Connectivity and mental health outcomes; migrants versus non-migrants

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Abstract

In developing countries, social networks play a significant role in the decision to migrate due to their role in reducing costs and risks. They also play an essential role in helping migrants to adapt and buffer them against stress. This paper investigates the factors influencing mental health among migrants by comparing them with non-migrants. Moreover, we examine the relationship between social connectivity and mental health, comparing migrants with non-migrants. The analysis employs four data sets from Thailand; the Wave1 and 2 of KDSS in 2005 and 2007, the migration follow-up in 2007-2008, and the data set of non-migrants in Bangkok-Nakornpathom and Kanchanaburi in 2008. Results show that social connectivity is significantly and positively associated with mental health among migrants and non-migrants. However, social connectedness was slightly weaker than physical health among those before move. While occupation is related to mental health among migrants, both after and before migration, sex and education are associated with mental health among non-migrants.

1. Rationale and background

The decision to migrate is not only a result of poverty, unemployment, low prices of agricultural products, and low standard of living in the place of origin, but is also a result of facilitators or social networks liking migrants to other places (Fuller, Kamnuansilpa and Lightfoot, 1990). Migrants can reduce the costs and risks of mobility due to the expansion of networks (Massey, et al. 1993). Moreover, satisfactory adjustment of migrants is reliant on their social networks in the original area and their ties in the destination area (Vega and Kolody, and Valle, 1987). Social and personal support plays an important role in self-esteem buffered migration stress (Young, 2001).

Literature on migration in developing countries cites social ties and networks as key explanatory factors for migration behavior. Migration decisions concerning where to move depend on social networks. Bhugra (2004) outlined different stresses in each stage of migration, and pointed out that the process of adjustment must be condidered. Various social structures (such as friendship, kinship and college) tie migrants to the destination, and these supports can have an important effect on subsequent attachment and adjustment of migrants (Tilly and Brown , 1967). A study on life satisfaction consequence of Thai migration found a positive relationship between the size of migrant ties and life satisfaction in the post-move living environment, but a negative association between the size of networks and aspects of employment satisfaction (De Jong, Chamratrirong, and Tran, 2002).

The migration survey of Thailand in 2004 found that the highest proportion of migrants came to Bangkok. Over half of migrants in Bangkok came from the northeast region. Migrants from the north, central, and south regions, respectively, were drawn at lower proportions than from the northeast. Half of migrants stated that they were more satisfied in Bangkok than where they came from, while one-fifth were more satisfied with their place of origin. Cost of living and traffic problems in urban areas, especially Bangkok, were the issues that caused the most dissatisfaction. Interestingly, the proportion of migrants in Bangkok who reported a disadvantage of social contact in the neighborhood or residence was lower than the proportion of migrants in other regions (National Statistical Office, 2004). However, a study on a comparison of happiness of urban people with that of rural people in Thailand discovered that rural people were happier than urban people (Rukumnuaykit and Pholphirul, 2007).

The major research questions are:
1. How is the level of mental health of migrants before and after migration?
2. Are there differences in the level of mental health between migrants and non-migrants?
3. Is there a relationship between social connectivity and mental health among respondents before and after migration?
4. How different is the relationship between social connectivity and mental health among migrants by comparison with non-migrants?
5. What other factors influence mental health among migrants in comparison with non-migrants?

2. Research Methodology

2.1 *Sources and research Sample*

The paper employs three data sets of Kanchanaburi Demographic Surveillance system (KDSS) of Thailand ; Wave1 in 2005, the follow-up of migrants in 2007-2008 who moved after 2005 (there are 522 migrants aged 15-31 who were traced from rural areas of Kanchanaburi province in 2005 to urban areas in Bangkok, Nakornpathom, and Kanchanaburi in 2007-2008), and the non-migrant data set in 2008 (412 non-migrants aged 15-31 who were living in Bangkok-Nakornpathom and 3578 non-migrants aged 15-31 in Kanchanaburi).

However, when the 522 migrants who were traced from rural areas of Kanchanaburi to urban areas were matched to the data set of the Wave 1 in 2005, there are only 379 cases that were compatible. after selection of completed cases, there are 405 non-migrants in Bangkok-Nakornpathom and 3,475 non-migrants in Kanchanburi who are taken into account.

