

The Effects of husband's Education on Female Migrant Partner's Health and Life Satisfaction in South Korea.

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Abstract

The present study examines the magnitude of the effect of husband's education on migrant wife's self-reported health and life satisfaction in South Korea. Data are drawn from a National Survey on Multicultural Families 2009. In the current study female marriage migrants age 14 and over who came from China, Vietnam, Philippines, and Japan or are ethnic Korean Chinese ($n=63,048$). The respondents who are divorced or widowed ($n=3,628$) and those with missing information are not included in the analysis. We used self-reported health status and life satisfaction as health outcomes. Independent variables are largely divided into three dimensions: female migrant characteristics, husband characteristics and couple's characteristics. We used logistic regression models to estimate the relationship between the main covariates of interest and the two outcomes of interest. Also interaction term between husband's education and duration of marriage was applied. Results show suggested that there are significant disparities of SRH and life satisfaction among female migrant partners by husband's educational attainment and the effect is greater than that of migrant women's own education. These significant differences in health outcomes were found even after adjustment for all other variables. After controlling for other characteristics, the education of migrant women is partially associated with their own SRH however, the effect is than the effect of husband's education on wives' SRH. Of interest is that education of marriage migrant women has a negative effect on their life satisfaction. We also found significant interaction effect between husband's education and duration of marriage.

Introduction

Since the second half of the twentieth century, international migration has followed a gendered pattern within the Asia Pacific and Latin American regions. Since 1970s, gender has emerged as an important issue in migration scholarship with a chief focus on the timing and trigger factors for women migrants (Curran et al. 2006). Researchers have suggested two main trends in female international migration: labor and family-formation migration. Female labor migration has considerably increased over the past decade to meet the increasing demands for unskilled workers and the sex-work sector in developed countries. Migration for family formation is another main trend in female migration, which has been focused on Western countries. Studies of migration explained this migration within a family context that usually female migrants follow their husbands who migrated before that (Donato 2010). However female international migration within the context of family formation has also emerged in East and South East Asia in the form of international marriage. The number of women who enter into international marriages has been increased with accelerated labor migration flows in Asia (Piper 1999). International marriage migration has different features from family-forming migration in terms of the purpose of migration, the migration process and the relationship between partners (Piper 2003).

As it is a particular type of family-forming female migration, which mostly occurs in countries in Asia, little information is available for the health determinants of marriage migrant women. The reason is that health issues among marriage migrant women have not received appropriate attention from the research scholarship in Asia and other regions as well (Hattar-Pollara and Meleis 1995; Wang and Chang 2002). If any, prior studies often view health problems of marriage migrant women from

Western perspectives that scholarship has attention to health disparities by immigrant partner's race/ethnicity and the association with immigration policies.

A deep understanding of forming health among marriage migrant women is made based on considerations of background of international migration and its process, and life environments in host country. Thus we argue one aspect of mechanisms that drives health of marriage migrant women in South East Asia with special attention to the migrant women's strong dependency on their husbands and unequal partner relationship in South Korea. In the later section we describe how high marriage migrant women's dependency on husband have developed on the basis the international marriage process and context of South Korea marriage market.

Background and Literature Review

For several decades, countries in East and Southeast Asia have experienced dramatic increases in international marriage (Jones and Shen 2008). Since the 1980s, South Korea, Taiwan, Japan and Singapore, in particular, have experienced considerable growth in migration, largely due to the steady increase in international marriage in this region (Wang and Chang 2002). The literature has isolated several common trends of international marriage migration among these four countries (Jones 2012). Specific to Korea, two patterns of international marriage have emerged. First, cross-border marriage in Korea is dominated by female migrants; a trend that is commonly referred to as the "feminization of migration. (Lee 2008b)" Between 2000 and 2010, the proportion of international marriage in Korea grew from 3.5% to 10.5% of all marriages. Further, 76.7% of all international marriages were between Korean males and foreign females in 2010 (Kim 2008c; Lee, Seol and Cho 2006). Second, the

majority of foreign women who marry Korean spouses originate in less developed countries in East and South East Asia, such as Vietnam, Philippines and rural China (Jones and Shen 2008; Kim 2008c; Lee 2008a; Lee, Seol and Cho 2006).

There are health implications connected to migration that are specific to women who enter into international marriages and form families in destination countries, particularly because they migrate very young and remain in the country of destination for longer periods of time. From both demographic and human rights perspectives, the health outcomes of international migrant women are cause for concerns. With respect to potential demographic consequences, foreign women who marry Korean spouses are likely to migrate at young ages and give birth in short time after migration (Jeong et al. 2009). The increasing number of marriage migrant women and the children born from them will inevitably affect the population structure of Korea (Yang 2010). Further, since Korea's fertility rate has remained below replacement level for years, the country could be vulnerable to the interrelated population concerns of a rapidly aging society and a significantly diminishing labor force. It is suggested that the influx of international female migrants at the point of family formation has offset the negative consequences of low fertility and ageing population on Korea's economy by compensating for Korea's dwindling native labor force for the foreseeable future (Poston and Bouvier 2010). From a human rights perspective, the health consequences of female migration are important practical concerns with long term repercussions. While the number of marriage migrant women has been increasing, recent statistics have consistently shown that marriage migrant partners in South Korea are likely to suffer from various health-related problems and severe poverty (Kim et al. 2010). In 2005, the Ministry of Health and Welfare found that close to 53% of multicultural families with foreign brides were below the poverty threshold. Further, of those living in poverty, nearly 15.5% of

foreign brides reported sometimes skipping meals due to financial constraints. With respect to health care access, 11.3% of foreign women who enter into international marriages were excluded from receiving health benefits and 55.3% were unable to continue needed medical treatment due to financial constraints (Korea Ministry of Health, 2008). Given that maternal health is highly associated with fetal health and later child health outcomes, health problems among marriage migrant women may be crucial issue. (Lee, Lee and Kim 2012b) .

