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Migration Processes and Self-Rated Health among Marriage Migrants in South Korea

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Abstract

Background—Research on migrant health mostly examines labor migrants, with some attention paid to the trauma faced by refugees. Marriage migrants represent an understudied vulnerable population in the migration and health literature.

Objectives—Drawing on a Social Determinants of Health (SDH) approach, we use a large Korean national survey and stratified multivariate regressions to examine the link between migration processes and the self-rated health of Korea's three largest ethnic groups of marriage migrants: Korean-Chinese, Vietnamese, and Han Chinese.

Results—We find that post-migration socioeconomic status and several social integration factors are associated with the health of marriage migrants of all three groups. Specifically, having more social relationships with Koreans is associated with good health among marriage migrants, while having more social relationships with co-ethnics is associated with worse health. Marriage migrants' perceived social status of their natal and marital families is a better predictor of their health than more objective measures such as their education attainment and that of their Korean husbands. The post-migration social gradients among all ethnic groups demonstrate a dose-response effect of marital family's social standing on marriage migrants' health, independent of their own education and the social standing of their natal families. Lastly, we find some ethnicity-specific predictors such as the association between higher educational level and worse health status among the Vietnamese. This variability by group suggests a more complex set of social determinants of health occurred during the marriage migration processes than a basic SDH framework would predict.

Conclusion—Using a new immigrant destination, South Korea, as an example, we conclude that, migration and health policies that reduce ethnicity-specific barriers and offer integration programs in early post-migration stages may offer a pathway to good health among marriage migrants.

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Keywords

Self-rated health; Social integration; Socioeconomic Status; Marriage migrants; South Korea

INTRODUCTION

The Social Determinants of Health (SDH) framework highlights social and structural forces that shape population health beyond individual knowledge, attitudes, and behaviors (WHO 2008, Blakely 2008). While the movement of large numbers of people across political boundaries is clearly shaped by social and structural processes, scholars do not commonly apply a SDH approach to understand how migration processes affects migrant health (Acevedo-Garcia et al. 2012, Dunn and Dyck 2000). Other than research on acculturation, health beliefs, and the lack of accessible and affordable healthcare for migrants, there is little work that investigates how transnational migration processes shape migrant health, except for the refugee populations.

Research on migrant health tends to focus on labor migrants or refugees. Transnational marriage migrants are a unique migrant group because they do not settle initially in ethnic enclaves like the other groups and their motive for migration is marriage. However, similar to other types of female migration, they may experience downward social mobility and are vulnerable to disempowerment in the migration processes (Piper 2004, Hugo 2000). To date, the limited research on the health of transnational marriage migrants has focused primarily on reproductive health issues (Xirasagar et al. 2010, Hsieh et al. 2011) and their vulnerabilities to social isolation, physical abuse and mental distress (Choi, Cheung, and Cheung 2012, Williams and Yu 2006, Choi et al. 2012). In this article, we examine the link between the migration processes and self-rated health among transnational marriage migrants in South Korea, a gendered migration flow at a new immigrant destination.

Patterns and Determinants of Self-Rated Health among Women Migrants

There is growing research about the differences between the migration experience of men and women (Asis 2003, Piper 2008). Scholars have emphasized the importance of gender as more than a control variable, noting that the patterns and determinants of male and female migrants' health status can vary due to differences in the migration processes and in the sending-receiving contexts (Llacer et al. 2007, Lopez-Gonzalez, Aravena, and Hummer 2005). More recent studies have documented the differential vulnerabilities among female and male migrants (Kim et al. 2013, Pottie et al. 2008). For example, women migrants' post-migration health trajectory was found to deteriorate more rapidly than men's during the first four years in the destination country (Kim et al. 2013). Furthermore, the inability to speak or read the language of the host society has a significantly negative effect on the health of female migrants but not on male migrants, suggesting that improved social integration may reduce women migrants' risk of poor health (Pottie et al. 2008).

In addition to the significant variations in health status among women migrants of different socio-demographic characteristics (Kim et al. 2013), recent studies have found that migrant women's health varies by the socioeconomic development of different countries of origin

(Singh Setia et al. 2011) and different migration statuses such as refugees versus live-in care workers. In contrast with women who migrate to join their husbands of the same country of origin, the self-selection of marriage migrants and their unique migration processes, as well as post-migration integration experience, may result in a different social patterning of general health status.

Socioeconomic Contexts Surrounding Migration and Migrant Health

A critique of current migrant health research is that it tends to decontextualize migrant populations in both the sending and receiving societies (Acevedo-Garcia et al. 2012). A "cross-national framework" avoids such decontextualization by examining migrant health from a population health perspective. This approach considers how the health of migrants may vary based on the societal push and pull factors of different migratory flows, health selection into migration, and economic development and health disparities between the sending and receiving societies (Acevedo-Garcia et al. 2012). Looking at the disconnect between existing migration policy and health policy, Zimmerman et al. (2011) emphasizes the importance of addressing the multiple phases of the migration process—pre-departure, travel, destination, interception, and return—in effectively protecting the health of migrants and the general populations (Zimmerman, Kiss, and Hossain 2011). The frameworks proposed by Acevedo-Garcia et al (2012) and Zimmerman et al (2011) comprehensively consider how migrant health can be affected by the broader socioeconomic and health contexts in the sending and receiving societies, as well as the immediate psychological and physical challenges migrants experience during the migration processes.