2.2 Research variables

The dependent variable is mental health, which is derived from an internationally validated instrument – the SF36 – that measures fine gradations in physical and mental health for a young adult population. The questions for mental health status contain five items (see Appendix A). The sum of average scores is 100. The value of the reliability coefficient alpha of the five mental health items of migrants before they moved is roughly 0.6 and after have moved is approximately 0.7. The value of the reliability coefficient alpha of non-migrants is around 0.6.

The independent variables are demographic variables (sex, age, and marital status), socioeconomic status (education and occupation), and health status from the SF36. The questions for general health status also contain five items (see Appendix B). The sum of average scores is 100. The value of the reliability coefficient alpha of the five health items of both migrants (before have moved and after have moved) and non-migrants are approximately 0.7.

The control variable is social connectedness. The questions for general health status contain 10 items (see Appendix C). The sum of average scores is100. The value of the reliability coefficient alpha of 5 health items of both migrants and non-migrants are nearly 1.

2.3 Data analysis

The data is analyzed using means and standard deviations to identify basic characteristics. In addition, the mean score on mental health is compared between migrants and non-migrants. Furthermore, the paper also uses regression analysis to analyze the factors that affect the mental health of migrants and non-migrants.

3. Results

3.1 Descriptive characteristics
3.1.1 Descriptive characteristics of migrants before the move in 2005 and after the move in 2007

The characteristics of 379 migrants before migration in 2005 and after migration in 2007-2008 are reported in Table 3.1.1. Approximately 47 percent of respondents were male. Average age before move was 19 and after the move was 21. Mental health status after migration had improved slightly compared to before migration (the mental health score before migration and after migration are 74 and 75). Their general health status after migration was slightly worse than that before migration. Social connectedness before migration was slightly better than that after migration. After migration, migrants have improved their education. Before migration, only 13 percent completed or was studying at the undergraduate level, while 45 percent of respondents after migration had completed or were studying at the undergraduate level. Nearly 60 percent were students and 18 percent worked in the agricultural sector before migration. After migration, the proportion of students and farmers had reduced to 43 percent and 2 percent, respectively. In addition, the occupational distribution had changed, with almost 40 percent working in sale/service and administrative/clerical position, and 19 percent employed in skilled and unskilled work. The percentage of ever married respondents increased from 19 percent to 29 percent.

Table 3.1.1: Descriptive statistics of 379 migrants comparing before their move with after their move

	Before move at original place (year 2005)				After move at destination place (year 2007-2008)			
	Min	Max	Mean	S.D.	Min	Max	Mean	S.D.
Sex (Male=1, female=0)	0	1	0.47	0.50	0	1	0.47	0.50
Age	15	29	18.89	3.32	16	31	21.07	3.40
Education								
Primary or less	0	1	0.15	0.36	0	1	0.13	0.33
Lower secondary	0	1	0.23	0.42	0	1	0.15	0.36
Higher secondary	0	1	0.49	0.50	0	1	0.27	0.44
Undergraduate or over	0	1	0.13	0.33	0	1	0.45	0.50
Occupation								
Agriculture	0	1	0.18	0.38	0	1	0.02	0.13
Sales/services	0	1	0.03	0.16	0	1	0.18	0.39
Administration/clerical	0	1	0.05	0.21	0	1	0.12	0.32
Skilled and unskilled labor	0	1	0.09	0.29	0	1	0.19	0.39
Student	0	1	0.58	0.49	0	1	0.45	0.50
Not in labor force	0	1	0.07	0.26	0	1	0.04	0.21
Marital Status (Ever married=1, Never married=0)	0	1	0.19	0.39	0	1	0.29	0.46
Scores of Physical heath status	10	100	67.96	16.85	20	100	68.56	15.62
Scores of Social connectedness	22.5	100	66.82	14.49	0	100	66.93	15.74
Scores of mental health	36	100	73.66	13.35	24	100	75.44	13.32

3.1.2 Descriptive characteristics of non-migrants at destination area and original area

The characteristics of 405 non-migrants at the destination area (urban area in Bangkok and Nakornpathon) and 3,475 non-migrants at the place of origin (Kanchanaburi province) are reported in Table 3.1.2. Approximately 41 percent of non-migrants and almost half of the non-migrants in the destination area were male. Age of non-migrants at origin and destination areas is different- score of 22 and 21 respectively. Although physical health status of non-migrants at origin and destination areas was not different, it seems that mental health status of non-migrants at origin was slightly better than those at destination area (score of 75 and 73). However, non-migrants' social connectedness at the destination was slightly better than those who live at the origin. Only 20 percent of non-migrants at the origin were studying or hadcompleted undergraduate level, compared to 40 percent of non-migrants at the place of destination. Nearly one-third at the origin had completed a primary level of education.

