NS}	0.98	0.76^{NS}	1.29
Speak a little	2.56***	7.86	3.83***	6.14
Speak well, trouble understanding	4.31***	12.35	5.62***	8.53
Log likelihood	1056.22***		492.96***	
x^2 degrees of freedom	10		10	

Notes: 1. The z-score is the absolute value of the parameter, divided by its standard error; *significant at p<.01; ***significant at p<.0001; NS=not significant.

TABLE 11

ORDERED-LOGIT COEFFICIENTS FROM THE REGRESSION OF ENGLISH-READING PROFICIENCY OF IMMIGRANTS ON SELECTED VARIABLES

Independent Variables	Full sample		Immigrated after age 25	
	Coefficient	z-score[1]	Coefficient	z-score
Years in the United States	0.09*	6.65	0.10*	4.68
Gender – male	0.98*	6.17	0.94*	4.08
Education				
College diploma or higher	3.03*	11.53	3.49*	8.31
High school diploma only	1.77*	9.16	2.15*	5.74
Age at migration to the United States	-0.08*	10.42	-0.08*	6.97
Ethnic group				
Mexican	0.52^{NS}	2.17	1.21^{NS}	2.47
Russian	1.98*	5.60	1.70*	3.26
Somali	2.47*	9.75	2.53*	5.49
Threshold parameter estimate				
Cannot speak English	1.21*	3.71	1.39^{NS}	2.36
Speak a little	1.98*	5.99	2.27*	3.83
Speak well, trouble understanding	3.52*	10.06	4.13*	6.64
Log likelihood	981.54*		483.38*	
x^2 degrees of freedom	8		8	

Notes: 1. The z-score is the absolute value of the parameter, divided by its standard error; *significant at p<.0001; NS=not significant.

Table 11 shows the results of the regression of *reading* proficiency on the same set of factors and covariates just reviewed. This is a slightly more stringent measure of language ability since it assesses the self-reported reading proficiency among individuals who can read a newspaper in English (those who could not read a paper at all were coded “no reading ability” on this variable). Once again, being Somali and having a college diploma are the most powerful predictors of English proficiency. Country of origin is not as strong a predictor of English in this model as it was in the logit for speaking ability. Furthermore, judging by the overlapping confidence intervals, in neither logit model is the coefficient for the Russians significantly different from that of the Somalis. Although the Russians had some of the lowest levels of English proficiency in the cross-tabular data, their older age at migration accounted for most of this disadvantage. In Table 10 Mexicans were seen to have superior *speaking* abilities to the Hmong, but there is no difference

between Mexicans and Hmong in *reading* ability once the other variables were introduced into the model.

The negative coefficients for age at migration in both Tables 10 and 11 indicate that the older the individual at migration to the United States, the lower the likelihood of strong English ability. Each eight year decrease in age at migration roughly doubles the odds of speaking or reading English very well (exponents are 0.91 and 0.92 respectively).

The particular importance of the age at migration variable is clearly demonstrated by the coefficient for the Russians in the regressions of written and oral proficiency. In the bivariate tables the Russians were close to the Mexican and Hmong respondents of several measures of language ability; however, in the regressions of spoken and reading language proficiency the coefficients for Russian origin were not significantly different from those of the Somali and the effect of age at migration is large and dramatic.

Age at migration also dramatically increased the odds of high levels of English proficiency for individuals who came to the United States as adults (older than age 25), although the effect of the variable is slightly attenuated. This finding argues against the notion of a biological constraint on language acquisition after puberty. Although younger migrants ultimately have higher levels of English, like Stevens (1999) and Espenshade and Fu (1997), we found a persistent and sizeable effect of time in the United States on language proficiency in adulthood, net of age of entry to the country.

Lindstrom and Massey (1994) have shown that some of the apparent effects of time in the United States on English proficiency in cross-sectional studies are actually the result of differences in the skills and characteristics of different waves of immigrants who come in successive years. This is because migrants who are least successful may be most likely to return to their countries of origin. Since the Wilder study is cross-sectional we cannot control for cohort effect. Yet, this bias is much less likely to occur among refugees (like the Hmong, Russians, and Somalis in our analysis) since they are generally unable to return to their native lands.