An individual's vulnerability to poor health is determined in part by the conditions of his or her socioeconomic group and the social power of the group the individual belongs to, thus socioeconomic status (SES) is viewed as a fundamental "cause of the causes" by SDH (WHO 2008, Solar and Irwin 2007). SES is an aggregate concept which contains resource-based and prestige-based measures, offering potential trajectories for different socioeconomic groups to having differential access to life chances, material resources, health-enhancing resources and exposure to health risks that determines the consequences of ill health (WHO 2008, Graham 2004, Krieger, Williams, and Moss 1997). Robust evidence demonstrates a positive association between socioeconomic status (measured by income, education, and occupation) and health status in all developed countries (Wilkinson and Pickett 2006), along with social gradients in self-rated health (Matthews, Manor, and Power 1999, Borg and Kristensen 2000). The income and educational gradients illustrate that "there is a generalized vulnerability to a wide range of threats to health that is associated with relatively lower social status" (Marmot et al. 1997, WHO 2008).

Findings from Canada indicate that socioeconomic factors are important to self-rated health and the presence of chronic conditions for both migrants and non-migrants, but more so for migrants—healthier migrants are those in the highest income quintile who have received a college degree (Dunn and Dyck 2000). In a study of migrant women from the former Yugoslavia in Australia, low SES following migration was identified as a key determinant to these women's poor self-rated health (Markovic, Manderson, and Kelaher 2002). A qualitative study of women who migrate to reunite with family found that the women

defined their health according to how well they are able to contribute to family wellbeing (Meadows, Thurston, and Melton 2001). Overall, migrant women's health experiences are affected by pre-and post-migration SES, motivations of migration, and post-migration experiences such as economic hardships and the lack of social support (Im and Yang 2006).

Social Integration and Self-Rated Health

Social integration is defined as "the extent to which an individual participates in a broad range of social relationships" (Brissette, Cohen, and Seeman 2000) and is a strong predictor of mortality and health outcomes among the general population (Berkman et al. 2000). Berkman et al (2000) discussed the interchangeability of the terms between social integration, social ties, and social networks in the health literature, as they all broadly refer to mezzo-level social processes linking macro-social structure and the micro-psychosocial mechanisms that affect human health. They conclude that characteristics of mezzo-level network ties provide opportunities for individuals to gain a sense of social integration through obtaining social support, acquiring social engagement and attachment, and having access to resources and material goods.

Some studies have demonstrated positive associations between social integration and good health for migrants, mostly in North America and Western Europe (Gorman, Ecklund, and Heard 2010, Todorova et al. 2013, Pearson and Geronimus 2011). Common measures of social integration include: availability and frequency of contacting friends or relatives, social interaction with neighbors, and participation in social activities such as church attendance or volunteering (Todorova et al. 2013, Gorman, Ecklund, and Heard 2010, Pearson and Geronimus 2011). One major distinction between measuring social integration of migrants and of the general population is that researchers are concerned about *with whom* migrants are socially interacting, namely their *social engagement with the mainstream society* or *co-ethnic networks*, because of their differing effects on migrant health and implications on migration policy. Few studies have specifically examined both migrants' social relationships with the dominant population and with co-ethnics. In a study using the National Jewish Population Survey in the United States, Pearson and Geronimus found that those who have more co-ethnic social ties have better self-rated health, while the effects are strongest among those of lower socioeconomic position (Pearson and Geronimus 2011). Compared with Chinese immigrants in the U.S., Kimbro et al (2012) found that Vietnamese have significantly more co-ethnic ties but receive less social support in general. Yet their results did not reveal significant associations between co-ethnic ties and social support with self-rated health among Chinese, Filipino, and Vietnamese immigrants (Kimbro, Gorman, and Schachter 2012).

Study Context: Marriage Migrants in South Korea

In Asia, the growing phenomenon of transnational marriage migration reflects the movement of women from less developed to wealthier countries (Jones and Shen 2008, Hugo 2005). As a rising economic power, Korea has seen a rapid increase in marriage migrants over the last decade, with the cumulative number reaching 284,000 in 2011 (Chosunilbo 2012). Such migration started due to the "bride deficit phenomenon," referring to Korean men in rural areas who suffer from disadvantageous positions in the domestic

marriage market. More recently, urban areas have also come to attract transnational migrant women for marriage with the demand coming from divorced men of low socioeconomic status and, most recently, never-married men (Lee, Seol, and Cho 2006).

