

Does cultural background or migrant selectivity explain the health of immigrants from the FSU in the United States?

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Abstract: Many immigrant groups in the U.S. experience low levels of morbidity and mortality. Explanations for immigrant health advantage include the health-promoting cultures that migrants bring with them, and positive selection of migrants on health characteristics. I test which of these best explains the health of immigrants from the former Soviet Union (FSU), a region where mortality rates are high and cultural practices have been linked to poor diet, binge drinking, and smoking. I compare immigrants from the FSU with U.S.-born, non-Hispanic whites on two health measures. FSU immigrants fare worse in terms of self-rated health, but they report better health behaviors and are less likely to report a functional limitation. The cultural practices common in the FSU appear to have little influence on the health of FSU immigrants in the U.S., indicating that selectivity may better explain the health of this population.

Introduction

After 1989, strict limitations on emigration from the Soviet Union were dropped, ushering in a period of substantial migration from the USSR (and, later, from Russia and other successor states) to Western Europe, the United States, and Israel. Emigration from Russia peaked at 100,000 in 1995, with over 880,000 emigrating in the period 1993-2004 (Korobkov 2008). Similar outflows of migrants occurred in Ukraine and—to a lesser extent—other former Soviet states. By the time of the 2000 census, the United States was home to over 800,000 immigrants from the former Soviet Union (FSU), of whom nearly 600,000 arrived since 1989. Constituting only a small fraction of the 31 million immigrants living in the U.S., FSU immigrants have been overshadowed by Latinos and Asians in both policy debates and in the academic literature. Nevertheless, Russia and Ukraine are among the top 15 source countries for immigrants to the U.S. (Jasso et al. 2004), and in specific parts of the country—such as New York, Philadelphia, and Sacramento—immigrants from the FSU constitute a substantial proportion of the local

population (see Iskow et al. 2002; Kliger 2004). The population of FSU immigrants has a number of unusual characteristics that make it worthy of study. Immigrants from the FSU are drawn from source populations that have the worst health indicators, and lowest life expectancies, in the developed world. Poor health in the FSU, especially among men, has been attributed to behavioral factors: alcohol consumption, smoking, poor diet, and lack of exercise (Cockerham 1997).

Research other immigrant groups in the U.S. has often found a very different picture. Particularly among Latino immigrants, studies have identified “cultural buffering, which is characterized by norms proscribing risky behaviors and promoting good ones, such as a healthier diet and stronger family support networks” (Jasso et al. 2004: 239). This culturally motivated tendency toward good health behaviors is supposed to explain the substantial health advantage enjoyed by Latino immigrants relative to native-born Americans. If Latino (and possibly Asian) immigrants have a health advantage due to their culture, might FSU immigrants have a health disadvantage because they come from a culture that is less likely to promote healthy lifestyles?

In this paper, I use data from the 2000-2006 Integrated Health Interview Series (IHIS) to test the differences in health outcomes between FSU immigrants and U.S.-born, non-Hispanic whites. I ask whether differences in health outcomes between FSU immigrants and U.S.-born, non-Hispanic whites are best explained by the cultural practices that FSU immigrants bring with them from their native region or by the positive selection of migrants on health characteristics. Treating the entire FSU as a single cultural region is somewhat artificial, but IHIS data does not include questions about specific country of origin. Because the great majority of FSU immigrants come from the Slavic countries of

Belarus, Russia, and Ukraine, which have substantial shared history and cultural practices, it is possible to draw conclusions based on a sample of FSU immigrants. The analysis suggests that immigrants from the FSU do not share the unhealthy lifestyles or experience the poor health outcomes that characterize their native countries, indicating that selectivity, rather than cultural heritage, may be the key factor determining the health of FSU migrants in the United States.

Literature review

Much demographic and health literature indicates that immigrants to the United States enjoy significant health advantages in comparison with the native-born. These advantages were first identified among U.S. Latinos, who experience health outcomes similar to those of white Americans, despite their low socioeconomic status (Markides & Coreil 1986). Subsequent research has demonstrated that the Latino health advantage is largely a result of the health outcomes specifically among immigrants (see Cho et al. 2004; Eschbach et al. 2007). The health advantage of immigrants is not confined to Latinos. Data from the California Health Interview Survey indicate that the foreign-born population in California, regardless of race, enjoys an advantage in self-rated health in comparison with U.S.-born Californians (Uretsky & Mathiesen 2007). Hummer et al. (1999) compared infant mortality outcomes among all U.S. racial/ethnic groups and found that within all groups, infant mortality rates were lower among foreign-born than among native-born mothers.