On the other hand, age at migration may have a different meaning and mechanism of influence on language acquisition for Mexicans than for the other groups in our analysis because of their greater ability to exit and re-enter the United States. McConnell and LeClere (2002) used data from the Mexican Migration Project and the 1990 census to examine the determinants of English language proficiency on the part of Mexican immigrants in the Midwestern and Southwestern United States, and to distinguish between selection effects of who emigrates and differ-

ences in destination characteristics. In their regressions time in the United States was a significant predictor of English proficiency, but *more recent arrivals* had better English skills than individuals who arrived earlier.

McConnell and LeClere (2002) found that Midwestern-bound Mexican immigrants were significantly more likely to speak and understand English well than those in the Southwest – 18.8 per cent versus 11.4 per cent (by comparison, 15% of the Minnesota Mexican sample could speak and understand English very well). In their study two "destination characteristics" were significant predictors of English proficiency: the proportion of adult males employed in manufacturing and other non-agricultural occupations. They conclude that pre-migration characteristics and some variables associated with the migration experience are the most important determinants of English proficiency.

As expected, immigrants in the Twin Cities with higher levels of completed education have significantly greater speaking and reading English language abilities than immigrants who have not completed high school (the reference category). Respondents with college diplomas are more than 29 times more likely than non-high school graduates to speak English well and more than 20 times as likely to read well. Because we do not know whether the respondents completed their schooling before or after coming to the United States, we repeated the regressions for individuals who were age 25 or older when they entered the United States (and thus, can be presumed to have completed any primary and secondary schooling before arriving in the United States). If the effect of education on language proficiency were primarily due to longer exposure to English in American classrooms or to superior instruction in American schools, then we would expect the educational exposure variable to have less impact on the odds of speaking or reading well among individuals who had completed their secondary schooling before coming to the United States. Instead, our results support the conclusions of McManus et al. that both pre- and post-migration schooling are important determinants of English proficiency. In our model the coefficients for the college diploma variable and for high school diploma are the highest in the full sample models for both spoken language proficiency and reading proficiency. Nevertheless, among individuals who entered the United States at age 25 or older (and thus completed their primary and secondary schooling elsewhere), the advantages of having a college diploma or a high school diploma are striking. For example, in the spoken language model, individuals with a college diploma who entered the United States at age 25 or older have odds of speaking English well that are almost 65 times higher than those for adult immigrants who were non-high school graduates. The corresponding odds for reading English well are 33 times higher than the odds for the reference category of non-high school graduates. We should note that the subsample of older immigrants includes a disproportionate number of Russians who emigrated at much older ages than the other groups in our analysis.

In each of the logit models immigrant women had lower levels of English proficiency than men. However, in the logit model for speaking ability women appear to have benefited more than men from completing their education in terms of spoken English proficiency since the male-female gap narrows among the highly educated (see interactions between gender and education in Table 10). The interaction coefficient was non-significant for male high school graduates. There were no significant interactions in the logit of reading proficiency and in that model males were almost three times as likely as women to read very well.

Another measure of English proficiency is whether English is spoken in the home. We ran a binomial logistic regression of this variable, using the same predictor variables as those in the ordered logit models (Table 12). Although the likelihood ratio test is statistically significant, the overall model is not as informative as the logistic regressions. In this model neither age at migration nor gender is a significant predictor of whether English is spoken at home. Among the ethnic groups, only Somalis significantly differ from Hmong (the omitted group) in the likelihood of this measure of language proficiency. Education and length of time in the United States are the best predictor of whether an individual speaks English at home, regardless of age of entry to the country.

