IMPACT of INTERNATIONAL MIGRATION on MENTAL HEALTH OUTCOMES

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(Extended Abstract)

Introduction and Overview

An extensive literature on the effects of migration on health has documented strong impacts. Two shortcomings of this body of work are that we know much less about Vietnamese-Americans than we do about other major immigrant groups; and that we know less about the mental health consequences of migration than we do about the consequences for physical health. A major substantive goal of the proposed paper is the investigation of mental health status among working-age adults in this important immigrant group. A second problem in this literature involves the separation of the effects of migration *per se* from selection factors. That is, migrants may differ from nonmigrants on factors that are related both to the decision to migrate and to the health outcomes of interest. A major methodological goal of the proposed work will be the development of a new approach to better distinguish between these two types of effects.

This distinction is made possible by a "natural experiment" involving the comparison of three groups: Vietnamese immigrants in the United States; Vietnamese who have never left Vietnam (hereafter referred to as never migrants); and Vietnamese returnees in Vietnam. Before June 1989 essentially all Vietnamese who made it to a country of first asylum were successfully settled in the West (most in the United States) – this constitutes the Vietnamese immigrant group. For those arriving in the transition countries after June 1989, only those able to prove a bona fide risk of persecution in Vietnam were accepted for resettlement; most (about ¾) were repatriated to Vietnam – those repatriated constitute the returnee group. Those who never attempted to emigrate constitute the never migrant group. Comparing the never migrants (in Vietnam) with the returnees on the dependent variables of interest, it becomes possible to estimate the effects of selection (the unobserved characteristics that place one at risk of migration) on health outcomes net of migration effects. By comparing the returnees to the immigrants, it is possible to estimate the effects of migration *per se* on health outcomes net of selection effects.

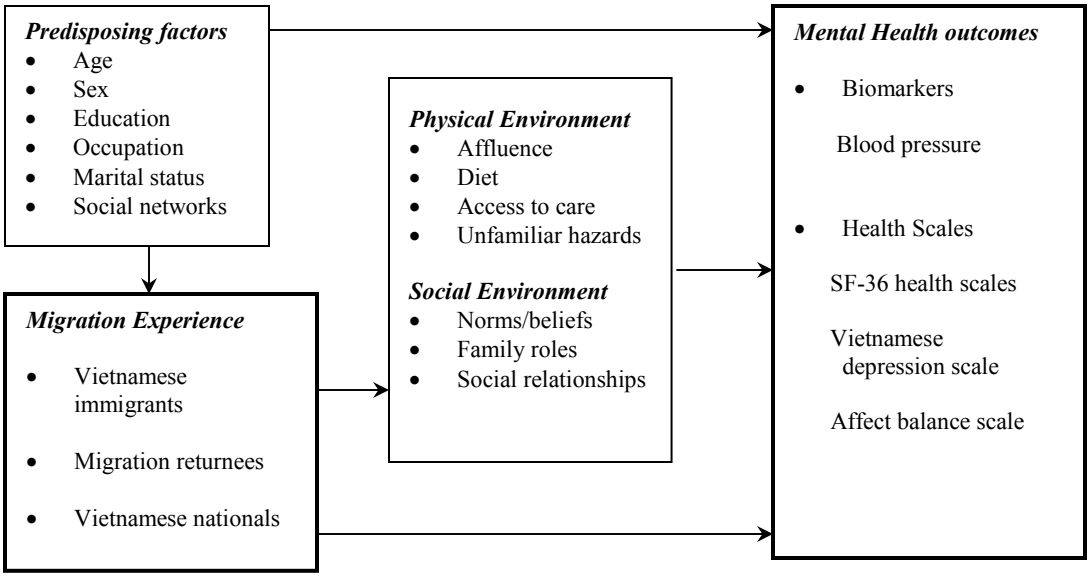
The above approach is being used to examine a wide array of both physical and mental health consequences of migration in work related to the proposed paper. How such a strategy works for mental health outcomes vis-à-vis physical health outcomes is a second methodological goal of the proposed paper. It may be that forced repatriation has its own negative consequences for mental health and well being that complicate the use of returnees as a control group. If this is the case, such consequences of repatriation will of course be of interest in their own right, and will have important implications for the mental health and well-being of returnees.