Table 3.1.2: Descriptive statistics comparing 3,475 non-migrants from the origin in 2007 with 405 non-migrants in destination in 2008

| | Non-migrants | | | | | | | |
| | Kanchanburi -original place (year 2007) | | | | Urban area at Bangkok and Nakornpathom -destination place (year 2008) | | | |
	Min	Max	Mean	S.D.	Min	Max	Mean	S.D.
Sex (Male=1, female=0)	0	1	0.41	0.49	0	1	0.47	0.50
Age	15	29	22.14	4.74	15	31	21.00	4.18
Education								
Primary or less	0	1	0.32	0.47	0	1	0.10	0.30
Lower secondary	0	1	0.22	0.41	0	1	0.19	0.39
Higher secondary	0	1	0.26	0.44	0	1	0.31	0.46
Undergraduate or over	0	1	0.20	0.40	0	1	0.40	0.49
Occupation								
Agriculture	0	1	0.38	0.49	0	1	0.01	0.12
Sales/services	0	1	0.07	0.26	0	1	0.17	0.38
Administration/clerical	0	1	0.12	0.32	0	1	0.16	0.37
Skilled and unskilled labor	0	1	0.13	0.34	0	1	0.19	0.39
Student	0	1	0.16	0.36	0	1	0.40	0.49
Not in labor force	0	1	0.14	0.35	0	1	0.06	0.24
Marital Status (Ever married=1, Never married=0)	0	1	0.60	0.49	0	1	0.30	0.46
Scores of Physical heath status	0	100	64.61	17.70	10	100	64.80	18.48
Scores of Social connectedness	0	100	64.68	16.70	17.5	100	66.64	17.21
Scores of mental health	8	96	74.53	13.41	24	96	72.68	14.04

Nearly two-fifths at the origin were in the agricultural sector while two-fifths at the destination were students. One-third at the destination and only 20 percent at the origin worked in sales/services and in the administrative sector. The percentage of ever married respondents at the origin was higher than that at destination place (60 percent and 30 percent respectively).

3.2 Mean score on mental health: characteristics of migrants and non-migrants

Mean score on mental health with regard to characteristics of migrants before the move and after the move is shown in Table 3.2.1, Columns 1 and 2. Moreover, the mean score on mental health of non-migrants at origin and destination is shown in Table 3.2.1, Columns 3 and 4.

The overall mean score on mental health slightly improved after migration. It appears that the mental health of migrants at the place of destination was slightly better than non-migrants, both in the origin and in the destination. Noticeably, mental health of non-migrants at the destination was the worst.

Female migrants both before and after the move were more likely to have a higher mental health score than were male migrants. Conversely, female non-migrants both at the origin and destination had a lower score than did males. The average score was lower for migrants aged 20-24 compared to other age groups, but their mental health clearly improved after move. Noticeably, young adolescent non-migrants (aged 15-19) in urban area were more likely to face mental health problems than were other age groups. Most ever married migrants and non-migrants scored lower than did single migrants.

Migrants before their move and and non-migrants at both origin and destination who had low education (primary level or less) had lower scores on mental health. Moreover, migrants before they moved and non-migrants in urban areas who worked in service and sale sectors had lower scores than those in other occupations. But after their move, migrants who worked in the agricultural sector had lower mental health scores than in other occupations.

The lower the physical health level among migrants and non-migrants, the less likely they were to face mental health problems. Similarly, the lower the level of social connectedness, the less likely they were to face mental health problem.

Table 3.2.1: Mean score on mental health (scale in SF36) of migrants before and after moved and non-migrants by individual characteristic, health status and social connectedness.