TABLE 12

BINOMIAL LOGISTICS REGRESSION OF WHETHER ENGLISH IS SPOKEN AT HOME ON SELECTED INDEPENDENT VARIABLES

Independent variables	B	Exp (B)	95% confidence interval		z-score[1]
			Lower bound	Upper bound	
Years in the United States**	0.10	1.11	1.06	1.16	4.19
Age at migration to the United States[NS]	-0.04	0.96	0.92	1.00	1.97
Education					
College diploma or higher**	2.68	14.58	3.74	57.34	0.83
High school diploma only	1.96	7.10	1.94	26.17	0.81
Gender – male[NS]	0.46	1.58	0.30	1.34	1.19
Ethnic group					
Mexican[NS]	1.07	2.92	0.86	9.86	1.71
Russian[NS]	0.41	1.51	0.22	10.41	0.41
Somali**	2.20	9.03	3.00	27.10	3.92
Log likelihood**					111.38
x^2 degrees of freedom					8

Notes: 1. The z-score is the absolute value of the parameter estimate divided by its standard error; NS=not significant; *significant at p<.01; **significant at p<.0001.

DISCUSSION

Most previous research on the determinants of English language ability has focused on the largest foreign-born groups in the United States. Much less is known about smaller, but significant regional concentrations of immigrants and refugees. In this study we have examined the English language proficiency of several groups not generally included in national studies: Hmong, Russians, and Somalis, and Mexicans residing in the Midwest (rather than in the western and southwestern United States).

Because Minnesota has a large percentage of immigrants who are refugees, waves of foreign-born residents follow patterns of global strife. Other authors have argued that, due to the circumstances of their emigration and resettlement, refugees share a strong "attachment" to the United States that promotes high levels of English proficiency. However, in our analysis there were differences *among* refugee groups (e.g. Hmong and Somalis) that were as large as the differences *between* the refugees and the Mexican immigrants in the sample. The average Russian refugee arrived in the Twin Cities after completing schooling and childbearing and – in many cases – a career. The typical Somali and Hmong refugee entered the United States in his or her late twenties, but more than a decade apart. The Mexicans have the largest standard deviation for years in the United States. Their migration is continuing, in contrast to the fixed waves of migration of cohorts of refugees from Asia, Africa, and the former Soviet states. The Mexicans are also the youngest of the groups studied, and, like the Hmong, a majority had not completed high school at the time of the interview.

There are important differences among groups of Asian, African, and Latino immigrants and refugees that are masked by studies that combine many different national origin groups under regional headings. Espenshade and Fu (1997), for example, found that "Asian" immigrants in the United States have a greater command of English than Latinos. In our analysis this was not the case for Hmong, the predominant Asian group in Minnesota. Other researchers have suggested that such differences may be explained by the extent to which individuals' native languages are linguistically similar or dissimilar to English (Chiswick and Miller, 2000). That interpretation was not supported here; in the ordered logit models Russian and Somali respondents (who spoke Somali and other African languages) were more proficient in English than Mexicans, even though Spanish and English share Latin roots. Some Somalis may have received prior schooling in English that facilitated further language acquisition (see later discussion), but this is less likely to have been the case for the Russians.

Hmong is not only linguistically distant from English, but has only recently been taught as a written language. We suspect, however, that it is the low levels of

formal schooling and pre-migration exposure to English on the part of many Hmong refugees that pose the greatest hurdles to English proficiency for Hmong adults, rather than the extent of linguistic differences between the English and Hmong languages. Furthermore, the Hmong people came from a pre-literate society with a language that was transliterated in the 1950s by Christian missionaries.

Ethnic group segregation is most highly concentrated among the Hmong; one analysis of 2000 census data reports that Asians in St. Paul (predominantly Hmong) are more highly segregated than in any other metropolitan area in the country (*Minneapolis Star Tribune*, 2001). This segregation may explain some of the Hmong disadvantage in all of our models of English proficiency. Garrett and Stevens (1996), for example, cite studies showing that proportions of persons who do not speak English are highest in highly segregated cities, although limited English skills may be a *cause* of segregation, as well as an effect. In either case, the need for remedial programmes is greatest in these enclaves. As one of the most disadvantaged ethnic groups in the United States, Hmong residents do not fit the successful profile of "Asians" described in some national studies.

