

Mental Health in U.S. Immigrants Over Time: An NHANES Analysis

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INTRO

Immigrants are a large portion of the US population, and this portion continues to grow yearly. However, there is a lack of research into how their mental health changes over time.

METHODS

1. Data taken from NHANES 2013-2014
2. Crude Poisson regression done on years in US and effect on depression (PHQ-9 measurement)
3. Model built incrementally for adjusted analysis based on significant variables

RESULTS

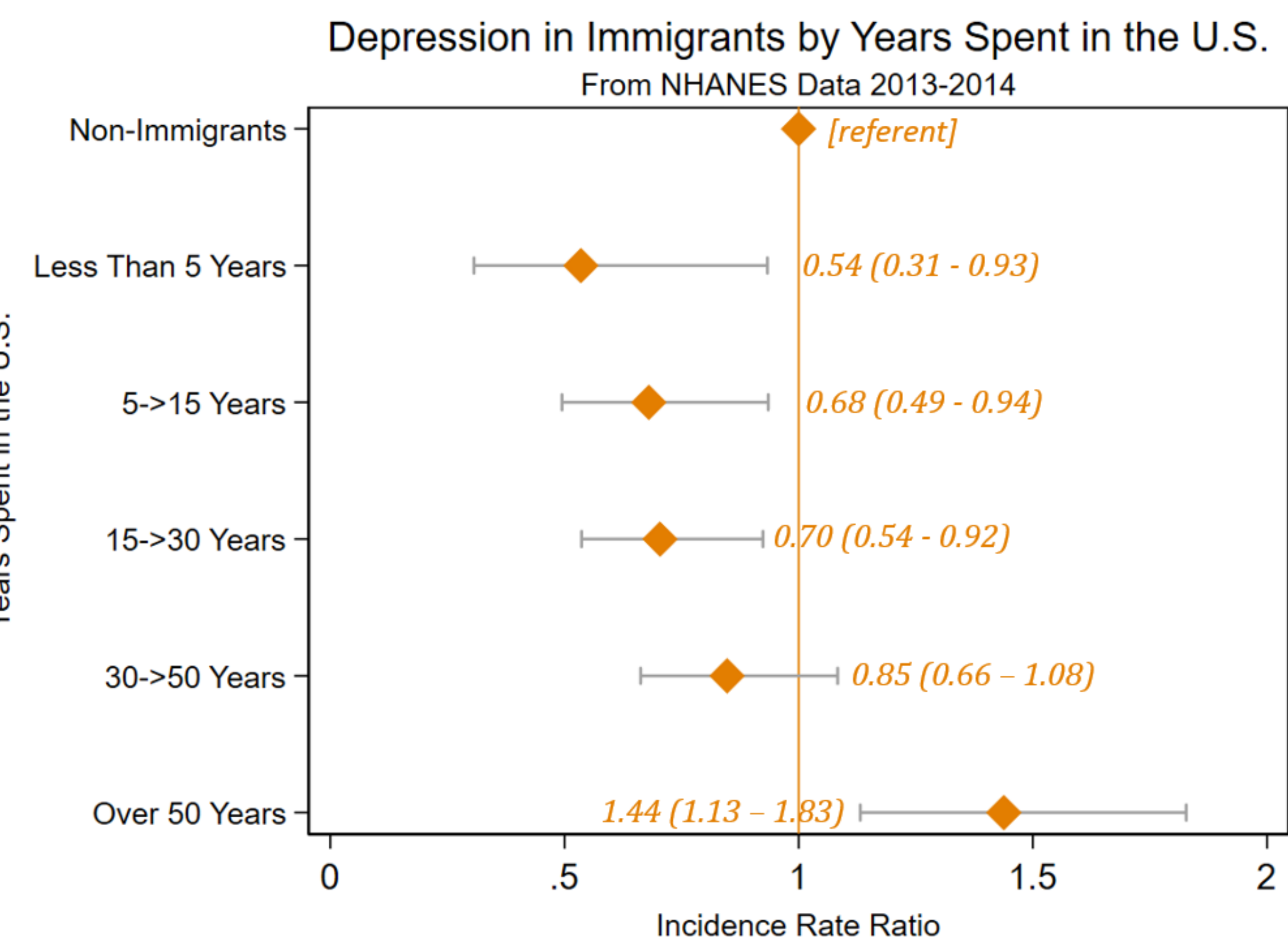


Figure 1. Depression by Years Spent in the U.S. Incidence rate ratios derived from multivariable Poisson regression. Presence of current depression assessed using PHQ-9 questionnaire; here including both mild and more severe depression. Data from ECREST 2.0, a subset of the National Health and Nutrition Examination Survey, 2013-2014.

LIMITATIONS

- Missing data: those immigrants here for a shorter time were more likely to have missing data for depression, which may be due to a variety of logistical or cultural factors
- Self-reported data (all factors from NHANES are self-reported, although depression is measured by PHQ-9)

Immigrants have less risk of depression than U.S. natives up until 30 years of residence in the United States, at which point the risk becomes equal.



EXTRA DATA

Table 2: The relationship between years spent in the US and presence of depression.

Characteristic	Incidence Rate Ratio (95% CI)			Test of Trend (p-value)
	Crude	Intermediate	Adjusted†	
Years in U.S. After Immigration				
Non-immigrant	1 (referent)	1 (referent)	1 (referent)	
Less than 5	.54 (.33 - .88)	.59 (.36 - .97)	.54 (.31 - .93)	
50+	1.74 (1.39 - 2.17)	1.49 (1.20 - 1.84)	1.44 (1.13 - 1.83)	.597
Age, y				
20-30		1 (referent)	1 (referent)	
70-80		1.00 (.84 - 1.19)	1.00 (.82 - 1.22)	.158