Explanations for the immigrant health advantage can be roughly divided into two groups. The first set of explanations focuses on cultural factors. Writing about Mexican-Americans, Scribner (1996: 304) argues: “Mexican American ethnicity is a marker of a

Mexican cultural orientation that is defined by behavioral norms that can account for their favorable health status.” Similar arguments have been made about other ethnic groups (Kasl & Berkman 1983; Lopez-Gonzalez et al. 2005; Marmot & Syme 1976). Cultural arguments stress the fact that immigrants drink less, smoke less, weigh less, and eat a healthier diet than do native-born Americans (Abraido-Lanza et al. 2005; Antecol & Bedard 2006; Cho et al. 2004; Lopez-Gonzalez et al. 2005; Yang et al. 2007). Other studies point to immigrants’ strong family ties, and argue that social support networks help explain the immigrant health advantage (Marmot & Syme 1976; Vega & Amaro 1994).

The advantage that immigrants have in health behaviors tends to diminish with longer residence in the U.S., leading many researchers to conclude that immigrants lose the protective culture that they bring with them as they assimilate to American culture. Among Latino immigrants, longer residence in the United States is associated with a higher prevalence of smoking and drinking (Abraido-Lanza et al. 2005), lower consumption of fruits and vegetables (Allen et al. 2007), higher average BMI (Abraido-Lanza et al. 2005; Angel et al. 2008), and worse overall health (Cho et al. 2004). Similar patterns have been documented among immigrants of other racial and ethnic groups (Antecol & Bedard 2006; Uretsky & Mathiesen 2007). Akresh (2007) found that, among Latinos, not only are years lived in the U.S. associated with poorer health, use of the English language is as well, further indicating the negative effects of assimilation.

The second group of explanations focuses on selective migration. Migrants do not constitute a random sample of their countries of origin, and several researchers have argued that migrants are positively selected on health characteristics. Jasso et al. (2004)

note that migrants to the U.S. come from a variety of countries where both culture and average health indicators vary widely, but all immigrant groups appear to be healthier than typical native-born residents, indicating positive selection on health. Goldman et al. (2006) argue that the weak relationship between education and health among Mexican-origin adults in the United States is an indication of selective immigration according to both health and socioeconomic characteristics. Drawing on one of the few studies that compare migrants in the U.S. with individuals remaining in the country of origin, Landale et al. (2000) find that recent Puerto Rican immigrants to the mainland U.S. experience substantially lower infant mortality rates than Puerto Ricans remaining in Puerto Rico. They argue that since both groups should have similar cultural orientations, migrant selectivity provides the best explanation for this discrepancy.

There has been limited attention to how well either cultural or selectivity explanations work for immigrant groups other than Latinos and Asians. Read and Emerson (2005) have argued that racial context of origin is more important than selectivity or culture in explaining health outcomes among black immigrants. Black immigrants from majority-white societies (such as Europe) fare no better in terms of health than African-Americans, while Black immigrants from majority Black or racially mixed societies (Africa and the West Indies) have superior health. Arab immigrants also do not seem to fit easily into theories of immigrant health. While some studies have indicated that Arabs face significant health problems in the U.S., analysis of data from the National Health Interview Survey indicates that the health of Arab immigrants is similar to that of U.S.-born whites (Read et al. 2005).

Immigrants from the FSU may represent another exception to the dominant pattern of immigrant health advantage. Mexican and other immigrant cultures are often described as inherently “healthier” than U.S. culture because of their traditional diets, emphasis on family, and other practices. Culture in the FSU (particularly in Russia) is more commonly associated with negative health behaviors. Health indicators in Russia and the Soviet Union have long lagged behind those of other developed countries. In the first half of the 20th century, the Soviet Union experienced rapid increases in life expectancy, but from the 1960s to the 1980s, mortality rates stagnated or even increased. By 1989, life expectancy was only 64.2 years for men and 74.5 for women—well below Western levels, especially for men (Chen et al. 1996). After the Soviet collapse in 1991, mortality rates in Russia increased rapidly, with male life expectancy declining to 57.5 years, and female life expectancy to 71.1 years, by 1994 (Bennett et al. 1998). Mortality rates have decreased slightly since then, but have not returned to pre-1991 levels. Similar increases in mortality have been observed in other post-Soviet states, particularly Ukraine and Belarus (Cockerham et al. 2006). Declines in life expectancy are largely explained by deaths from cardiovascular disease and accidents among working-age men. Of the 1.3-1.5 million “excess” deaths that occurred in Russia during the peak of the mortality crisis (1990-1995), some 70 percent were males (Bennett et al. 1998), and over half were males between the ages of 25 and 59 (Chen et al. 1996). The majority of the increase in mortality comes from a 50 percent increase in death rates from cardiovascular disease, and a 150 percent increase in deaths from external causes—such as accidents, poisoning, and violence (Becker & Bloom 1998).

A wide variety of explanations for the poor health outcomes in Russia and the FSU have been proposed, including: cohort effects (Murray & Bobadilla 1997); the inability of the Soviet healthcare system to address the problem of chronic diseases (Cockerham 1997); environmental contamination (Becker & Bloom 1998; Feshbach 2001, 2005); and increasing inequality and social stress brought about by the transition to market economies (Becker & Bloom 1998; Cockerham 1997; Shkolnikov & Corina 1998). The most common culprits identified for declining health and life expectancy in the region, however, are cultural and behavioral factors. Cockerham and colleagues (Cockerham 1997, 2000; Cockerham et al. 2006) have proposed a “lifestyle explanation” for high mortality in Russia, Ukraine, and Belarus. They argue that the social, cultural, and economic context in these countries constrain people into unhealthy lifestyles that include excessive drinking, smoking, a high-fat diet, and little exercise, which in turn explains high death rates from cardiovascular disease and alcohol-related causes.