Marriage migrants from different Asian countries have entered Korea at different times and have been driven by varied incentives. Chinese women of Korean ancestry began to enter Korea in the early 1990s after local Korean governments initiated “marriage tours” to recruit them as a solution for otherwise unmarriageable men in rural villages (Kim 2007b). Once Korea established formal relations with China in 1992, Han Chinese women in Northeastern China were also recruited to Korea as marriage migrants (Lee 2008). In the early 2000s, marriage migrants started to arrive from Vietnam and later from Cambodia, mostly through commercial arrangements involving Korean men who take “marriage tours” of Southeast Asia where the matchmaking takes place. To date, the largest ethnic group of marriage migrants in Korea is ethnic Koreans from China (Korean-Chinese), followed by Vietnamese and Han Chinese.

Several Confucian traditions in Korean families may affect the health of marriage migrants, including rigid gender role ideologies between husbands and wives and heavy responsibilities of daughters-in-law in the marital families. The Korean society as a whole tends to view marriage migrants as a homogeneous group and to treat them as inferior because they come from poorer Asian countries (Yoon, Song, and Bae 2008). These social realities place young migrant women into a multidimensional, disadvantaged social position.

In response to the rising number and the integration needs of marriage migrants, the Korean government has adopted social welfare policies to facilitate marriage migrants’ adjustment on the rationale that they have provided a segment of Korean men with the opportunity to continue their family line (Lee, Seol, and Cho 2006). For example, the Korean National Health Insurance Program automatically covers marriage migrants who hold a valid spouse visa. Furthermore, if they cannot afford to pay health insurance premiums after giving birth, the Korean government will provide financial assistance or waive the premiums. Such policies facilitate marriage migrants’ access to healthcare in Korea, indicating that socioeconomic factors and migration-related factors may be more significant determinants of their health than access to healthcare.

Korean marriage migrants present an ideal population to examine the associations between SES, social integration and self-rated health among marriage migrants. The varied backgrounds of the three groups being considered provide different levels of the opportunity to develop social relationships with other Koreans, which should lead to better health, while relations focused on co-ethnics could indicate broader social isolation and worse health. The SDH framework also suggests that both pre- and post-migration SES will be associated with better health across all groups.

METHODS

Data and Analytic Subsample

The 2009 National Survey on Multicultural Families in Korea was designed to study the living conditions of marriage migrants by the Korea Ministry for Health, Welfare, and Family Affairs. Face to face interviews in ten languages were attempted in 2009 with 130,001 married immigrant residents in Korea, including both naturalized and non-citizens and excluding marriage migrants whose spouses are naturalized foreigners or foreigners. The 73,669 respondents represents a 56 % response rate, producing a similar distribution in marriage migrants' education level and average age (Kim 2007a). We use a deidentified public use file provided by the Korea Institute for Health and Social Affairs. Our analytic subsamples are the three largest groups of female marriage migrants that reside in Korea: ethnic Koreans (Korean-Chinese) born in China (N=24,561), Han Chinese (N=9,292) and Vietnamese (N=19,363).

Dependent Variable: Self-Rated Health

The outcome measure is self-rated health. Self-rated health is a widely used global self-assessment of one's health related to several domains of life; it not only indicates the current level of health but also reflects one's health trajectories (Idler and Benyamini 1997). The predictive validity of self-rated health to mortality has been established in multiple developed countries across different age, gender, and SES groups (Burström and Fredlund 2001, Martikainen et al. 1999, Idler and Benyamini 1997). It shows high test-retest reliability and has been used as a general health status indicator among different migrant populations (McGee et al. 1999, Frisbie, Cho, and Hummer 2001, Norman, Boyle, and Rees 2005). We dichotomized health status as good (very good and quite good) versus other (neutral, bad, and very bad).

Measurement of Social Integration

We created two social integration variables to measure marriage migrants' number of different (1) social relationships with co-ethnics and (2) social relationships with native Koreans. Two questions in the survey identified marriage migrants' social relationships with others. Respondents were asked, "Who do you spend time with when you have personal or family trouble?" and "Who do you spend leisure time with or do recreation activities with?" Each respondent can choose one or more answers from: people from my home country, Korean people, and other foreigners.

With these six possible answers, we used principal component analysis and confirmed that four answers represent two different and negatively correlated dimensions of social integration among marriage migrants: (1) Social relationships with native Koreans: measured by (a) whether marriage migrants would go to a Korean friend when they are in trouble; and (b) whether marriage migrants spend leisure time with Koreans. (2) Social relationships with co-ethnic networks: measured by (a) whether marriage migrants would go to a co-ethnic friend when they are in trouble; and (b) whether marriage migrants spend leisure time with co-ethnic friends.