Characteristics	Mental health score* of			
	Migrants		Non-migrants	
	Before move at original place (year 2005)	After move at destination place (year 2007-2008)	Kanchanburi - original place (year 2007)	Urban area at Bangkok and Nakornpathom - destination place (year 2008)
Sex				
Male	72.24 (202 cases)	74.40 (202 cases)	75.99 (1415 cases)	73.16 (190 cases)
Female	75.28 (177 cases)	76.63 (177 cases)	73.53 (2060 cases)	72.26 (215 cases)
Age group				
15-19	74.61 (262 cases)	75.89 (150 cases)	74.85 (1191 cases)	72.05 (164 cases)
20-24	70.62 (81 cases)	74.79 (165 cases)	74.32 (937 cases)	72.84 (166 cases)
25+	73.66 (36 cases)	76.06 (64 cases)	74.40 (1347 cases)	73.71 (75 cases)
Education				
Primary or less	72.56 (57 cases)	76.50 (48 cases)	73.76 (1125 cases)	70.90 (40 cases)
Lower secondary	75.45 (87 cases)	72.83 (58 cases)	74.17 (759 cases)	75.63 (75 cases)
Higher secondary	73.20 (187 cases)	75.60 (101 cases)	74.84 (910 cases)	71.55 (126 cases)
Undergraduate or over	73.50 (48 cases)	75.93 (172 cases)	75.78 (681 cases)	72.63 (164 cases)
Occupation				
Agriculture	73.59 (68 cases)	70.29 (7 cases)	74.83 (1322 cases)	73.33 (6 cases)
Sales/services	67.20 (10 cases)	73.62 (69 cases)	74.79 (251 cases)	70.00 (70 cases)
Administration/clerical	80.67 (18 cases)	73.55 (44 cases)	74.09 (407 cases)	72.36 (66 cases)
Skilled and unskilled labor	73.78 (36 cases)	77.18 (71 cases)	74.42 (462 cases)	74.53 (77 cases)
Student	73.24 (220 cases)	76.70 (171 cases)	75.34 (539 cases)	73.29 (161 cases)
Not in labor force	74.81 (27 cases)	69.88 (17 cases)	73.20 (494 cases)	71.17 (24 cases)
Marital Status				
Never married	74.19 (308 cases)	75.99 (268 cases)	75.11 (1380 cases)	72.80 (284 cases)
Ever married	71.32 (71 cases)	74.13 (111 cases)	74.15 (2095 cases)	72.40 (121 cases)
Scores of Physical heath status				
Low (0-49)	66.03 (75 cases)	64.53 (53 cases)	67.53 (565 cases)	65.05 (76 cases)
Medium (50-84)	74.75 (255 cases)	76.67 (285 cases)	74.82 (2392 cases)	74.15 (259 cases)
High (85-100)	79.67 (49 cases)	80.98 (41 cases)	80.83 (518 cases)	75.54 (70 cases)
Scores of Social connectedness				
Low (0- 50 scores)	69.88 (51 case)	70.93 (56 cases)	70.95 (721 cases)	64.24 (85 cases)
Medium (51-82)	73.18 (272 cases)	75.24 (252 cases)	74.80 (2238 cases)	74.01 (247 cases)
High (83-100)	79.43 (56 cases)	79.72 (71 cases)	78.37 (516 cases)	78.03 (73 cases)
Overall mean on mental health	73.66 (379 cases)	75.44 (379 cases)	74.53 (3475 cases)	72.68 (405 cases)

Note: * Total mental health score=100.

3.3 Multivariate Analysis

3.3.1 Factors affect mental health of migrants comparing before move with after move

Table 3.3.1, Column 1 to 3, shows regression coefficients of migrants before they moved. Column 1 indicates that social connectedness is positively related to mental health when no other variable is controlled. After controlling for physical health (Column 2), the relationship between social connectedness and mental health decreases but remains significant. This implies that physical health of migrants before move is more likely related to mental health than social connectedness. However, when other variables are controlled (Column 3), three factors affect mental health, i.e. physical health, social connectedness and occupation. Respondents who were employed in administrative/clerical positions have higher mental health compared to respondents who were students and those who were unemployed have a higher mental health score than those who were students.

Table 3.3.1, Column 4 to 6, reports regression coefficients of migrants after migration. Column 4 to 6 indicate that social connectedness is still positively related to mental health even after physical health status, demographic and socioeconomic status are controlled. There are three factors affecting mental health, i.e. physical health, social connectedness and occupation. After migration, migrants who were unemployed had lower mental health score than migrants who were students.