The superior spoken English language ability of Somalis compared with other ethnic groups was striking. Only 1 per cent of Somali men reported that they spoke no English (compared to 14% to 20% of all other male respondents), and more than half reported speaking and understanding English very well. Somalis were also much more likely to speak English in the home. Although they are the most recent arrivals, they had the highest levels of proficiency on all measures of English ability in our analysis – both before and after introducing controls for years in the United States, age at entry, education, and gender. They also have much higher levels of education than Mexicans or Hmong and it is likely that they had more pre-immigration exposure to English than the other immigrants and refugees in our analysis. In addition, a large percentage of the Somalis entered the United States after spending significant periods of time in refugee camps located in English-speaking Kenya. In the camps many may have been exposed to, or even educated in, English. Except for a few communities along the southern Somali coast where Swahili and Arabic dialects are spoken, Somali nationals speak one of several Somali dialects. Language ability is highly valued in Somalia, and Ruiz (2003) notes that the capability of a leader or warrior is judged, in part by his verbal adroitness.

The legacy of British rule in Somalia's colonial history is also likely to have contributed to emigrants' English language ability. Unlike Russians or Hmong, and to a lesser extent Mexicans, Somalis originating in British Somaliland received instruction in English in school. Before a Latin scripted Somali was adopted by the Government in 1973, English and Italian were the official Government languages. Ruiz (2003) estimates that only about 10 per cent of the Somalis knew

English or Italian, but this ability enhanced access to government and professional jobs. Multi-lingual Somalis are likely to be over-represented as political refugees in the United States. This may account for much of the Somali advantage in English language proficiency in our analysis.

We cannot distinguish precisely between pre- and post-immigration effects as Espenshade and Fu (1997) did, because we have no measure of the skills which immigrant had upon arrival. However, several of the characteristics of the Somali adults suggest that their superior language ability is likely to be the result of English instruction *before* coming to the United States; these include their mean age (32.9) and the fact that one-third of the Somalis had been in the United States less than five years, while two-thirds had completed high school by the time of the interview.

The Mexicans in our analysis differ from the other ethnic groups in several ways. In contrast to the Russians and Somalis, Mexicans were only slightly more proficient in spoken English than the Hmong, and not statistically different from the Hmong in reading ability. While refugees may be self-selected from slightly better educated residents in their native lands, the relative ease of entry and return migration to Mexico, and the availability of low-skilled jobs in the United States for non-English speaking workers may mean that Mexicans with low levels of English ability are most likely to emigrate. Bustamente et al. (1997), for example, demonstrate that, unlike other immigrants to the United States whose average schooling levels are above those of their compatriots in the home country, the average education of Mexican immigrants is similar to that of Mexicans in the country of origin.

The exception to the low English proficiency of the Mexicans in our analysis was found in the sub-sample of individuals who entered the United States after age 25. In that group Mexicans were significantly more likely than the Hmong to speak English well (although not to read well). We are not sure how to explain this, but note that only about 7 per cent of the Mexicans migrated to the United States after age 25, compared with almost one-quarter of the Hmong. The significant coefficient for older Mexican migrants may be random error or may reflect some unknown characteristics of the cohort of older Mexican migrants.

Of the background variables in our models, education was the strongest predictor of reading and spoken proficiency in English. Age at migration was also a significant predictor of spoken ability. Stevens (1999) has summarized the ways in which early age at migration improves English acquisition. New language acquisition becomes more difficult with age, and immigrants who leave their native lands at older ages are likely to have strong attachments to their original languages and cultures that make it difficult to acquire a new language. Once in the United States,

younger immigrants are more likely than their older compatriots to return to school, and thus to be exposed to both formal and informal English language instruction.

One of the most interesting findings in our analysis was the association between gender, education, and language ability. Carliner (2000) found that, overall, female immigrants from East Asia and Europe (including Russia) were slightly more likely to be fluent than men, but that women from South Asia, Africa, the Middle East, and Latin America were less proficient in English than men. We did not observe gender differences in language ability between Russian men and women in the bivariate analyses, but did find that Hmong, Mexican, and Somali women were less proficient in spoken English ability than their male counterparts. Women in all four groups were consistently less able than men to read English well, and in all of the logit models men retain spoken and written language advantages relative to women.[6] However, in the logit models for speaking ability there was a statistically significant interaction between gender and education, and men with college diplomas were *less likely* than women to speak well. The coefficients for males with high school diplomas were also negative, although they were not statistically significant. These findings suggest that female immigrants benefit more from education than males in the acquisition of spoken language. Interestingly, this higher "payoff" from a college education for women does not occur in reading proficiency; in that logit model there was no significant interaction between gender and education. These results seem to support the suggestion by Stevens (1992) that women are more responsive to their social environments and, thus, better able to learn spoken English (given the right educational opportunities). We conjecture that highly educated women have higher rates of labour market participation that facilitate language acquisition. Some of the advantage of educated females, however, is also likely to be due to the fact that foreign-born women from these countries who are able to attend and complete college represent a privileged elite who have other characteristics and assets that facilitate English language acquisition.