Russians and other Slavic peoples—particularly men—engage in risky health behaviors at a very high rate. Estimates of the prevalence of smoking in Russia indicate that 60 to 70 percent of men, and 30-40 percent of women, are smokers (Chen et al. 1996; Feshbach 2005). In both Russia and Ukraine, lung cancer death rates for men are among the highest in the world, although they are much lower for women (Lopez 1997). The typical Slavic diet consists largely of animal products and starches, with few fruits and vegetables. These dietary practices stem in part from Slavic traditions, and in part from Soviet agricultural policies that encouraged the production of meat and milk (Cockerham 1997; Popkin et al. 1997). Alcohol abuse is probably the most deadly aspect of Slavic culture. Tapilina (2007) argues that Russians do not drink more frequently than

individuals in other countries, but when they do drink, men in particular consume very large quantities of alcohol. This is explained partly by Slavic cultural traditions that encourage binge drinking among men (Cockerham 1997; Tapilina 2007), and partly by high levels of vodka consumption, relative to beer and wine (Tapilina 2007). Rates of alcohol consumption have been rising since 1990. Feshbach (2005) estimates that some 20 million Russians (1 in 7) are alcoholics. Death rates from alcohol poisoning in the USSR and Russia have long been among the highest in the world, and are on the rise, reaching 37.4 deaths per 100,000 population in 1994 (Trembl 1997).

The health and health behaviors of out-migrants from the FSU has not received a great deal of attention in the literature, but there are some indications that FSU immigrants to the U.S. and other countries bring poor health and unhealthy lifestyles with them. A 1995 survey of drinking behaviors in Israel indicated that Soviet-born immigrants who had arrived in Israel since 1989 were more than twice as likely to be classified as heavy drinkers, and 30 percent more likely to have been drunk within the past year, than were all other Israelis (Rahav et al. 1999). A 1998 survey of Israeli women found that immigrants from the FSU reported worse overall health and higher rates of chronic disease and disability, and were less likely to use preventive medical care (Gross et al. 2001). Ethnic German migrants from the FSU to Germany have been found to have higher mortality rates from external causes than native-born Germans, but lower rates than would be expected if they were representative of their source populations (Kyobutungi et al. 2005). In one of the few studies of FSU immigrants in the United States, Duncan and Simmons (1996) surveyed the health behaviors of 30 Russian and Ukrainian immigrants (mostly Pentacostal refugees) in Rockingham County, Virginia.

Over half the respondents described themselves as having fair or poor health, 65 percent were obese, and nearly three quarters reported having a chronic health problem. None of the respondents reported use of alcohol or tobacco, but this was likely related to their religious background. Several other studies have documented adverse mental health outcomes among Russian and other FSU immigrants in the United States (Foster & Goldstein 2007; Foster 2002; Hoffmann et al. 2006).

Although we know little about the health of FSU immigrants in the U.S., they appear to be a highly selective group based on other sociodemographic characteristics. According to the 2000 census, there were 838,810 individuals born in the FSU living in the United States, the majority of whom were born in Russia (340,175) or Ukraine (275,155). The median age of immigrants from the FSU is 39.7, making them older than most other immigrant groups, and 55.4 percent are women. Over half of FSU immigrants over 25 have a college degree, and nearly 60 percent of those over 15 are married—one of the highest marriage rates of any group in the U.S. (Bellafante 2004). Many FSU immigrants, particularly those who came during the Soviet period, were members of religious minority groups (primarily Jews, but also Pentecostals and Baptists) admitted to the U.S. as refugees. As much as half of the population of FSU immigrants in the United States may be Jewish (see Kliger 2004). This is important because Jewish and non-Jewish Russians and Ukrainians may differ on key health characteristics. Based on a microcensus of the city of Moscow from 1993-95, Shkolnikov et al. (2004) found that Jewish men had much lower rates of mortality, compared with non-Jewish men, and this difference was only partially explained by higher average levels of education among the Jewish population. However, Levinson (1997) has argued that by the late Soviet period,

Jews in the USSR had largely assimilated to Russian middle-class, urban culture and did not differ in terms of cultural practices from non-Jews.

Hypotheses

This paper compares the health of FSU immigrants to the health of U.S.-born, non-Hispanic whites and looks at the factors that mediate health outcomes among immigrants from the FSU. I use data from the Integrated Health Interview Series to test two hypotheses.

