

Impacts of Rural to Urban Migration on the Health of Young Adult Migrants in Ho Chi Minh City, Vietnam

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Abstract:

The rural-to-urban migration experience is believed to significantly affect various dimensions of the migrants' well-being. Potential health impacts have not been thoroughly and systematically explored. A multidimensional health assessment instrument, the SF-36, is employed in this paper to systematically investigate these potential impacts. This instrument has been used for a variety of populations in many countries, which will facilitate comparisons with other groups. The paper compares 8 dimensions of health status for 69 recent migrants living in Ho Chi Minh City with 85 long term urban residents in the city using data collected during 2001. Migrants are disadvantaged with respect to non-migrants on several of these dimensions of health status, including physical functioning; role limitations due to physical health problems; bodily pain; general mental health; role limitations due to emotional problems; and general health perceptions. These differences are maintained in models that control for differences in distributions of age, sex, and socioeconomic status between the two groups.

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INTRODUCTION

Movements from rural villages to large cities are often undertaken with the hopes of improved opportunities for economic or social advancement. Less salient perhaps to both researchers and migrants are the potential costs of such moves. Changes of residence from places of familiarity to new places of unfamiliarity require extensive investments of time to reestablish social networks, and may also result in disruptions of income-generating activities, at least temporarily. Such changes might also exact a toll on the migrant's physical and psychological well-being.

Changes in well-being resulting from rural to urban migration have not been extensively explored, in part because they are so much more difficult to measure than are the economic costs of migration. However, profoundly elevated rates of high blood pressure for urban compared to rural Nigerians have been documented by Kaufman et al. (1999).¹ De Jong et al. (2002) find that migration in Thailand was associated with decreased post-move satisfaction among the migrants.

Changes in health status, both physical and emotional, are a potentially important consequence of a rural-to-urban migration experience, but there is little systematic work exploring this hypothesis. Attempts to measure general health and well-being often employ *ad hoc* instruments, and many such instruments, standardized or not, if applied to generally healthy young and middle age adult populations (the population most likely to migrate) will be sensitive only to cases of physical and psychological distress, rather than to more subtle differences that are likely to be more common.

The SF-36 health assessment instrument overcomes many of these deficiencies. This instrument was developed by RAND corporation and JE Ware (Ware and Sherbourne 1992). It is highly regarded as a general health assessment tool (McDowell and Newell 1996) and has been widely used, but not in studies that seek to measure health-related costs and benefits of migration for those who move. This will also be its first use among the Vietnamese. The author and the developers of the SF-36 have been working closely together on the translations and pretests of this instrument in recent months. The SF-36 includes assessments of physical functioning, role limitations due to physical health problems, bodily pain, social functioning, general mental health, role limitations due to emotional problems, vitality, energy, fatigue, and general health perceptions.

¹ It is unknown whether this elevation results from migration or from more general features of urban life.

Vietnam provides an appropriate setting for an investigation of the relations between rural-to-urban migration and health. The country is currently experiencing high rates of such migration, especially into large cities such as HCMC (Dang et al. 1997). While economic opportunities are often more favorable in the cities than in the rural areas, and modern health care is more available, the urban environment is likely to be alien and lonely for many, especially on an initial trip. Also, urban working conditions are often difficult and living conditions are often crowded, polluted and substandard (World Bank 2001), increasing the potential for illness, stress, and physical injury.

DATA AND METHODS

The data used here are from an ongoing study of the interrelationships between migration and poverty in Vietnam conducted by the Institute for Social Sciences in Ho Chi Minh City and the Social Science Research Council. This project is principally an institutional development grant, intended to help develop social science research in Vietnam. The project has collected several waves of data, beginning in 1998; the author has been an advisor to the project since 1999.

Study sites include 3 urban wards in HCMC and 4 rural villages upcountry. These 7 sites were chosen because they provide (the rural sites) or receive (the urban sites) a substantial number of migrants to HCMC. Two of the rural village study sites are in the central highlands and two are in the Mekong river delta, south of HCMC.