The model of the odds of speaking English in the home was not as well fit as the models of spoken and reading proficiency, judging by the size of the log likelihood coefficient. In this binomial logistic regression, education and the length of time an individual had lived in the United States were the major determinants of whether he or she spoke English at home, regardless of age at entry. Net of these variables Somalis once again demonstrated language superiority compared with the other groups in the study – in this case in their much greater likelihood of speaking English in the home.

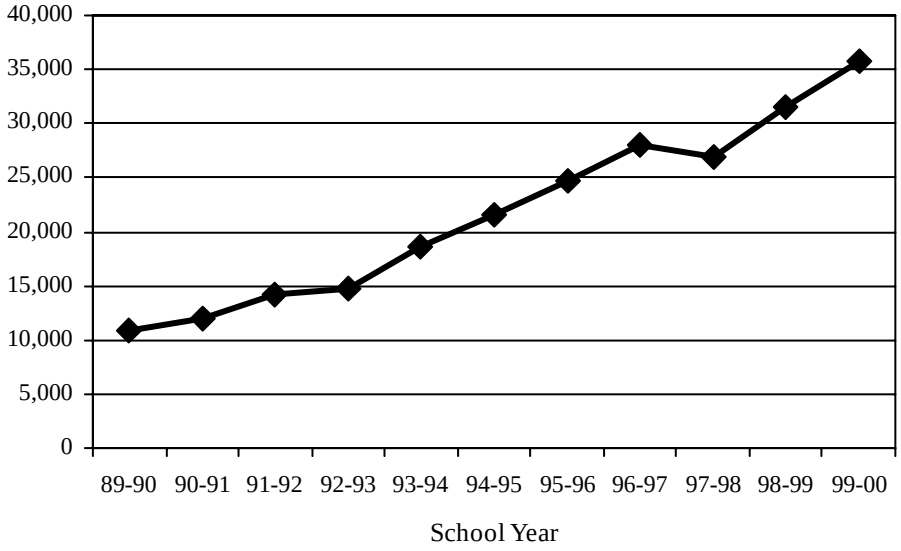
CONCLUSION

In Minnesota, as in many other states, there has been a linear increase in the number of English language learners in recent years (see Figure 1). This makes it

imperative for policy makers and educators to understand which groups need particular help.

FIGURE 1

POPULATION GROWTH OF ENGLISH LANGUAGE LEARNERS IN MINNESOTA



Note: Figure reflects K-12 ELL students receiving services in 1999-2000.
Source: Minnesota Data Center, Department of Children, Families and Learning.

Our analysis confirms that several background variables that have been shown to affect English language proficiency of immigrants in other studies are also important determinants of English ability among refugees and their families in Minnesota – years in the United States, age at migration, education, and gender. Although the pre-migration characteristics of immigrants are not amenable to change, our work suggests that post-migration educational programmes can facilitate English language acquisition, and that such programmes may be particularly important at reducing the gender gap between male and female language abilities.

We find little support for the theory that groups who entered as refugees will have a greater commitment to – and success at – learning English because they are less able than immigrants to return to their native lands. Instead, there was more difference among the refugee groups in our analysis than between the immigrants and refugees. Of the four groups, Mexicans generally enter the United States as documented or undocumented immigrants, while the majority of Hmong, Somalis, and Russians enter as refugees or immigrant family members sponsored by refugees. The odds of speaking good English were highest for Somalis and Russians rela-

tive to the Hmong, and lowest for Mexicans compared with the Hmong. There was no significant difference between Mexicans and Hmong in the odds of reading English well.