Selectivity Hypothesis: If the main force behind immigrants' health status in the United States is positive selectivity on health, or on personal characteristics (such as education level, eating habits, and smoking) that are associated with health, then FSU immigrants should have health outcomes similar to or better than U.S.-born whites. If FSU immigrants are positively selected on health, their health behaviors (such as drinking, smoking, and eating habits) should be similar to or better than those of U.S.-born whites.

Cultural Hypothesis: If the main force behind immigrants' health status is the culture of their country of origin, then FSU immigrants should have worse health outcomes than U.S.-born whites. The health outcomes and behaviors of FSU immigrants should look more like those observed in the FSU, including high levels of smoking and drinking and poor diets. In addition, the health of FSU immigrants should improve with longer residence in the United States.

Data and Methods

To test these hypotheses, I use data from the 2000-2006 Integrated Health Interview Series (IHIS), a harmonized data set based on the public use files of the National Health

Interview Survey (NHIS) available from the Minnesota Population Center (Minnesota Population Center and State Health Access Data Assistance Center 2006). The NHIS uses a multi-stage, stratified, cluster design to create a nationally representative sample of the non-institutionalized, civilian population. Using face-to-face interviews, data on health and other characteristics is collected for all members of sample households, and additional, detailed health information is collected for one sample adult from each household. Because the number of FSU immigrants in any given year of IHIS data is fairly small, I combine seven years of data, starting with 2000, the first year that the NHIS included a question about global region of birth.

For the purposes of this analysis, I considered only adults age 25 and older who were included in the individual sample and were asked detailed health questions. Although this restriction greatly limited the number of FSU immigrants in the analysis, only respondents in the individual sample were asked questions about health behaviors such as smoking and drinking. Because health behaviors are central to theories about health and mortality in the FSU, they are important to include in an analysis of the health of FSU immigrants. Respondents younger than 25 were excluded to limit the number of individuals with incomplete education. Respondents who were missing in any of the dependent or independent variables were excluded. The final analytic sample includes 112,328 U.S.-born, non-Hispanic whites and 444 immigrants from the FSU.

The dependant variables include two measures of health status: self-rated health and functional limitation.¹ Self-rated health is assessed with a single question, asking: “Would you rate your health as excellent, very good, good, fair, or poor?” Consistent with prior research (Cho et al. 2004; LeClere & Soobader 2000; Read et al. 2005), self-

rated health is collapsed into two categories. Fair and poor health are coded 1, and excellent, very good, and good health are coded 0. Self-rated health has been shown to have good reliability and validity, and is highly correlated with mortality (Idler & Benyamini 1997). Nevertheless, subjective assessments of health may vary across ethnic groups, so I also include functional limitation as a potentially more objective measure of health status. Functional limitation is assessed through a series of questions on activities, and whether the respondent can perform them without assistance or special equipment. Respondents with no functional limitations are coded 0, those with one or more limitations in any area are coded 1.

The main explanatory variable is origin in the FSU. For the purposes of this analysis, I code all respondents whose region of birth was listed as “Russia (and former USSR areas)” into a single category. This approach is somewhat problematic, as the former USSR includes 15 countries and a wide variety of ethnic groups, representing very different cultures and patterns of health and mortality. Unfortunately, NHIS data does not distinguish specific countries of birth. The vast majority of immigrants to the U.S. from the FSU are from Russia and Ukraine, which share very similar cultural and health characteristics (Cockerham et al. 2006), and these two groups are likely to dominate the NHIS sample as well, making it reasonable to include all respondents born in the FSU in a single analytic category.

Independent variables include demographic, socioeconomic, immigrant, and behavioral variables that are believed to influence health. Demographic variables include the respondent’s age in years, gender (female=1), marital status (married is the reference category), and region of residence (Northeast is the reference category). Socioeconomic

variables include health insurance coverage (uninsured=1) and education level (less than high school is the reference category). Household income is also a relevant predictor of health, and information on household income is available in the IHIS dataset. However, these variables have a large percentage of missing values (around 20 percent), and I excluded them from the analysis in order to keep the sample size as large as possible. To capture the effects of exposure to U.S. culture on the health of immigrants, I use a categorical measure of duration of U.S. residency. Immigrants with less than 5 years of U.S. residency are coded 1, those with 5-14 years of U.S. residency are coded 2, and those with 15 or more years in the U.S. are coded 3.

Measures of health behaviors include binge drinking, smoking, and body mass index (BMI). Respondents were coded as binge drinkers if they reported that they had consumed more than five alcoholic beverages in a single day at any point during the past year. This particular measure was chosen because of the prevalence of binge drinking in Slavic cultures.² Respondents were coded as smokers based on their response to the question: “Do you now smoke cigarettes every day, some days or not at all?” Those who reported that they smoked every day or some days were coded as smokers. BMI was calculated from respondent-reported height and weight.