One component of the project used in the current analysis consists of background information for a sample of 69 working age adults who have recently moved to Ho Chi Minh City (HCMC), a principal destination of rural-to-urban migrants in Vietnam, from one of the 4 rural study sites. It was known that from the 600 households in the rural study communities that were included in the project, a total of 266 individuals had migrated from the 4 rural sites into HCMC; our interviewers located 70 of these for the health interviews (one case is removed because of ambiguous identification data). Background information for these rural-to-urban migrants was collected in their households and communities in their village of origin. These background data are linked with information related to their health status that was collected directly from the migrants in HCMC.

A second component of the overall project used for the current paper includes information on the health status of 85 working age long-term residents of HCMC. These 85 households to which these individuals belonged were selected randomly from a larger sample of 1050 households that are the general study group in the 3 HCMC sites. Upon arrival at the selected household, interviewers were instructed to list all eligible members of the household (eligible members are between the ages of 15-50, and resident in the community for at least 5 years), select at random an eligible member, and make an appointment to interview him or her. After 3 visits, they were to randomly select another eligible member of the household and repeat the procedure. Health data from the subsequent interview were then linked to existing individual and household-level variables that had already been collected for this individual and household in the more general survey of the HCMC sites in 2001. All data used in the current paper were collected during the spring and summer of 2001 except for the background information for the migrants, which was collected in the 4 rural communities during 2000.

RESULTS

Table 1 indicates that both the migrant and non-migrant samples are skewed towards women. This suggests that for the nonmigrant households the interviewer was more likely to find a female respondent at home during their visit than a male respondent and that they did not randomly choose a young adult household member, as instructed, but rather selected from the household members who happened to be home at the time. The surplus of females in the migrant sample likely results from a similar process that favors interviews of women over men. Although it was the migrant themselves who were selected for study (rather than the household, as it was in the nonmigrant sample), we were successful only in locating 70 of the 266 migrants from our rural study areas in HCMC, and it appears to have been easier to find women migrants than men. The migrants are more likely to be never-married, of younger age, and less educated than the nonmigrants in the sample. Most of the migrants were involved in farming before moving to HCMC (not shown).

Table 2 presents each of the 36 measures of health from the SF-36 instrument by the respondent's migration status. The first item, the most general measure of self-assessed health, has the nonmigrants responding more favorably than the migrants ($p < 0.01$; see the explanatory notes of the numerical values at the bottom of this table and the question wording in the

appendix). Limitations of activities because of poor health (items 3-9; 12-22) all appear to favor the nonmigrants (these differences are statistically significant at $p < 0.05$ or better for climbing stairs; bending, kneeling, or stooping; bathing or dressing oneself; and engaging in normal social activities), except for limitations of vigorous activities, which appear slightly more problematic for the nonmigrants (this comparison is statistically insignificant). All of the questions addressing general feelings (items 23-36) indicate worse physical and mental well-being for the migrants, and at a statistically significant level for being down in the dumps and being happy. The last two panels of Table 2 present questions about specific problems resulting from the respondents' emotional and physical health. The proportion responding yes is substantially higher for the migrants than for the nonmigrants for each item. Migrants scored on average statistically significantly higher than non-migrants for being physically limited in the kinds and difficulty of work they could do; as well as being limited because of emotional difficulties in the amount of time they have for work or social activities and for accomplishing less than they would like because of emotional difficulties.

These 36 specific questions about health are designed to be collapsed into scales to measure 8 separate dimensions of physical and mental health: physical functioning (9 items: Items 3-11 in Table 3; Questions 3a-i in the appendix); role limitations due to physical health problems (4 items: Items 13-16; Q 4a-d); bodily pain (2 items: Items 21-22; Q 7-8); social functioning (2 items: Items 20, 32; Q 6,10); general health (5 items: Items 1, 33-36; Q 1, 11a-d); mental health (5 items: Items 24-26, 28, 30; Q9b-d, 9f, 9h); role limitations due to emotional problems (3 items: Items 17-19; Q5a-c); vitality, energy, fatigue (4 items: Items 23, 27, 29, 31; Q9a, 9e, 9g, 9i). There is also a single measure of health transition (1 item: 2). The results for these scales for both migrants and non-migrants are presented in Table 3.