Other important independent variables that are associated with social integration and health in the literature include: Korean language proficiency, length of residence in the new country, and citizenship status. Language proficiency is a 3-item scale measuring how fluently the respondent speaks, reads, and writes Korean on a Likert scale of (1) very good to (5) very poor. These items were reversed, summed, and averaged to create a Korean language proficiency score. The Cronbach α value of Korean proficiency scale is .94. Years in Korea was coded into four groups with three cut-off points at 2 years (around the time when marriage migrants typically give birth to their first child), five years (an estimated average time for marriage migrants to obtain citizenship), and ten years (the time period when the migrant health advantage disappears in the U.S.). Citizenship status is based on whether respondents report Korean citizenship at the time of survey (yes=1/no=0)

Measurement of Pre- and Post-Migration Socioeconomic Status

Pre-migration SES indicators include marriage migrants' education and how they perceive their natal families' social standing in home countries (ranked from 0 to 10). Marriage migrants' social status in Korea is largely based on the social and economic status of their husbands, at least in the first few years upon arrival. Indicators of post-migration SES are the educational level of husbands and marriage migrant's perception of their marital families' social standing (ranked from 0 to 10) in Korea. Based on the frequency distributions, we coded education levels of both marriage migrants and their husbands as below primary school, junior high school, high school, and college and above. Perceived SES of natal and marital families were coded as poorest if the rank was from 0 to 2, poor (3 to 4), middle (rank at 5), and wealthy (6 to 10).

Other Covariates

As the literature suggests, we include other covariates such as socio-demographic factors and psychosocial difficulties that marriage migrants encountered that are correlated with self-rated health: the ages of wives and husbands, marital status (seven percent of Korean-Chinese marriage migrants were divorced at the time of survey), perceived discrimination (for its negative effects on self-rated health among migrants (Gee 2002)), economic hardship as indicated by having to borrow money for living during the previous year, and whether the couple met through commercial agency (labeled "marriage channel" below). We control for marriage migrants' own monthly income because almost half (48%) of marriage migrants did not engage in paid employment. Considering that marital family's household income may not transfer to marriage migrants' resources due to different family dynamics and household sizes, we control for household income in this article to emphasize the effects of other SES factors.

Analytic Strategy and Missing Data

To highlight both between- and within-group variations, we stratified all analyses by three different ethnic groups and country of origin: Korean-Chinese, Han Chinese, and Vietnamese. After observing descriptive associations between key independent variables and the outcome variable, multivariate logistic regression was used to examine the associations among social integration, socioeconomic status, and self-rated health. After holding other covariates constant, Model 1 through 5 represents the odds ratios of (1) social

integration factors, (2) pre-migration SES indicators, (3) post-migration SES indicators (4) pre- and post- migration SES indicators, and (5) all factors considered. Model a, b, and c each refers to the regression models of Korean-Chinese, Han Chinese, and the Vietnamese. All models in the analyses were unweighted.

Between 1% and 13% of key independent variables were missing across three ethnic groups. Husbands' education (7% to 12%) and social relationships with co-ethnics and with Koreans (10% to 13%) have the highest missing rate. Under the assumption they are missing at random, we use a multiple-imputation method in Stata 12.0. The command "mi impute chained" in Stata 12 works for both continuous and categorical variables which requires researchers to properly choose and assign imputation methods for variables included in the imputation model. We built the imputation model with all variables and created 10 complete data sets for running logistic regressions. After the data were imputed, we dropped observations without health outcomes (missing rate ranged from 1% to 1.5% among three ethnic groups). We report logistic regression results with imputed data to provide consistent estimates. Log likelihoods were not available in the multiple imputation modules in Stata 12.0, thus we examined model fit with the joint Wald test and confirmed that all models and differences across nested models were significant. Compared with regression analysis with listwise deletion approach and without multiple imputation, we found a slight difference in the effects of husbands' education on the health of Korean-Chinese women (changed from significant to non-significant in the full model) with the imputed data set. No other significant differences were observed.

RESULTS

Sample Characteristics

Table 1 displays the demographic characteristics and descriptive results of key variables among marriage migrants who are Korean-Chinese, Han Chinese, and Vietnamese. Korean-Chinese reported the lowest percentage of good health (47%), followed by the Vietnamese (50.5%), while the Han Chinese reported the highest (54%). Among the three ethnic groups, the Vietnamese are the most vulnerable: they have the youngest age, lowest education, and lowest perceived SES of natal families. In addition, a majority had arrived within the previous two years, and almost half had no social relationships with native Koreans. Korean-Chinese wives had a higher level of social integration: they were the most proficient in the Korean language, 59 percent had already obtained citizenship and nearly 40 percent had at least two types of social relationships with Koreans. Eighteen percent of Han Chinese women had a college degree, highest among the three groups; they also had a higher percentage ranking their natal families as wealthy in China. Among the Korean husbands, those who married Han Chinese had higher levels of education than the other two groups, while those who married Korean-Chinese were ranked the poorest by their wives (25% as poorest). Two-thirds (59%) of Vietnamese and Korean-Chinese ranked their current marital families as either poorest or poor, reflecting that their marital families are from relatively low strata of the Korean society.