The analysis consists of a series of logistic regression models that assess the net effects of the independent variables on the relative likelihood of poor/fair health and of functional limitation. The first set of models (Model 1- Model 3) compares FSU immigrants to U.S.-born, non-Hispanic whites on the two outcome variables. Model 1 examines only the effects of FSU origin, age, and gender. Model 2 adds socioeconomic and demographic characteristics, and Model 3 adds the effects of smoking, drinking, and

BMI. Because of the possibility of a specific, negative health effect of being a male from the FSU, I included an FSU/gender interaction term in preliminary analyses, but it never achieved statistical significance and is not presented in the final models. The second set of models (Model 4-Model 7) assesses the effects of the independent variables on the health outcomes of FSU immigrants only. Model 4 includes only age and gender. Model 5 adds socioeconomic and demographic characteristics, Model 6 adds the effects of duration of U.S. residence, and Model 7 adds smoking, drinking and BMI. All models were estimated using Stata and weighted using the individual probability weights provided by IHIS.

Results

As Table 1 shows, there are statistically significant differences between FSU immigrants and U.S.-born, non Hispanic whites in most of the variables of interest. The two groups have a similar sex composition (a somewhat higher percentage of FSU immigrants are women, but the difference is not statistically significant). FSU immigrants and U.S-born whites have a similar mean age (51.84 and 51.17), but the distribution of ages is significantly different. FSU immigrants are concentrated in the younger (25-44) and older (65 and older) age groups, with fewer respondents in the 45-64 age group in comparison to U.S.-born whites. FSU immigrants are more likely to be both ever married and currently married than are U.S.-born whites, and they are more likely to live in both the northeastern and western sections of the U.S. FSU immigrants are also substantially better educated. Over 50 percent of FSU immigrants hold a bachelor's degree or higher, compared with only 29 percent of U.S.-born whites. On the other measure of socioeconomic status—health insurance coverage—FSU immigrants (of whom 13

percent are uninsured) fare somewhat worse than U.S. born whites (10 percent uninsured), but this small difference is statistically significant.

Table 1. Characteristics of Russian and U.S.-born White Populations

	U.S.-born whites	FSU immigrants
% female	54.94	57.43
<i>Age</i>	51.84	51.17
% ages 25-44	38.53	42.34*
% ages 45-64	36.74	31.08*
% ages 65 and over	24.73	26.58*
<i>Marital status</i>		
% married	54.52	63.96*
% never married	14.23	8.11*
% widowed/ divorced/ separated	31.25	27.93*
<i>Region of residence</i>		
% Northeast	18.60	41.44*
% Midwest	28.58	22.97*
% South	34.54	12.39*
% West	18.28	23.20*
<i>Education level</i>		
% having less than HS education	12.38	9.23*
% HS graduates	30.32	18.47*
% having some college	28.41	19.59*
% college graduates	28.88	52.70*
% uninsured	9.67	13.29*
<i>Duration in U.S.</i>		
% in U.S. less than 5 years	-	16.44
% in U.S. 5-15 years	-	52.70
% in U.S. more than 15 years	-	30.86
% current smokers	22.55	15.32*
% binge drinkers	19.19	10.36*
% reporting fair or poor health	13.03	22.75*
% reporting functional limitation	39.26	32.88*
mean bmi	26.98	26.16*
N	110,728	444

Source: IHIS 2000-2006

* p < .05

Comparing the sociodemographic characteristics of the IHIS sample of FSU immigrants to characteristics of the FSU immigrant population as described by the 2000 census, there are several apparent similarities. The IHIS sample and census data describe similarly high levels of education and marriage. The average ages, including only those age 25 and over, are similar, although the proportion of women in the IHIS sample is slightly high (as it is for the U.S.-born white sample). The IHIS sample may slightly over-represent more recent FSU immigrants (in the 5-15 year category versus the more than 15 years category). Because of its small size, the IHIS sample of Russians cannot be considered a nationally representative sample of FSU immigrants in the United States, but the fact that it resembles the total population of FSU immigrants on several key characteristics increases confidence in the results of this analysis.

The differences between FSU immigrants and U.S.-born whites on the health variables is surprising, given what we know about the health of Russians and Ukrainians generally. FSU immigrants are less likely to be binge drinkers, less likely to smoke, and have a lower average BMI than U.S.-born whites. This data, together with FSU immigrants' high average level of education, suggests that immigrants from the FSU to the U.S. are positively self-selected on a variety of characteristics that are known to influence health outcomes. Although FSU immigrants are much more likely than U.S.-born whites to report that they are in fair or poor health (23 percent versus 13 percent), they are less likely to report having any functional limitations (33 percent versus 39 percent). To what extent do the differences in demographic and socioeconomic characteristics account for the disparities in these health outcomes? Why do FSU immigrants appear to do so much better on functional limitation than on self-reported

health? Table 2 and Table 3 summarize the results of logistic regression analyses on the odds of fair/poor health and of functional limitation, respectively. The two outcomes provide substantially different pictures of health disparities between FSU immigrants and U.S.-born whites.