The analysis suggests that it is not being a refugee per se that facilitates the English language learning, but rather the characteristics of the particular national origin groups. Barriers to the acquisition of English are particularly steep for residents like the Hmong who are geographically and linguistically isolated, and who do not have a tradition of literacy. This recognition led the Bush Foundation to conclude that "many immigrants and refugees would learn English language and cultural skills more rapidly if they could first develop a foundation of literacy in their native language" (Gehrman, 2000). Compared with other Asian refugees in the United States, and to other ethnic groups in the Twin Cities, the Hmong are at a significant socio-economic and educational disadvantage. Their high levels of poverty, illiteracy, and associated stress, make them a particularly important target group for social and educational programmes, but also the most difficult to reach. The most successful programmes are those which are co-located with other services, and that employ culturally appropriate staffing and outreach methods (Schuchman, 2002).

Mexicans in the Twin Cities had similarly low levels of English proficiency after controls for background characteristics. Education was a significant correlate of English proficiency for all groups. High school graduation rates among minority students in the Twin Cities are disturbingly low. Sixty per cent of the Mexicans and 66 per cent of the Hmong adults have not graduated from high school.

In spite of the marked differences in English proficiency among the groups in our analysis, it is important to recognize that the vast majority of immigrants of all backgrounds are eager to learn English, and that they succeed in this goal over time. In this and most other studies immigrants show steady increases in English language proficiency as their time in the United States increases. Differences in rates of acquisition and ultimate levels of proficiency depend upon the timing of their migration, the skills and personal characteristics that they bring with them to the United States, and the available opportunities once they are in the country.

NOTES

1. The authors would like to thank Ronald Neath for his advice on statistical models.
2. An immigrant is any person who leaves his or her own country to settle elsewhere. A refugee is a particular category of immigrant, defined by the Immigration and Nationality Act in Sec. 101(a)(42) as: any person who is outside any country of such person's nationality or, in the case of a person having no nationality, is outside any country in

which such person last habitually resided, and who is unable or unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of, that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion.

3. A linguistically isolated household is one in which all members 14 years old and older have at least some difficulty with English.
4. An unknown number may also have entered the United States without proper documentation.
5. We ran tests of parallel lines for each model and none were significant. This is a test of the hypothesis that the location parameters are equivalent across the levels of the dependent variable.
6. The measure of reading ability in the Wilder study is a more stringent one than the measure of spoken English ability because the screening question asked "Can you read English well enough to understand a daily newspaper that is written in English", and then went on to ask those who replied in the affirmative if they could read the paper "a little", "some", or "completely". Thus, the threshold for self-designated proficiency in reading comprehension of English is higher than that for speaking ability in this study.

REFERENCES

Borjas, G.J. (Ed.)
2000 *Issues in the Economics of Immigration*, National Bureau of Economic Research Conference Report, University of Chicago Press, Chicago.

Bustamente, J.A., et al.
1997 "The selectivity of international labor migration and characteristics of Mexico-to-US migrants: theoretical considerations", US Commission on Immigration Reform, Washington, DC.

Carliner, G.
2000 "The language ability of US immigrants: assimilation and cohort effects", *International Migration Review*, 34: 158-182.

Chiswick, B., and P. Miller
2000 "A model of destination language acquisition applicable to male immigrants in Canada", working paper 00-13, Vancouver Centre of Excellence, Research on Immigration and Integration of the Metropolis.

Conzen, K.N., et al.
1992 "The invention of ethnicity: a perspective from the USA", *Journal of American Ethnic History*, 12: 4-51.

Espenshade, T., and H. Fu
1997 "An analysis of English-language proficiency among US immigrants", *American Sociological Review*, 62: 288-305.

Espinosa, K., and D. Massey
1997 "Determinants of English proficiency among Mexican migrants to the United States", *International Migration Review*, 31(1): 28-50.