Literature Review and Conceptual Framework

In Southeast Asia, the upheaval during the war in the 1970s displaced thousands of families from Cambodia, Laos, and Vietnam. A number of waves of Vietnamese emigrated to the United States (Davis 2000). By 2000, the United States Census has documented over one million Vietnamese immigrants, constituting one of the largest influxes of immigrants to the U.S in the latest two decades (US Census Bureau 2002). Recent studies suggest poor physical and mental health profiles among Vietnamese immigrants (e.g., Frisbee *et al.* 2001), but outcome measures are limited in scope, especially with regard to mental health outcomes. Studies that do include mental health status tend to focus on extreme outcomes, e.g., PTSD, and usually employ clinic or other convenience samples, which have well-known biases (Lin et al. 1979, 1985; Kroll et al. 1989; Kinzie et al. 1990; Beiser et al. 1993; Buchwald et al. 1993, 1995; Hinton 1994, 1997; Dong 2003).

Our conceptualization of how migration might affect the mental health status of migrants is outlined in the following figure. Predisposing factors, such as those noted in the upper left box, will help determine who becomes a migrant in the first place; and subsequently, will indirectly influence the mental health outcomes of interest. Several of these predisposing factors also have well known direct effects on mental health outcomes, as modeled by the top arrow connecting the far left and far right boxes. But our principal relationships of interest involve how migrant status, as categorized in the lower box from the left, will influence mental health outcomes. Such influences will work through features of the new physical and social environments the migrants find themselves in, e.g., changing economic and social opportunities (or lack thereof), and changing norms and expectations. Unfamiliarity can lead to stress, which can have its own negative consequences (Cassel 1974; Findley 1988; Shuval 1993). Obviously, some of these features of a new and stimulating environment can foster positive mental health outcomes as well as negative outcomes.

Figure 1: Conceptual framework on migratory experience and mental health



Methodology

Our random sample of 724 working age adults (25-49 years old) includes 120 Vietnamese immigrants living in the greater New Orleans area; 141 returnees living in HCMC; and 463 never-migrants living in HCMC. The samples of Vietnamese immigrants and migration returnees were surveyed in 2003 and 2004 respectively. Data collection for Vietnamese immigrants population has just been completed in 2005 and data are now being entered and cleaned.

Data collected include social, demographic and economic status, lifestyle, access to care, occupational injury, and various dimensions of health status with both self-rated measurements as well as a few physical measures, e.g., blood pressure, height, and weight. Self-reported measures include the mental health dimension of the Short Form 36 (SF 36) instrument (Ware and Sherborune 1992); a culturally grounded 18-item Depression Scale developed by Kinzie at al (1982) to measure the symptoms of depression among Vietnamese subjects; and an Affect Balance Scale adopted specifically for Vietnamese (Devins et al. 1997). Furthermore, a 17-item acculturation scale (Anderson et al. 1993) is used to measure the acculturation level of Vietnamese immigrant subpopulation.

Results

Data entry and processing for the Vietnamese immigrants is on-going. Preliminary comparisons of Vietnamese nationals and returnees reveal an association between migration status and mental health. Using a cut off point of 13, the VDS reveals higher rates of depression among returnees than among never migrants ($p<0.05$). (See table I) Similarly, the AFS show better mental health outcomes for positive effect for the never-migrants than for the returnees ($p<0.001$). Results for the mental health subscale of the SF-36 and the negative affect portion of the AFS are in the same direction, but do not reach statistical significance. Bivariate associations between the sociodemographic background factors and the outcomes are as expected, showing advantages in mental health status for men, the married, and the educationally and occupationally privileged.

These same factors are examined within a multivariate framework in Table II. The results suggest that these mental health disadvantages of returnees with respect to never-migrants as measured by the VDS and AFS are not explained entirely by differences in the distribution of the sample on the other factors. Indeed, the difference in depression is not mitigated at all by the inclusion of the additional sociodemographic factors. Returnees are still 1.83 times more likely to be depressed than never-migrants, even when all of the other background factors are considered (OR: 1.83, $P<0.05$).

Table I: Bivariate Relationship between Depression, SF 36 Mental Health, Affect Balance and Independent Variables among Vietnamese Never-leavers and Migration Returnees (N=604)

Variables	Depressed (% Yes)	SF 36 Mental Health (Mean)	Positive Affect (Mean)	Negative Affect (Mean)
Migration				
Returnees	19.15%*	70.50	8.89***	12.66
Never-leavers	11.23%	72.67	8.09	12.90
Age (in years)				
25-39	12.11%	72.12	8.33	12.76
40-49	14.18%	72.21	8.22	12.94
Sex				
Male	12.59%	73.37^	8.21	13.15***
Female	13.52%	71.08	8.33	12.57
Education (in years)				
0-6	14.17%	70.92*	8.67***	12.89
7-9	13.16%	71.42	8.24	12.83
10 and above	11.76%	74.31	7.83	12.80
Occupation				
Agricultural/unskilled	19.34%**	68.96***	8.83***	12.67
Clerical/factory/skilled	12.33%	73.37	8.07	12.82
Professional/Entrepreneur	9.09%	74.02	7.95	12.96
Marital status				
Married	9.95%***	73.47*	8.18^	13.02**
Others	19.31%	69.59	8.46	12.50
#Property (continuous)	-0.096**	0.20***	-0.29***	0.11**
#Household size	0.004	-0.03	0.10*	0.07
Having at least one child				
Yes	11.34%*	72.05	8.22	12.90
No	17.79%	72.00	8.50	12.60