Pre- and Post-Migration SES, Social Integration, and Self-Rated Health

After controlling for covariates, social relationships with native Koreans and co-ethnics have contradictory effects on the health of marriage migrants (Table 2). Across ethnic groups, having more types of social relationships with Koreans is positively and significantly associated with better health. Compared with Korean-Chinese and Han Chinese women who do not have any social relationships with Koreans, those who have two types of social relationships are 1.8 times more likely to report having good health. After controlling for the negative effects of perceived discrimination (a covariate in Models 1abc), having access to Koreans' help or spending leisure time together are protective of marriage migrants' health. Having more social relationships with co-ethnics is significantly and negatively associated with Vietnamese women's health only; those with two types of social relationship with co-ethnics have a 19 % lower odds of reporting good health. Among the other three social integration-related indicators, having acquired citizenship and having a longer stay in Korea are significant predictors of worse health among marriage migrants, independent of age.

As shown in Models 2a, 2b, and 2c in Table 3, there are mixed findings of the effect of marriage migrants' own education and natal family SES on their health. For Korean-Chinese and Vietnamese, higher natal family SES is protective of health with SES gradients, even after considering post-migration SES factors (Models 4a and 4c). However, compared with Han Chinese women who rated their natal family as poorest in China, those who come from wealthy families had a 21% lower odds of reporting good health (Model 4b). Marriage migrants' own education turned out to be most important for Vietnamese (Model 2c and 4c), for others it matters only for those with certain education levels.

The effects of increasing marital family SES alone, net of covariates, were consistently positive across all three groups, yet only husbands' education influenced the health of Korean-Chinese (Table 3, Model 3a). When their husbands had a college education, Korean-Chinese women were 1.3 times more likely to report good health than those whose husbands only completed primary school. However, such effects decreased in Model 4a after taking pre-migration SES into account. For the Vietnamese, those with husbands with a high school education were 1.6 times more likely to report good health compared to those with a primary school education. If we only look at the effects of marital family SES on marriage migrants' health, we see positive social gradients across the three ethnic groups.

In the full model considering both SES and social integration factors (Table 4), the social integration indicators that were statistically significant in Table 3 all remain significant with little changes in their coefficients. Yet, the effects of SES slightly decreased after including social integration factors in the model. First, high SES of marital families is the only significant predictor of good health with clear social gradients across all ethnic groups. Han Chinese women who perceived their marital families as wealthy are 2.6 times more likely to report good health than those who perceived their marital families as poorest (Model 5b). Another indicator of post-migration SES, husbands' education level, lost significance for marriage migrants' health after controlling for social integration. Regarding pre-migration SES indicators, significant effects of marriage migrants' own higher education on their health are significant among all Vietnamese and Han Chinese with junior high and high school education, yet the effects of higher education on health are negative rather than

protective (Model 5b and 5c). The reduction in odds of reporting good health of Vietnamese women with college degree increased from 19% (Model 4c in Table 4: SES only model) to 30% (Model 5c in Table 5: full model) in comparison with those who have primary school education and below. Finally, while the wealth of the natal family is protective of the health of Korean-Chinese and Vietnamese (Model 5a and 5c), the association is reversed for Han Chinese women (Model 5b).

DISCUSSION

Using the case of marriage migrants in South Korea, this article examines how pre- and post-migration SES and social integration influence their health. Consistent with research on social gradients in health from industrialized countries (WHO 2008), we find that higher post-migration social status of marriage migrants is significantly associated with good health among the three ethnicities analyzed. Regardless of marriage migrants' socioeconomic backgrounds in the sending countries, the existence of significant post-migration SES gradients in health illustrates the positive effects of marital families' social standing on marriage migrants' health. As the literature indicates, the common goal of transnational marriage migration from poorer to wealthier countries is to seek social, economic, and spatial mobility (Constable 2005). On the one hand, the protective effects of higher natal family social standing may directly indicate healthier living environments and improved access to high-quality healthcare prior to migration. On the other hand, the mechanisms linking higher marital family social standing to marriage migrants' health may indirectly involve the psychosocial enhancement of well-being that comes from obtaining a new identity associated with higher social status in the host society, in addition to the material benefits involved. The psychological effects may be even more important in a patriarchal and patrilineal society like Korea.

Contrary to the SDH literature that finds high educational attainment protective of one's health in general (Blane 1999), marriage migrants who had higher education reported poorer health than those with only a primary school education, similar to research on Latino migrants in the U.S. (Acevedo-Garcia et al. 2012, Zsembik and Fennell 2005). Researchers attribute the reversed effects of higher education on Latino's health to higher education promoting acculturation, which can result in negative health behaviors (Zsembik and Fennell 2005). For marriage migrants in Korea who are "inserted" into different Korean families, a more plausible explanation would be that those with higher education experience more challenges in social integration — e.g. acculturative stress, ethnic discrimination and other negative experiences—which may erode other protective effects of education on health (Takeuchi et al. 2002, Acevedo-Garcia et al. 2012). Taking Vietnamese women with college degree as an example, the main task of marriage migrants in the first few post-migration years is to overcome challenges in managing cross-cultural marriage and family life in Korea, which requires socialization skills and knowledge that they did not learn in college and may entail an unexpected degree of subservience compared to that experienced in college. There may also be a selection effect, with only the healthiest from the low education group successfully migrating through marriage, while highly-educated women may be more successful in migrating with lower than average health, as suggested in a study on Mexican migrants in the U.S.(Acevedo-Garcia, Soobader, and Berkman 2005).