Table 3.3.1: Regression coefficients on mental health of migrants comparing before move with after move

Characteristics	Before move at origin (year 2005)			After move at destination (year 2007-2008)		
	1	2	3	4	5	6
Individual factors						
Age			-0.475			0.259
Male (female®)			1.256			1.310
Married (never married®)			-1.669			-0.885
Occupation						
Agriculture			3.636			-3.006
Sales/services			-2.508			-2.957
Administration/clerical			9.846**			-1.440
Skilled and unskilled labor			3.704			0.878
Not in labor force			5.615*			-6.839*
Student ®						
Education (# year)			0.070			-0.002
Score of physical health status		0.253 ***	0.233***		0.306***	0.292***
Score of social connectedness	0.197***	0.133 **	0.136 ***	0.183 ***	0.156***	0.167***
Constant	60.507***	47.546***	54.880***	63.161***	44.233***	39.340***
Model fit (R^2)	**0.046**	**0.143**	**0.176**	**0.047**	**0.172**	**0.197**
N	**378**	**378**	**378**	**378**	**378**	**378**

® - Reference category   * P<.05   **P< .01   ***P< .001

3.3.2 Factors affect mental health of migrants and non-migrants

For migrants, there are three factors that affect mental health, i.e. physical health, social connectedness and occupation. Migrants who worked in the agricultural sector have higher scores than migrants who were students.

Table 3.3.2, Column 4 to 6, report regression coefficients of non-migrants at the place of origin place and Column 7 to 9 shows regression coefficients of non-migrants at place of destination. Results show that social connectedness for non-migrants at both origin and destination is strongly and positively associated with mental health, even when physical health and other variables are taken into account. Sex and education are also related to mental health of non-migrants at the place of origin. Non-migrants males at the origin have a higher score than do non-migrant females. Furthermore, the higher the level of education the higher the mental health score.

Table 3.3.2 : Regression coefficients on mental health of migrants and non-migrants in 2007-2008

Characteristics	Migrants			Non-migrants					
Characteristics				Origin			Destination place		
	1	2	3	4	5	6	7	8	9
Individual factors									
Age			-0.475			0.054			0.179
Male (female®)			1.256			1.352**			0.172
Married (never married®)			-1.669			0.070			0.573
Occupation									
Agriculture			3.636			0.708			1.574
Sales/services			-2.508			1.246			-1.930
Administration/clerical			9.846**			-0.288			-0.599
Skilled and unskilled labor			3.704			0.259			3.698
Not in labor force			5.615*			-0.196			-0.033
Student ®									
Education			0.070			0.054***			-0.056
Score of physical health status		0.253 ***	0.233***		0.227***	0.220***		0.176***	0.178***
Social connectedness	0.197***	0.133 **	0.136 ***	0.152 ***	0.126***	0.138***	0.297 ***	0.250***	0.270***
Constant	60.507***	47.546***	54.880***	64.698***	51.715***	48.432***	52.900***	44.613***	39.627***
Model fit (R^2) **N**	**0.046** **378**	**0.143** **378**	**0.176** **378**	**0.036** **3474**	**0.125** **3474**	**0.137** **3474**	**0.132** **404**	**0.183** **404**	**0.206** **404**

® - Reference category   * P<.05   **P< .01   ***P< .001

4. Conclusion

The level of mental health status of migrants after migration is better than before migration. It seems that the level of mental health status of non-migrants at the destination is worse than non-migrants at the origin and of migrants.

Although social connectedness was strongly associated with mental health scores of migrants both before the move and after the move, the influence of social connectedness before the move was slightly weaker when physical health status is taken into account. It appears that physical health status is more powerful than social connectedness in the origin. Social connectedness was still strongly related to mental health among migrants after they moved. Occupation also influenced mental health..

In comparison, migrants (after move) and non-migrants both in origin and destination settings, had their mental health strongly related to social connectedness. Moreover, health status had a powerful association with mental health. However, there are different demographic and socioeconomic factors influencing mental health for migrants and non-migrants. Migrants who were umemployed were likely to have a lower mental health score than migrants who were students. Non-migrant males at the origin were more likely to get a low mental health score than non-migrant females. In addition, the higher the level of education among non-migrants at the origin, the higher the mental health score. Demographic and socioeconomic factors have no influence on mental health for non-migrants at the place of destination.

References

Bhugra, Dinesh. 2004. *Migration and Mental Health.* **Acta Psychiatrica Scandinavica,** 109: 243-258.

De Jong, Gordon F., Aphichat Chamratrirong, and Quynh-Giand Tran. *For Better, For Worse: Life Satisfaction Consequences of Migration*. **International Migration Review**. 36(3): 838-863.

Fuller, Theodore D., Peerasit Kamnuansilpa, and Paul Lightfoot. 1990. *Urban Ties of Rural Thais*. **International Migration Review**, 24(3): 534-562.