^Significant at P<0.1, * Significant at P<0.05, **Significant at P<0.01. ***Significant at P<0.01.
Notes: #: as property and household size are continuous variables, the magnitude is bivariate association coefficient.
SF 36 Mental health subscale (Range: 16-100): larger scores indicate better mental health outcomes.
Vietnamese depression scale: (Range: 3-28), with 13 as the cutting point for being depressed.
Positive affect scale (range: 4-12), the lower the score, the more positive an individual is.
Negative affect scale (range: 5-15), the lower the score, the more negative an individual is.
Property scale: (range: 0-8): the higher the score, the more property an individual has.
^Significant at P<0.1, * Significant at P<0.05, **Significant at P<0.01. ***Significant at P<0.001.

Table II: Multivariate regression results for the effect of migration on the mental health outcomes when controlling for demographic characteristics (N=604)

	Mental Health Outcomes							
	Depression		**SF36 Mental Health**		**Positive Affect**		**Negative Affect**	
	Mode 1 *OR*	***Model 2*** *OR*	***Mode 1*** *Beta*	***Model 2*** *Beta*	***Mode 1*** *Beta*	***Model 2*** *Beta*	***Model 1*** *Beta*	***Model2*** *Beta*
Migration								
Never-leavers (ref.)								
Returnees	1.88*	1.83*	-2.18	-1.60	0.80***	0.58**	0.24	-0.39^
Age (in years)								
25-39(ref.)								
40-49		1.56		-0.88		0.06		0.05
Sex								
Female (ref.)								
Male		0.94		2.08^		-0.13		0.60***
Education (in years)								
0-6 (ref.)								
7-9		1.12		-0.16		-0.33^		-0.13
10 and above		1.14		2.55^		-0.60**		-0.17
Occupation								
Agricultural/unskilled (ref.)								
Clerical/factory/skilled		0.53		3.85^		-0.58*		0.15
Professional/Entrepreneur		0.47**		3.91**		-0.66***		0.17
Marital status								
Non-married (ref.)								
Married		0.45**		4.09**		-0.28^		0.48^
Constant	0.13***	0.25***	72.67***	65.85***	8.09***	9.13***	12.90***	12.29***
R^2	0.02	0.08	0.004	0.05	0.03	0.08	0.002	0.04

^Significant at P<0.1, * Significant at P<0.05, **Significant at P<0.01. ***Significant at P<0.001.
Notes: Model 1: Unadjusted effect of migration without controlling for confounders. Model 2: Adjusted effect of migration while controlling for the confounders.
Vietnamese depression scale: (Range: 3-28), with 13 as the cutting point for being depressed.
SF 36 Mental health subscale (Range: 16-100): larger scores indicate better mental health outcomes.
Positive affect scale (range: 4-12), the lower the score, the more positive an individual is.
Negative affect scale (range: 5-15), the lower the score, the more negative an individual is.

Implications

Data processing and analysis for our key group of interest, working-age Vietnamese immigrants, is in progress and will be completed before the end of the calendar year. These preliminary analyses of our control groups - those who never left Vietnam, and those who were forced to return – suggest that returnees are significantly disadvantaged relative to never-leavers with regard to depression and positive affect. Furthermore, such disadvantages are not due to differences in the make up of the two samples. Indeed, differences in sample composition appear to have little or no bearing on the returnee disadvantage in depression.

Such disadvantages could have arisen in two ways. First, returnees may have possessed these disadvantages prior to migration; indeed, such disaffection may have been a key reason for their desire to leave Vietnam in the first place. Alternatively, the returnees may be experiencing more depression due to longstanding disappointments and hardships related to their repatriation, in spite of the careful attention paid to them and the special resources provided to them by the Vietnamese national government and international organizations such as UNHCR. Whichever is the primary source of their disadvantage, this is clearly a group that needs further monitoring and perhaps further intervention.

Forthcoming results from the immigrant sample will surely provide more insights into the complex relationships between migration and mental health outcomes among the Vietnamese and other immigrant groups.

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