Consistent with the literature on social relationships and health (Cohen 2004, Berkman et al. 2000), we find that more social relationships with the dominant population is positively associated with migrants' health, after controlling for perceived discrimination. Social relationships that marriage migrants maintain with Koreans may represent the extent to which marital families and the Korean society accept them as legitimate members. In addition to obtaining social support and useful information through word of mouth, regular social engagement outside the marital family may also prevent marriage migrants from social isolation and integration-related maltreatment from husbands or in-laws.

Previous research on co-ethnic social ties find either a positive (Pearson and Geronimus 2011) or a null association (Kimbro, Gorman, and Schachter 2012) with self-rated health of migrants. In contrast, we find that more social interaction with co-ethnics is associated with worse health for Vietnamese marriage migrants, even after controlling for other covariates. While the literature from the U.S. suggests that "ethnic enclaves" provide a "cultural buffer" to the health-harming effects of American mainstream culture (Zsembik and Fennell 2005), these women do not live enmeshed in supportive homeland enclaves but rather live in a new society. It is possible that having more social interactions with co-ethnics in this context may induce social isolation rather than create segmented integration. It is not clear whether the Vietnamese choose to interact only with co-ethnics, or they experience more difficulties in establishing social relationships with Koreans. In addition, more than half of the Vietnamese had entered Korea within the past two to five years, so being stay-at-home mothers likely provided little opportunity to establish social networks with the dominant population (Llacer et al. 2007).

Among other social integration-related indicators, the significant associations between longer length of stay and worse health, independent of age, have important policy implications. For example, compared with Han Chinese women who had arrived within the previous two years, those Han Chinese women whose length of stay were between two to five years reported 26 percent lower odds of having good health. This reduction in the odds of reporting good health can also be observed among the other two ethnic groups, suggesting that marriage migrants' health erodes rapidly during after arrival regardless of their age and marriage channel. This is consistent with other research that find that the migrant health advantage disappears over time (Kim et al. 2013). More puzzling is the association between Korean citizenship and poor health after controlling for age and length of stay. As described earlier, the Korean government provides health insurance and welfare programs to marriage migrants before they acquire citizenship status, so poor health is not a likely motivation to apply quickly for citizenship to obtain health care, though it might be a motivation to obtain social services and civil rights that are limited to Korean citizens.

The ethnicity-specific predictors of good health in our analysis are similar to other research that finds variations across different countries of origin or ethnicity among women migrants (Kim et al. 2013, Singh Setia et al. 2011, Iglesias et al. 2003), which may be related to different social and health contexts in countries of origin and their distinctive reasons for migration. Han Chinese women have the largest percentages that come from wealthy families (21%) and who went to college (18%), but negative associations between education and health, as well as natal family social standing and health, were observed. The negative

effects of education and wealth may be the result of different processes of social integration or self-selection of the healthiest among the lowest educated and with poorest family backgrounds in China, similar to the experience of highly educated Vietnamese. However, the negative effects of education disappeared for Han Chinese women with a college degree, signaling that higher education in China may have translated into human capital in Korea that protects their health. As noted by Yeh and others (Yeh et al. 2013), more married women follow patrilineal norms in Taiwan than China, showing that Chinese women are less affected by the Confucian traditions than Taiwanese women, despite that Taiwan and China are at different stages of economic development. Thus another possible interpretation of the inverse relationship between higher education and health would be that Han Chinese women are less tolerant of Korean patriarchal norms, especially those who received more pre-migration education. Having to adjust to such culture may have taken a toll on their health.

Limitations of the current analysis include the single self-reported health indicator, cross sectional data, health selection effects, and potential sampling bias. Subjective health may be better measured with scales instead of one single question on self-rated health. However, this single item is well validated as strongly associated with mortality and more complex measures were not available in the dataset. Cross-sectional data makes it difficult to prove causality, but the selection bias towards healthy migrants provides support for the interpretation that the social factors examined affected health rather than the other way around; that is to say, it is unlikely that marriage migrants' health affects the relative social standing of marital families in Korea, but is more logical that higher social standing of Korean marital families affects marriage migrants' health. As mentioned in Norman and others' work (Riva, Curtis, and Norman 2011, Norman, Boyle, and Rees 2005, Norman and Boyle 2014), we could not exclude health selection effects among marriage migrants and the survey does not cover their pre-migration health status. However, considering that this article compares marriage migrants of different ethnicity and countries of origin, but not marriage migrants with non-marriage migrants, such effects may only have a slight impact on our research findings. Lastly, we also do not have information on the socio-demographic backgrounds of the non-respondents of this survey. The sample distribution corresponds to previous research in Korea, suggesting little selection bias on SES measures, but bias in some of the migration related variables cannot be ruled out.