Health scales are tabulated in Table 3 (and hereafter) in such a way that higher scores indicate better health outcomes. All of the scales in this table appear to favor the non-migrants over the migrants, save for the scale on vitality, a difference that is not significant. But role limitations due to both physical and emotional limitations; and the scale assessing bodily pain all show statistically significant better outcomes for the non-migrants, who are on average older than the migrant group. Such differences in the makeup of the two samples due to age, sex, and educational attainment (used here as a proxy measure for socioeconomic status) are controlled

for in the final table, which explores the effect of being a migrant on these health outcome scales, both in conjunction with these factors (the gross effect) and separately from them (the net effect).

Being a migrant has a negative effect on all of the health dimensions except for vitality, and these negative effects are statistically significant or borderline significant for all 7 remaining scales. Adding the effects of education, age, and sex increases the size of the migrant effect in every instance except for the scale measuring role limitations due to emotional problems. And in those remaining 6 models, the inclusion of the control factors result in a strengthening of the significance level of the migrant effect, with only the migrant effect on social functioning remaining in the borderline category.² Clearly, the negative effects of being a migrant for these health scales are masked in the bivariate comparisons by the migrants having a favorable age distribution compared to the non-migrants.

DISCUSSION

Self-administered and multi-dimensional health assessments such as the SF-36 have much untapped potential for assessing whether the migration experience affects the well-being of migrants; and if it does, on what dimensions of physical and mental health these effects might act upon. For working age rural-to-urban migrants to HCMC, being a migrant appears to put them at a disadvantage compared to non-migrants resident in the same city for health outcomes related to physical functioning; role limitations due to physical health problems; bodily pain; general mental health; role limitations due to emotional problems; and general health perceptions. These disadvantages do not appear to be due to differences in distributions of age, sex, or socioeconomic status between the two groups. But it is possible that the migrants may have possessed these disadvantages prior to their move. Further work should try to employ a longitudinal design to capture whether *a priori* differences might account for some of the distinctions seen here.

² Age is the only control factor with a consistent effect on the scales – getting older is clearly bad for your health!

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Table 1. Demographic Characteristics of Study Participants

Items	Migrants (n=69)	Non Migrants (n=86)
Sex		
Male	44%	37%
Female	56%	63%
Age (average)	26	32***
Marital Status		
Single	71%	42%**
Married	26%	50%
Divorced	1%	3%
Widowed	0%	2%
Separated	1%	1%
Years of Education		
0-6	36%	28%*
7-9	39%	25%
Over 10	25%	47%

Notes:

- * significant at the $p < 0.05$ level.
- ** significant at the $p < 0.01$ level.
- *** significant at the $p < 0.001$ level.

Table 2: Individual items from the SP-36

Measure	Recent migrants: mean score (n=69)	Long term residents: mean score (n=86)
Item1: your health	3.63	3.28**
Item2: your health compared with 1 year ago	3.1	3.03
Health limit		
Item3: vigorous activities	2.31	2.18
Item4: moderate activities	2.64	2.73
Item5: lifting or carrying groceries	2.9	2.94
Item6: climbing several flights of stairs	2.57	2.8*
Item7: climbing one flight of stairs	2.83	2.93
Item8: bending, kneeling, or stooping	2.53	2.82***
Item9: walking about two kilometers	2.64	2.7
Item10: walking several blocks	2.7	2.77
Item11: walking one block	2.8	2.88
Item12: bathing or dressing yourself	2.96	3.00*
Item20: your normal social activities	1.49	1.25*
Item21: bodily pain	2.29	1.91
Item22: pain interfere with your normal work	1.6	1.38
How you feel		
Item23: full of pep	3.31	3.19
Item24: very nervous	4.53	4.93
Item25: so down in the dumps that nothing could cheer you up	5.26	5.62**
Item26: calm and peaceful	3	2.64
Item27: a lot of energy	3.33	3.34
Item28: downhearted and blue	4.97	5.26
Item29: worn out	5.44	5.45
Item30: happy	3.64	3.02*
Item31: tired	4.54	4.62
Item32: your physical health or emotional problems interfered with your social activities	4.44	4.53
Item33: I seem to get sick a little easier than other people.	3.56	3.8
Item34: I am as healthy as anybody I know.	2.3	2.27
Item35: I expect my health to get worse	3.44	3.7
Item36: my health is excellent	3.2	2.93