Education				
High school or less		1 (referent)	1 (referent)	
Some college		.90 (.81 - 1.00)	.91 (.81 - 1.01)	
College or advanced		.69 (.59 - .81)	.69 (.59 - .81)	<.001
Annual Household Income				
<20k		1 (referent)	1 (referent)	
>100k		.46 (.37 - .56)	.49 (.40 - .61)	<.001
Sex				
Male		1 (referent)	1 (referent)	
Female		1.41 (1.28 - 1.56)	1.39 (1.26 - 1.53)	
Active*				
No		1 (referent)	1 (referent)	
Yes		.77 (.69 - .86)	.76 (.68 - .85)	
Race				
White, Non-Hispanic			1 (referent)	
Black, Non-Hispanic			.90 (.79 - 1.02)	
Marital Status				
Married			1 (referent)	
Widowed/Divorced			1.18 (1.05 - 1.33)	
Never Married			1.17 (1.01 - 1.35)	
Citizen				
No			1 (referent)	
Yes			.87 (.68 - 1.10)	
Language*				
English			1 (referent)	
Spanish			1.13 (.89 - 1.44)	

†Adjusted for all covariates listed in table using Poisson regression. Intermediate model adjusted for covariates in column.

*Depression assessed using PHQ-9 questionnaire; here including mild depression and more severe depression. Language denotes language used in interview, with option of English or Spanish. Active denotes moderate/vigorous activity performed at least three times a week.

Data from ECREST 2.0, a subset of the National Health and Nutrition Examination Survey, 2013-2014.

DISCUSSION

There are a few theories that have been proposed to explain the phenomenon of depression in immigrants, although most were not focused on trend:

1. The selection hypothesis - that those predisposed to mood disorders have stronger attachments and do not migrate
2. That those who migrate are more resilient
3. That migration is associated with upward social mobility and quality of life

These results introduce an interesting phenomenon of increasing depression in immigrants over time, which does not fit with these theories. Further investigation is needed.