Understanding how migration processes influence migrant health can inform health and migration policy. Since 2006, over 200 multicultural family centers have been established countrywide in Korea (Choe 2012). Effective integration programs at early post-migration stages may identify at-risk transnational couples with weaker family support, and improve marriage migrants' health trajectories. Two-way social integration policy not only should direct Koreans to respect and appreciate diverse cultures that marriage migrants bring into the society, but also should encourage Koreans to interact with marriage migrants. Overall, the variability by ethnic group that we found suggests a more complex set of social determinants of health occurred during the marriage migration processes than a basic SDH framework would predict. In addition to the importance of dyadic gaps in age, education, and SES between marriage migrants and their husbands on their wellbeing (Chang,

forthcoming 2015), future research should take into account the sending and receiving contexts that migrants experience in the migration processes especially for migrant women.

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Table 1

Health, Sociodemographics of Marriage Migrants and Their Husbands, and Social Integration of Marriage Migrants from China and Vietnam in South Korea

	Ethnicity			Statistics
	Korean-Chinese (%)	**Han Chinese (%)**	**Vietnamese (%)**	**Chi square/ANOVA**
Unweighted N	24,561	9,294	19,363	
Self-Rated Health				P<.001
Very good	12.3	17.2	28.4	
Good	35.1	36.8	22.1	
Neutral	36.1	35.2	42.9	
Bad	13.6	9.6	6.3	
Very bad	2.9	1.2	0.4	
Wives' Age				P<.001
Mean (SD)	39.8 (9.6)	34.1(8.2)	24.7 (4.5)	
Wives' Education level				P<.001
Primary school and below	5.9	4.7	20.3	
Junior high school	28.1	32.5	41.9	
High school	52.2	44.9	33.8	
College and above	13.2	17.9	3.9	
Natal Family SES				P<.001
Poorest (0–2)	14.7	11.6	28.5	
Poor (3–4)	15.4	15.9	33.5	
Middle (5)	48.1	49.6	26.7	
Wealthy (6–10)	18.9	20.8	6.4	
Husbands' Age				P<.001
Mean(SD)	46.7 (9.3)	43.0 (8.3)	41.7 (6.1)	
Husbands' Education Level				P<.001
Primary school and below	7.8	3.5	6.2	
Junior high school	18.2	12.6	19.4	
High school	50.2	50.3	45.2	
College and above	14.9	26.2	16.7	
Marital Family SES				P<.001
Poorest (0–2)	32.1	24.7	19.1	
Poor (3–4)	27.3	27.5	40.0	
Middle (5)	35.3	40.8	35.0	
Wealthy (6–10)	5.3	7.0	6.0	
Social Relationships w/ Koreans				P<.001
Two aspects	42.9	30.0	21.1	
One aspect	23.6	25.8	29.9	
None	33.4	44.2	49.0	
Social Relationship w/ Co-ethnics				P<.001

	Ethnicity			Statistics
	Korean-Chinese (%)	**Han Chinese (%)**	**Vietnamese (%)**	**Chi square/ANOVA**
Two aspects	19.5	42.8	36.4	
One aspect	22.8	29.0	34.1	
None	57.7	42.8	29.5	
Length of Stay				P<.001
0–2 years	7.0	36.1	38.3	
2–5 years	29.0	38.5	53.0	
5–10 years	36.5	17.1	7.7	
More than 10 years	27.5	8.3	1.0	
Korean Citizenship				P<.001
Have acquired citizenship	59.7	23.1	12.3	
Korean Proficiency Scale (Range: 1 to 5)				P<.001
Mean (SD)	4.02(.94)	2.82 (1.01)	2.66 (.82)	

Table 2

Logistic Regression of Social Integration on Very Good and Good Self-Rated Health, Marriage Migrants from China and Vietnam in South Korea, 2009

	Korean-Chinese	Han Chinese	Vietnamese
	Model 1a (OR)	**Model 1b (OR)**	**Model 1c (OR)**
Social Relationships w/ Koreans			
None	Ref	Ref	Ref
One type	1.42***	1.26***	1.15***
Two types	1.86***	1.82***	1.60***
Social Relationships w/ Co-ethnics			
None	Ref	Ref	Ref
One type	1.03	.99	.82***
Two types	1.05	.98	78 ***
Language Skill			
Korean Proficiency	1.32***	1.19***	1.22***
Citizenship Status			
Not yet acquired	Ref	Ref	Ref
Acquired citizenship	.77***	.83**	.73***
Length of Stay			
0–2 years	Ref	Ref	Ref
2–5 years	.84**	.74***	.86***
5–10 years	.78***	.76**	.78**
More than 10 years	.79***	.63***	.64*

* p<.05,

** p<.01,

*** p<.001

Note: After controlling for marriage migrants' own monthly income, household monthly income, wives' age, husbands' age, perceived discrimination, marriage channel, economic hardship, and marital status.