Table 2 (continued)**Notes:**

^a scales for item 1: 1 = excellent, 2 = very good, 3 = good, 4 = fair, 5 = poor.

^b scales for item 2: 1 = much better, 2 = somewhat better, 3 = about the same, 4 = somewhat worse, 5 = much worse.

^c scale for items 3-12: 1 = yes, limited a lot, 2 = yes, limited a little, 3 = no, not limited at all.

^d scale for item 20: 1 = not at all, 2 = slightly, 3 = moderately, 4 = quite a bit, 5 = extremely.

^e scale for item 21: 1 = none, 2 = very mild, 3 = mild, 4 = moderate, 5 = severe, 6 = very severe.

^f scale for item 22: 1 = not at all, 2 = a little bit, 3 = moderately, 4 = quite a bit, 5 = extremely.

^g scale for item 23-31: 1 = all of the time, 2 = most of the time, 3 = a good bit of the time, 4 = some of the time, 5 = a little of the time, 6 = none of the time.

^h scale for item 32: 1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = a little of the time, 5 = none of the time.

Measure	Recent migrants: % responding yes (n=70)	Long term residents: % responding yes (n=88)
Problems as a result of physical health		
Item13: cut down on the amount of time	17.1	10.2
Item14: accomplished less than you would like	21.4	15.9
Item15: were limited in the kind of work	24.3	12.5*
Item16: had difficulty performing the work	40	13.6***
Problems as a result of emotion		
Item17: cut down on the amount of time	18.6	9.1*
Item18: accomplished less than you would like	25.7	12.5*
Item19: didn't do things as carefully	15.7	8.0

Table 3: Health scales from the SP-36

Health scale	Recent migrants: mean score (n=70)	Long term residents: mean score (n=88)
1. Physical functioning	2.68 ($\alpha= 86.74\%$)	2.78 ($\alpha= 83.45\%$)
2. Role limitations due to physical health problems	1.74 ($\alpha= 78.27\%$)	1.88 ($\alpha= 84.43\%$)**
3. Bodily pain	4.79 ($\alpha= 60.62\%$)	5.18 ($\alpha= 74.73\%$)*
4. Social functioning	4.47 ($\alpha= 37.00\%$)	4.66 ($\alpha= 56.65\%$)
5. General mental health	4.28 ($\alpha=81.07\%$)	4.53 ($\alpha= 83.89\%$)
6. Role limitations due to emotional problems	1.8 ($\alpha= 64.88\%$)	1.91 ($\alpha= 74.83\%$)**
7. Vitality, energy, and fatigue	4.19 ($\alpha= 73.08\%$)	4.12 ($\alpha= 67.62\%$)
8. General health perceptions	3.21 ($\alpha= 79.99\%$)	3.48 ($\alpha= 82.45\%$)

Notes: Larger scores indicate better health outcomes.