Table 2. Logistic Regression Coefficients for the Odds of Fair or Poor Health

	Model 1		Model 2		Model 3	
	OR	std. error	OR	std. error	OR	std. error
FSU origin	1.88***	.24	2.82***	.39	2.83***	.41
Age	1.04***	.00	1.04***	.00	1.04***	.00
Female	1.02	.02	.96*	.02	0.95**	.02
Uninsured			1.32***	.05	1.23***	.05
<i>Educational level</i>						
Less than HS (ref)			1.00		1.00	
HS graduate			.47***	.01	.49***	.01
Some college			.35***	.01	.38***	.01
College graduate			.16***	.01	.20***	.01
<i>Marital status</i>						
Married (ref)			1.00		1.00	
Never married			1.31***	.05	1.35***	.05
Widowed/ divorced/ separated			1.30***	.03	1.28***	.03
<i>Region of residence</i>						
Northeast (ref)			1.00		1.00	
Midwest			1.18***	.04	1.16***	.04
South			1.60***	.05	1.58***	.05
West			1.24***	.05	1.28***	.05
Current smoker					2.00***	.05
Binge drinker					.54***	.02
BMI					1.07***	.00
N=111,172						

Source: IHIS 2000-2006

*p < .10 **p < .05 ***p < .01

FSU immigrants are almost twice as likely as U.S.-born whites to report fair or poor health when only age and gender are controlled for (Model 1, Table 2). When controls for

region and socioeconomic status are added, the net effect of FSU origin increases dramatically. In Model 2 (Table 2), FSU immigrants are nearly three times as likely as U.S.-born whites to report fair or poor health. The positive selectivity of FSU migrants—particularly in terms of education—appears to suppress the differences between FSU immigrants and U.S.-born whites in terms of self-rated health. Adding smoking, drinking, and BMI to the analysis (Model 3, Table 2) has little effect. All three are strongly associated with poor self-rated health (binge drinking negatively, the others positively), but including them in the model increases the magnitude of the effect of FSU origin by only 1 percent. Other coefficients in the model are also largely unchanged.

FSU immigrants appear clearly to be disadvantaged in terms of self-rated health, but they seem to have an equally clear advantage in terms of functional limitations. Controlling for age and gender (Model 4, Table 3), FSU immigrants are 31 percent less likely to report a functional limitation than are native-born whites. Adding marriage, region and socioeconomic controls (Model 5, Table 3) decreases the effect of FSU origin somewhat, to 20 percent lower odds of functional limitation. FSU immigrants have higher average levels of education and are more likely to be married, both of which have strong negative effects on the odds of functional limitation, and these characteristics at least partly account for their lower odds of functional limitation. FSU immigrants also have fewer negative health behaviors and lower average BMI levels than U.S.-born whites, and when these controls are added in Model 6 (Table 3), the effect of FSU origin decreases to 17 percent lower odds of functional limitation. Although the decrease is small, the effect of FSU origin becomes statistically insignificant.

Table 3. Logistic Regression Coefficients for the Odds of Functional Limitation

	Model 4		Model 5		Model 6	
	OR	std. error	OR	std. error	OR	std. error
FSU origin	.69***	0.07	.80*	0.08	.83	0.09
Age	1.05***	0.00	1.05***	0.00	1.05***	0.00
Female	1.50***	0.02	1.45***	0.02	1.63***	0.02
Uninsured			1.11***	0.03	1.05***	0.03
<i>Educational level</i>						
Less than HS (ref)			1.00		1.00	
HS graduate			.65***	0.01	.65***	0.02
Some college			.63***	0.01	.65***	0.02
College graduate			.39***	0.01	.45***	0.01
<i>Marital status</i>						
Married (ref)			1.00		1.00	
Never married			1.18***	0.02	1.24***	0.03
Widowed/ divorced/ separated			1.21***	0.02	1.19***	0.02
<i>Region of residence</i>						
Northeast (ref)			1.00		1.00	
Midwest			1.31***	0.03	1.28***	0.03
South			1.10***	0.02	1.10***	0.02
West			1.25***	0.03	1.30***	0.03
Current smoker					1.52***	0.03
Binge drinker					1.08***	0.03
BMI					1.08***	0.00

N=111,172

Source: IHIS 2000-2006

*p < .10 **p < .05 ***p < .01

In the final set of models, I examine the relationship between the independent variables and the likelihood of functional limitation among FSU immigrants only, adding the effects of duration of U.S. residence to the variables used in the previous models.³

Looking at Model 7 (Table 4), we see that both age and being female have a positive association with functional limitation among FSU immigrants, just as they do among the native-born white population. Adding socioeconomic characteristics (Model 8, Table 4) indicates that increased levels of education are associated with lower odds of functional

limitation among FSU immigrants, although the effect never reaches statistical significance. Lack of health insurance also has a negative, but insignificant effect on the

Table 4. Logistic Regression Coefficients for the Odds of Functional Limitation among FSU Immigrants