Massey, Douglas S., Joaquin Arango, Graeme Hugo, Ali Kouaouci, Adela Pellegrino, and J. Edward Taylor. 1993. *Theories of International Migration: A Review and Appraisal*. **Population and Development Review**, 19(3): 431-466.

National Statistical Office. 2004. **Report of the Migration Survey**. Ministry of Information and Communication Technology. Bangkok.

Rukumnuaykit, Pungpond, and Piriya Pholphirul. 2007. *Happiness of Urban People*. In Thongthai, Varachai and Sureeporn Punpuing (eds), **Urbanization and Urban Life Style**. Pp.64-79. Population and Social Press. Bangkok.

Tilly, Charles, and C. Harold Brown. 1967. *On Uprooting, Kinship, and the Auspices of Migration.* **International Journal of Comparative Sociology.** 7: 139-164

Vega, William A., Bohdan Klody, Juan Ramon Valle. 1987. *Migration and Mental Health: An Empirical Test of Depression Risk Factors among Immigrant Mexican Women*. **International Migration Review**, 21(3): 512-530.

Young, Marta Y. 2001. *Moderators of Stress in Salvadoran Refugees: The Role of Social and Personal Resources*. **International Migration Review**, 35(3): 840-869.

Appendix A

The questions for **mental health** contain five items.

Questions	Mean			
	Migrants		Non-migrants	
	Before moved	After move	Kanchanburi	Urban area in Bangkok and Nakornpathom
1. Have you been a very nervous person?	77.7677	77.6263	78.9755	74.0741
2. Have you felt so down in the dumps that nothing could cheer you up	82.3737	84.0909	85.3986	79.7037
3. Have you felt calm and peaceful?	58.4848	60.8081	55.8158	59.8519
4. Have you felt downhearted and blue?	76.6667	78.4343	80.1094	76.4444
5. Have you been a happy person?	74.5455	74.6465	72.3568	73.3333
Average mean	**73.7677**	**75.1212**	74.5312	72.6815
Reliability coefficient alpha	**.5947**	**. 6640**	**.6035**	**.6479**

Appendix B

The questions for **health status** contain five items.

Questions	Mean			
	Migrants		Non-migrants	
	Before moved	After move	Kanchanburi	Urban area in Bangkok and Nakornpathom
1. In general, would you say your health is excellent, every good, good fair, or poor?	53.5354	52.2096	48.5612	49.6296
2. I seem to get sick a lot oeasier than other people (choose: definitely, mostly true, don't know, mostly false, definitely false).	73.3586	76.0732	70.5540	71.8519
3. I am as healthy as anybody I know (choose: definitely, mostly true, don't know, mostly false, definitely false).	76.4520	73.8005	71.8993	70.0617
4. I expect my health to get worse (choose: definitely, mostly true, don't know, mostly false, definitely false).	69.6338	72.0328	67.4604	69.1975
5. My health is excellent (choose: definitely, mostly true, don't know, mostly false, definitely false)	66.7929	66.4773	64.5971	63.2716
Average mean	**67.9545**	**68.1187**	64.6144	64.8025
Reliability coefficient alpha	**.6819**	**. 6919**	**.6991**	**.7382**

Appendix C

The questions for **social connectedness** contain 10 items.

Questions	Mean			
	Migrants		Non-migrants	
	Before moved	After move	Kanchanburi	Urban area in Bangkok and Nakornpathom
1. Has someone who willingly listens to you whenever you want to talk to?	66.9823	70.4545	64.4460	67.2222
2. Has someone who willingly has suggestion for you when you got problems?	68.4975	71.5278	65.1295	68.0247
3. Has someone who has a concern/good wish /love for you?	74.4949	76.1995	71.6906	75.7407
4. Has someone who helps you about work/job?	58.4596	55.1136	57.9568	59.0741
5. Has someone who encourages you when you want?	66.9192	71.2121	65.4245	68.7654
6. Have you talked /connected to someone who you trust?	68.1818	89.9495	65.1007	72.5309
7. Has someone who can provide you financial support?	61.3636	63.3838	57.1583	60.5556
8. Has someone who willingly takes care of you until you feel safe?	66.2879	61.4268	64.1511	63.4568
9. Has neighbor who you trust and you can depend on him/her?	57.9545	58.3333	59.2878	55.6790
10. Has someone take care of you when you are sick?	79.7348	72.6010	76.4101	75.3704
Average mean	**66.8876**	**67.0202**	64.6755	66.6420
Reliability coefficient alpha	**.8103**	**. 8552**	**.8469**	**.8599**