Table 4: Multivariate analysis

Outcome measure	Unstd beta	p value	R²
physical functioning			
-Model 1: effect of migrant status without controls	-0.0988	0.063	0.023
-Model 2: effect of migrant status with controls	-0.145	0.009	0.137
role limitations due to physical health problems			
-Model 1: effect of migrant status without controls	-0.137	0.005	0.05
-Model 2: effect of migrant status with controls	-0.169	0.002	0.08
bodily pain			
-Model 1: effect of migrant status without controls	-0.319	0.025	0.032
-Model 2: effect of migrant status with controls	-0.468	0.003	0.075
social functioning			
-Model 1: effect of migrant status without controls	-0.182	0.123	0.016
-Model 2: effect of migrant status with controls	-0.240	0.064	0.026
general mental health			
-Model 1: effect of migrant status without controls	-0.244	0.077	0.024
-Model 2: effect of migrant status with controls	-0.296	0.04	0.098
role limitations due to emotional problems			
-Model 1: effect of migrant status without controls	-0.113	0.01	0.043
-Model 2: effect of migrant status with controls	-0.105	0.03	0.048
vitality, energy, and fatigue			
-Model 1: effect of migrant status without controls	0.0266	0.866	0
-Model 2: effect of migrant status with controls	-0.132	0.431	0.111
general health perceptions			
-Model 1: effect of migrant status without controls	-0.263	0.099	0.018
-Model 2: effect of migrant status with controls	-0.497	0.003	0.132

Notes: control variables include sex, age, and education level.

Appendix: health questionnaire

SF-36 HEALTH SURVEY IN VIETNAM

Instructions: This survey asks for your views about your health. This information will be help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

Question 1: In general, would you say your health is:

(Circle one)

- Excellent..... 1
- Very good..... 2
- Good..... 3
- Fair 4
- Poor 5

Question 2: Compared to one year ago, how would you rate your health in general now?

(Circle one)

- Much better now than one year ago 1
- Somewhat better now than one year ago..... 2
- About the same now as one year ago 3
- Somewhat worse now than one year ago 4
- Much worse now than one year ago..... 5

Question 3: The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

(Circle one number on each line)

Activities	Yes, Limited A Lot	Yes Limited A Little	No, Not Limited At All
a. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing several flights of stairs	1	2	3
e. Climbing one flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking about two kilometers	1	2	3
h. Walking several blocks	1	2	3
i. Walking one block	1	2	3
j. Bathing or dressing yourself	1	2	3

Question 4: During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of physical health?

(Circle one number on each line)

Problems as a result of physical health	Yes	No
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Were limited in the kind of work or other activities	1	2
d. Had difficulty performing the work or other activities (for example, it took extra effort)	1	2

Question 5: During the past 4 weeks, have you had any of the following problems with your work or other regular activities as a result of any emotional problems (such as feeling depressed or anxious)?

(Circle one number on each line)

Problems as a result of emotion	Yes	No
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Didn't do work or other activities as carefully as usual	1	2

Question 6: During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

(Circle one)

- Not at all..... 1
- Slightly..... 2
- Moderately..... 3
- Quite a bit..... 4
- Extremely..... 5

Question 7: How much bodily pain have you had during the past 4 weeks?

(Circle one)

- None 1
- Very mild 2
- Mild 3
- Moderate 4
- Severe 5
- Very severe 6

Question 8: During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

(Circle one)

- Not at all 1
- A little bit 2
- Moderately 3
- Quite a bit 4
- Extremely 5

Question 9: These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the past 4 weeks.

(Circle one number on each line)

How you feel	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
Full of pep	1	2	3	4	5	6
Very nervous	1	2	3	4	5	6
So down in the dumps that nothing could cheer you up	1	2	3	4	5	6
Calm and peaceful	1	2	3	4	5	6
A lot of energy	1	2	3	4	5	6
Downhearted and blue	1	2	3	4	5	6
Worn out	1	2	3	4	5	6
Happy	1	2	3	4	5	6
Tired	1	2	3	4	5	6

Question 10: During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

(Circle one)

- All of the time 1
- Most of the time 2
- Some of the time 3
- A little of the time 4
- None of the time..... 5

Question 11: How TRUE or FALSE is each the following statements for you?

(Circle one number on each line)

	Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a. I seem to get sick a little easier than other people	1	2	3	4	5
b. I am as healthy as anybody I know	1	2	3	4	5
c. I expect my health to get worse	1	2	3	4	5
d. My health is excellent	1	2	3	4	5