Fennelly, K., and H. Leitner
2002 "How the food processing industry is diversifying rural Minnesota", JSRI working paper no. 59, The Julian Samora Research Institute, Michigan State University, East Lansing.
Garcia Coll, C., and K. Magnuson
1997 "The psychological experience of immigration: a developmental perspective", in A. Booth et al. (Eds), *Immigration and the Family: Research and Policy on US Immigrants*, Lawrence Erlbaum Associates, New Jersey.
Garrett, N., and G. Stevens
1996 "The effects of metropolitan context on the use of Spanish among Hispanic Americans", paper presented at the Annual Meeting of the Population Association of America, New Orleans.
Gehrman, R.
2000 "Assessment of services for immigrants and refugees in Minnesota: executive summary", prepared for the Bush Foundation, St. Paul, Minnesota.
Gonzalez, A.
2000 "Why do female and male immigrants learn English? Answers from the National Adult Literacy Survey", University of Arizona, Tucson.
Health and Human Rights Conference Roundtable Discussions
2002 Health and Human Rights Conference Roundtable Discussions, Minneapolis, Minnesota
Hernandez, D., and E. Charney
1998 "From generation to generation: the health and well-being of children in immigrant families", National Academy Press, Washington DC.
Hmong Population Research Project
2001 "Hmong population 2000", Department of Economics, University of Wisconsin-Eau Claire, Wisconsin.
Jasso, G., and M. Rosenzweig
1990 *The New Chosen People: Immigrants to the United States*, Russell Sage, New York.
Lindstrom, D., and D. Massey
1994 "Selective emigration, cohort quality, and models of immigrant assimilation", *Journal of Labor Economics*, 1: 101-130.
McConnell, E., and F. LeClere
2002 "Selection, context, or both? The English fluency of Mexican immigrants in the American Midwest and Southwest", *Population Research and Policy Review*, 21(3): 179-204.
Migration Policy Institute
2002 "Fact sheet on the foreign-born: Minnesota", Migration Information Source, Washington, DC, http://www.migrationpolicy.org.
Minneapolis Foundation
2002 "Russians in Minnesota", Minneapolis Foundation, Minnesota, http://www.mplsfoundation.org/donors/events.htm.
Minnesota Department of Health
2000 "Refugee and immigrant health: the growing diversity facing Minnesota's public health and health care services", *Healthy Minnesotans Update*, 1(5).

Peterson, D.
2001 "Integration up as minorities move outward", *Minneapolis Star Tribune*, Minneapolis, Minnesota.
Portes, A., and L. Hao
1998 "E Pluribus Unum: bilingualism and loss of language in the second generation", *Sociology of Education*, 71: 269-294.
Portes, A., and R. Rumbaut
1997 *Immigrant America: A Portrait*, University of California Press, Berkeley.
Ronningen, B.
1995 "Immigrants in Minnesota: an increasingly diverse population", *Population Notes, 2001*, Minnesota State Demographic Center, St. Paul, Minnesota.
Ruiz, H.A.
2002 "Somalia: language and education", SomaliNet, http://www.somalinet.com.
Schuchman, K.M.
2002 "Hmong mental health in Ramsey county: recommendations to the legislature", *Toward Better Mental Health: A Community Approach Report*, sponsored by the Hmong Mental Health Providers Network and the Council on Asian Pacific Minnesotans, St. Paul, Minnesota.
Sole, Y.
1990 "Bilingualism: stable or transitional? The case of Spanish in the United States", *International Journal of Sociology of Language*, 84: 35-80.
Stevens, G.
1992 "English language proficiency among immigrants in the US", unpublished manuscript cited by Espenshade and Fu in "An analysis of English-language proficiency among US immigrants", *American Sociological Review*, 62: 288-305.
Stevens, G., and N. Garrett
1997 "Migrants and the linguistic ecology of New Jersey", in T. Espenshade (Ed.), *Keys to Successful Immigration: Implications of the New Jersey Experience*, Urban Institute Press, Washington, DC: 395-422.
Therrien, M., and R.R. Ramirez
2001 "The Hispanic population in the United States: March 2000", in *Current Population Reports (Online)*, vol. 2002, US Census Bureau, Washington, DC.
UNESCO (United Nations Educational, Scientific and Cultural Organization)
2001 *Latin America and the Caribbean: Regional Report*, Institute for Statistics, UNESCO, Paris.
US Census Bureau
1996 100% Summary Files 2 and 3, and American Community Survey Data, American Factfinder, US Bureau of the Census, Washington, DC, http://factfinder.census.gov.
Westermeyer, J., and C. Her
1997 "English fluency and social adjustment among Hmong refugees in Minnesota", *Journal of Nervous and Mental Disease*, 184(2): 130-132.
Wilder Foundation
2000 Survey of immigrant adults in the Twin Cities, in conjunction with the *St. Paul Pioneer Press*, St. Paul, Minnesota.