	Model 7		Model 8		Model 9		Model 10	
	OR	std. error	OR	std. error	OR	std. error	OR	std. error
Age	1.09***	0.01	1.08***	0.01	1.09***	0.01	1.08***	0.01
Female	1.75*	0.49	1.67*	0.49	1.79**	0.51	1.73**	0.51
Uninsured			0.58	0.35	0.67	0.38	0.70	0.39
Educational level								
Less than HS (ref)			1.00		1.00		1.00	
HS graduate			0.61	0.36	0.68	0.38	0.78	0.43
Some college			0.58	0.34	0.61	0.36	0.73	0.40
College graduate			0.44	0.23	0.49	0.25	0.59	0.28
Marital status								
Married (ref)			1.00		1.00		1.00	
Never married			0.86	0.47	0.89	0.49	0.96	0.52
Widowed/divorced/separated			1.27	0.40	1.24	0.40	1.25	0.41
Region of residence								
Northeast (ref)			1.00		1.00		1.00	
Midwest			1.16	0.37	1.22	0.40	1.25	0.41
South			.39***	0.20	.39***	0.20	.44***	0.22
West			1.65	0.57	1.80	0.63	1.83	0.65
Duration of U.S. residence								
< 5 years					1.00		1.00	
5-15 years					3.71***	1.76	4.01***	1.96
> 15 years					2.24*	1.15	2.54*	1.35
Current smoker							0.92	0.42
Binge drinker							0.24	0.25
BMI							1.05**	0.02

N=444

Source: IHIS 2000-2006

*p < .10 **p < .05 ***p < .01

odds of functional limitation. Neither marriage nor region of residence in the U.S. have clear associations with the odds of functional limitation among FSU immigrants, although residence in the South does appear to decrease the odds of functional limitation. This result is interesting, because it differs from the effect of residence in the South observed in the full sample, but the very small number of FSU immigrants residing in the South in this sample makes it difficult to draw conclusions from this association.

Adding in effects of the duration of U.S. residence (Model 9, Table 4) demonstrates that FSU immigrants who have lived in the U.S. for 5 years or more have higher odds of functional limitation than do immigrants who have been in the U.S. for less than five years. Model 10 (Table 4), which adds the effects of drinking, smoking, and BMI, shows that among FSU immigrants, higher BMI levels are associated with higher odds of functional limitation. The positive association between BMI and functional limitation among FSU immigrants is nearly identical to the association observed among U.S.-born whites. On the other hand, smoking and drinking, which are positively associated with functional limitation among U.S.-born whites, are not significantly associated with functional limitation among FSU immigrants, and the signs of the regression coefficients are in fact in the opposite direction than expected.

Discussion and Conclusion

Analysis of the IHIS data produces somewhat ambiguous results. The models using self-rated health as the outcome (Models 1-3, Table 2) seem to indicate that FSU immigrants have worse health than do U.S.-born, non-Hispanic whites, as predicted by the cultural hypothesis. The models using functional limitation as the outcome (Models 4-6, Table 3), on the other hand, show better health among FSU immigrants, as predicted by the

selectivity hypothesis. Despite this discrepancy, there are several reasons to conclude that the selectivity hypothesis is more strongly supported by this data than is the cultural hypothesis.

The first reason is that functional limitation may be more effective than self-rated health in comparing the health of FSU immigrants and U.S.-born whites. Self-rated health may be unreliable for comparing health across cultural groups, both because ideas of well-being are culturally constructed, and because of the difficulty of translating subjective concepts (Angel 2006). Latinos have been found to rate their health lower, on average, than do non-Hispanic whites (Finch et al. 2002; Shetterly et al. 1996), and Read et al. (2005) have argued that this may also be the case for Arab immigrants. This is likely to be relevant to FSU immigrants as well, in part because Slavic cultures do not condone highly positive assessments of one's own well-being. An additional explanation for the tendency of FSU immigrants to report themselves in fair or poor health is that individuals consider both their mental and physical health in assessing their overall health. Several studies have documented high levels of stress and psychological distress among immigrants from the FSU, particularly among the refugees who make up a large proportion of the FSU immigrant population (Hoffmann et al. 2006). This study did not examine mental health outcomes, but it is possible that poor mental health at least partly accounts for the low levels of self-reported health among FSU immigrants.

The mediating role of sociodemographic and behavioral factors in the health of FSU immigrants provides a second source of support for the selectivity hypothesis. The cultural hypothesis predicts that FSU immigrants will exhibit poor health behaviors, and that these behaviors will mediate the health differences between FSU immigrants and

native-born whites. In fact, FSU immigrants exhibit lower levels of smoking and drinking, and have lower average BMI, than do U.S.-born whites. Health behaviors play no role in mediating the positive relationship between FSU origin and the likelihood of fair or poor health in Model 3. They do play some role in mediating the negative relationship between FSU origin and functional limitation in Model 6, but not as large a role as education or marriage. As the selectivity hypothesis predicts, FSU immigrants appear to be a highly selective group, both in terms of sociodemographic characteristics and health behaviors, and these characteristics explain much of their advantage over U.S.-born whites in terms of functional limitations. Some of the health advantage enjoyed by FSU immigrants remains unexplained by this analysis. It is likely that FSU immigrants are positively selected on a variety of unmeasured characteristics, which may also contribute to their health advantage.