Table 3

Logistic Regression of Pre-and Post-Migration Socioeconomic Status on Very Good and Good Self-rated Health, Marriage Migrants from China and Vietnam in South Korea, 2009

	Korean-Chinese			Han Chinese			Vietnamese		
	Model 2a	**Model 3a**	**Model 4a**	**Model 2b**	**Model 3b**	**Model 4b**	**Model 2c**	**Model 3c**	**Model 4c**
	Pre-SES (OR)	**Post-SES (OR)**	**Pre- and post-SES (OR)**	**Pre-SES (OR)**	**Post-SES (OR)**	**Pre- and Post-SES (OR)**	**Pre-SES (OR)**	**Post-SES (OR)**	**Pre- and post-SES (OR)**
Pre-Migration SES									
Wives' Education									
Below primary school	Ref		Ref	Ref		Ref	Ref		Ref
Junior high school	0.99		.99	.68**		.69***	.81***		.81***
High school	1.13		1.16	.77*		.79*	.74***		.72***
College and above	1.22*		1.20*	.98		.98	.80**		.81**
Natal Family SES									
Poorest (0–2)	Ref		Ref	Ref		Ref	Ref		Ref
Poor (3–4)	1.30***		1.19**	.87		.81*	1.09*		1.04
Middle (5)	1.39***		1.15**	.97		.80**	1.39***		1.20***
Wealthy (6–10)	1.58***		1.31***	.99		.79**	1.79***		1.39***
Post-Migration SES									
Husbands' Education									
Below primary school		Ref	Ref		Ref	Ref		Ref	Ref
Junior high school		1.04	1.04		.89	.95		.93	1.01
High school		1.15*	1.11		.94	.98		1.04	1.16*
College and above		1.30***	1.21*		1.01	.98		.93	1.03
Marital Family SES									
Poorest (1–2)		Ref	Ref		Ref	Ref		Ref	Ref
Poor (3–4)		1.35***	1.28***		1.11	1.15*		1.22***	1.21***
Middle (5)		1.72***	1.65***		1.62***	1.72***		1.54***	1.40***

	Korean-Chinese			Han Chinese			Vietnamese		
	Model 2a	**Model 3a**	**Model 4a**	**Model 2b**	**Model 3b**	**Model 4b**	**Model 2c**	**Model 3c**	**Model 4c**
	Pre-SES (OR)	**Post-SES (OR)**	**Pre- and post-SES (OR)**	**Pre-SES (OR)**	**Post-SES (OR)**	**Pre- and Post-SES (OR)**	**Pre-SES (OR)**	**Post-SES (OR)**	**Pre- and post-SES (OR)**
Wealthy (6–10)		2.18***	1.99***		2.77***	2.86***		2.72***	2.39***

* p<.05,

** p<.01,

*** p<.001

Note: after controlling for wives' own monthly income, household monthly income, wives' age, husbands' age, perceived discrimination, marriage channel, economic hardship, and marital status.

Table 4

Logistic Regression of Social Integration and SES on Very Good and Good Self-rated Health, Marriage Migrants from China and Vietnam in South Korea, 2009

	Korean-Chinese	Han Chinese	Vietnamese
	Model 5a (OR)	**Model 5b (OR)**	**Model 5c (OR)**
Socioeconomic Factors			
Wives' Education			
Below primary school	Ref	Ref	Ref
Junior high school	.94	.68***	.78***
High school	1.01	.77*	.68***
College and above	1.04	.90	.70***
Natal Family SES			
Poorest (0–2)	Ref	Ref	Ref
Poor (3–4)	1.17**	.84*	1.03
Middle (5)	1.16***	.84*	1.19***
Wealthy (6–10)	1.34***	.85	1.38***
Husbands' Education			
Below primary school	Ref	Ref	Ref
Junior high school	1.05	.95	1.003
High school	1.11	.99	1.14
College and above	1.15	.99	1.001
Marital Family SES			
Poorest (0–2)	Ref	Ref	Ref
Poor (3–4)	1.26***	1.11	1.17**
Middle (5)	1.58***	1.62***	1.34***
Wealthy (6–10)	1.82***	2.56***	2.20***
Social Integration			
Social Relationships w/ Koreans			
None	Ref	Ref	Ref
One aspect	1.38***	1.23**	1.15***
Two aspects	1.77***	1.73***	1.55***
Social Relationships w/ Co-ethnics			
None	Ref	Ref	Ref
One aspect	1.02	.98	.83***
Two aspects	1.03	.97	.79***
Language Skills			
Korean Proficiency scale	1.31***	1.15***	1.23***
Citizenship Status			
Not yet acquired	Ref	Ref	Ref

	Korean-Chinese	Han Chinese	Vietnamese
	Model 5a (OR)	**Model 5b (OR)**	**Model 5c (OR)**
Acquired citizenship	.76***	.84**	.73***
Length of Stay			
0–2 years	Ref	Ref	Ref
2–5 years	.86**	.74***	.84***
5–10 years	.79***	.75***	.75***
More than 10 years	.79***	.62***	.64*

* p<.05,

** p<.01,

*** p<.001

Note: After controlling for wives' own monthly income, household monthly income, wives' age, husbands' age, perceived discrimination, marriage channel, economic hardship, and marital status.