CONNAISSANCE DE LA LANGUE ANGLAISE CHEZ LES IMMIGRANTS ET LES REFUGIES DE LA ZONE METROPOLITAINE DE MINNEAPOLIS ET DE ST PAUL

L'étude des facteurs déterminants de la connaissance de la langue anglaise a de manière générale été ciblée sur les groupes d'immigrés les plus importants aux Etats-Unis. On connaît beaucoup moins bien les concentrations moindres mais néanmoins significatives d'immigrés et de réfugiés. Cet article présente des données relatives à quatre groupes bien distincts et trop peu connus: les Russes, les Somaliens, les Hmongs et les Mexicains du Midwest. Nous avons constaté de grosses différences dans la connaissance de la langue anglaise au sein de ces différents groupes, même en tenant compte des variables de provenance. Ces différences ne sont pas attribuables au statut de réfugié ou à la mesure d'étrangéité de l'anglais. Le fait d'être Somalien, d'avoir immigré aux Etats-Unis dans l'enfance et d'avoir un diplôme de l'enseignement supérieur sont les meilleurs gages d'une bonne connaissance écrite et parlée de la langue. Les bénéfices d'une éducation supérieure étaient particulièrement sensibles: les personnes titulaires d'un diplôme de l'enseignement supérieur avaient 29 fois plus de chances que les autres de bien parler l'anglais et 20 fois plus de le lire avec facilité. Il semble que les femmes aient retiré un plus grand gain que les hommes de l'éducation reçue dans l'enseignement supérieur en termes de connaissance parlée de l'anglais, en ce sens que l'écart hommes-femmes se réduit dans une population à haut niveau d'éducation. La durée du séjour aux Etats-Unis est apparue comme le meilleur témoignage de l'utilisation de la langue anglaise à la maison, indépendamment de l'âge à l'arrivée dans le pays.

EL CONOCIMIENTO DEL IDIOMA INGLÉS DE LOS INMIGRANTES Y REFUGIADOS EN "THE TWIN CITIES METROPOLITAN AREA"

Los estudios sobre los factores determinantes en los conocimientos del idioma inglés se han centrado generalmente en los principales grupos de inmigrantes hacia los Estados Unidos. Poco se sabe sobre las concentraciones regionales más pequeñas pero no menos importantes de inmigrantes y refugiados. Este artículo presenta datos sobre cuatro grupos sumamente distintos y subestudiados: rusos, somalíes, hmong y mexicanos en el centro oeste del país. Se ha determinado que existen considerables diferencias en los conocimientos del idioma inglés entre los distintos grupos de origen nacional diferente, incluso tras controlar las variables de los antecedentes. Estas diferencias no pueden atribuirse al estatuto de refugiado ni a la distancia lingüística con relación al inglés. Un joven somalí, que emigra a los Estados Unidos y tiene un diploma universitario normalmente tendrá buenos conocimientos orales y escritos del idioma. Los resultados de educación superior eran particularmente sobresalientes – las personas con diplomas universitarios

tenían 29 veces más probabilidades de hablar bien el inglés en comparación a aquéllos que no contaban con titulo de bachiller, y 20 veces más de leerlo bien. Las mujeres parecen haber beneficiado más que los hombres de los estudios universitarios en términos de conocimientos lingüísticos del inglés puesto que la brecha entre hombres y mujeres en las personas de estudios superiores es cada vez más estrecha. La duración de la estadía en los Estados Unidos ha sido el mejor factor para predecir si la persona hablaba inglés en su hogar, sea cual fuera la edad a la que ingresó en el país.