Finally, the effect of duration of U.S. residence on the likelihood of functional limitation among FSU immigrants is not consistent with the cultural hypothesis. The cultural hypothesis predicts that longer exposure to U.S. culture will result in better health behaviors and improved health, but Model 9 shows that more time in the United States is associated with higher odds of functional limitation. This is very similar to the pattern found among Latino immigrants, but Latinos are assumed to have a cultural background that is more favorable to good health than is U.S. culture, while FSU immigrants represent cultures that should be less favorable than U.S. culture. Among Latino immigrants, the negative association between duration in the U.S. and health outcomes has been found to be mediated by health behaviors such as smoking and drinking, and by increases in average BMI (Abraido-Lanza et al. 2005; Akresh 2007;

Angel et al. 2008). In the sample of FSU immigrants, only higher BMI is significantly associated with a greater likelihood of functional limitation. Adding health behaviors in Model 10 did not decrease the effects of duration in the U.S., suggesting that increases in harmful health behaviors is not the reason that FSU immigrants are more likely to experience a functional limitation the longer they have lived in the United States.

Without being able to make direct comparisons between FSU immigrants in the U.S. and people remaining in the FSU, it is not possible to draw firm conclusions about the selectivity of FSU migrants. Nevertheless, the IHIS data provide tentative support for the hypothesis that the health status of FSU immigrants in the U.S. is affected by their positive selectivity, and a strong challenge to the hypothesis that FSU immigrants are at risk in the United States because of the unhealthy lifestyles of their native countries. This result is fairly similar to that found by Kyobutungi et al. (2005) in their study comparing external-cause mortality rates of immigrants from the FSU to rates in the German populations. They found that mortality patterns among FSU immigrants were better than the patterns typical of their source populations. However, they also found that FSU immigrants experienced higher rates of mortality from external causes than native-born Germans, whereas this analysis finds that FSU immigrants may be even healthier than the U.S.-born white population.

This analysis also has commonalities with the finding that Puerto Rican mothers in the United States have better infant mortality outcomes than do those who remain in Puerto Rico, but that the infant mortality advantage declines with longer residence in the United States (Landale et al. 2000). The health of FSU immigrants also starts out better than the norm for their home countries, but seems to decline some with longer residence

in the United States. The key finding from this analysis is that the positive selection of FSU migrants appears to have more influence on their health in the U.S. than does the culture of their native countries, supporting Jasso et al.'s (2004) contention that the health of immigrants to the U.S. bears little resemblance to overall health patterns in their countries of origin.

There are two main sets of limitations to the conclusions that can be drawn from this study. The first relates to the nature of the IHIS data. The sample size of FSU immigrants is so small that it cannot be considered as representative of the FSU-born population in the United States. The inability to distinguish ethnic background, or which part of the FSU respondents were born in, is also a limitation, because health indicators across the region, although consistently worse than health indicators in the United States, do vary considerably across countries and ethnic groups. In addition, the way in which the IHIS categorizes duration of residence, combined with the need to merge six years of data, makes it difficult to determine exactly when immigrants entered the U.S., and time of entry in increments as small as five years has been shown to have significant effects on health indicators among immigrants (Jasso et al. 2004). The second set of limitations arises from the lack of variables describing emotional health, stress, and social support in the models. These factors are highly relevant to health outcomes and likely to be different between immigrants and the native born. Looking at psychological health and social support among Russian immigrants would be a fruitful topic for future analysis.

Nevertheless, the preliminary conclusions drawn from this study are important for understanding the health of FSU immigrants in the United States. The limited previous research on this group tends to describe FSU immigrants as a group that is at risk and in

need of specific health interventions (Dohan & Levintova 2007; Duncan & Simmons 1996; Gross et al. 2001; Hoffmann et al. 2006). This analysis, however, demonstrates that FSU immigrants have health profiles that are similar to, or even slightly better, than those of other white Americans. Although certain sub-populations of FSU immigrants may have unique health needs related to low SES, limited English ability (Duncan and Simmons 1996), or exposure to environmental contaminants in the Soviet Union (Foster 2002; Foster and Goldstein 2007), overall, FSU immigrants appear to have fairly good health. This research demonstrates that the selectivity of migrants limits the utility of judging the health of immigrants based on the cultural practices and health behaviors of their countries of origin.

Notes

¹In earlier analyses I also included whether the respondent has any life-threatening health condition as a third measure, but the results for life-threatening conditions are not substantively different from the results for functional limitations, so are not presented in this paper.

²Because this is not a common definition of heavy drinking in studies that use NHIS data, I also tested several other measures of drinking. Using different definitions of heavy drinking did not affect the results.

³In previous analyses, I modeled the relationship between the independent variables and the likelihood of fair/poor health among Russians. Of all the variables in the model, only age was significantly associated with fair/poor health, so the results are not presented in this paper.

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