We argue that husband's characteristics play an important role in health implications of marriage migrant women in Korea. In fact, many empirical and theoretical studies have attempted to investigate the influence of partner's socioeconomic status (SES) on own health and health behaviors. Although there were a few differences in results based on research contexts, studies have consistently shown that a person's socioeconomic characteristics and his or her spouse's health outcomes are significantly associated (Martikainen 1995; Monden et al. 2003a; Moser, Pugh and Goldblatt 1988; Van Berkel and De Graaf 1995). Yet most of this research was conducted during the 1980s and 1990s when female labor force participation was much less common. In addition, previous research on this topic presumed that husbands were the breadwinners, while wives were homemakers who did not work outside the home. Some authors even claimed that husbands' SES provides more reliable measures for wives' SES than that of themselves (Martikainen 1995). However, like other industrialized countries, South Korea has experienced greater gender equality as women's social participation has increased and as Korean society has become more westernized. In 2009, dual-earner couples reached 40% of all households in Korea. Therefore, husbands' SES is no longer an accurate indication of wives' SES in present day Korean society. However, in the case of multicultural families with foreign brides, relationships follow a patriarchal family structure in which foreign wives' are highly dependent on

their husbands, both economically and psychologically. Therefore, even if the framework from earlier studies may no longer explain the reality of South Korean partner relationships, it still has some relevance in the case of multicultural families with foreign brides, which follow a more traditional configuration.

The high dependence of foreign wives on native-born husbands is facilitated in part by each marital partner's motivation to enter into an international marriage. Foreign women who immigrate to South Korea may do so for the express purpose of seeking a Korean husband, or they may immigrate as labor migrants. For women who immigrate to the country as labor migrants – large proportion of whom are ethnic Chinese Korean- marriage is a means to maintain residency and, therefore, continue employment in Korea(Seol et al. 2005b). Whether women migrated to South Korea for the purpose of marriage or seeking for job opportunities, foreign women are largely motivated to marry Korean males out of economic necessity (Lee, Seol and Cho 2006). For women who come to Korea for marriage, the motivation is largely based on finding a way to escape economic disadvantage in their home countries, improve their quality of life and obtain financial support from husbands for family members in the country of origin (Lee, Lee and Kim 2012b; Lu 2005). Results from a survey in 2007 revealed that 70% of female migrant partners entered Korea for the purpose of marriage and among all Vietnamese and Filipino immigrants that entered Korea that same year, 90% immigrated in order to marry Korean men (Jung 2007). In the circumstances, women possibly entered Korea without appropriate preparation for participating in the labor market, because they expected financial support from husbands in Korea. Furthermore, irrespective of nationality and ethnicity, female migrant partners are generally marginalized in the labor market or occupy unskilled lower paid jobs because they lack the language and work skills demanded in higher paid industries (Seol, Lee and Cho 2006a).

Unsurprisingly, the marriage migrant partners tend to heavily, or totally, depend on husbands' financial conditions while married (Lee, Lee and Kim 2012a). Prior studies have pointed that this imbalance in economic power and social status between partners is the primary reason for a gendered difference in household decision-making power, gender inequality, women's marital dependency and even spousal abuse (Kalmuss and Straus 1982; Lee 2008a; Lim 1997; Warner, Lee and Lee 1986).

Apart from this individual economic motivation framework, the background of the international marriage process in South Korea also explains strong marriage migrant women dependence on their husbands. With rapid urbanization of Korean society since the 1950s, women have attained a higher level of education and increased their participation in the labor market. In order to pursue these educational and occupational goals, women marry at later ages, or sometimes they forgo marriage altogether (Hyeja 2008; Hyeonhwa et al. 2008). This demographic shift in marital formation combines with a strong son preference and below replacement fertility in South Korea to reduce the number of women of marriageable age in the country, which accelerates a deficit of domestic female partners (Doosub 2004). This phenomenon is referred to as the "marriage squeeze." Under these circumstances, Korean males have difficulty finding native-born women of marriageable age in the domestic marriage market (Kim 2008c; Wang and Chang 2002). Korean males are then forced to find prospective wives in other countries. Korean males usually attempt to find foreign brides in low income countries in Asia because these countries have cultures of marriage that are especially similar to South Korea and in there, numerous potential brides exist which gives Korean males a wide opportunity. Also Korean males can take advantage of their country's higher economic position to attract mates. The Korean men who have been especially involved in the international marriage process are characterized by low socioeconomic status, such as never-married males living in rural

farming communities, or low-income divorced males living in urban areas (Lee, Seol and Cho 2006). Although a portion of international marriages are mediated through personal networks, or through the Unification Church, a large share of marriages are arranged by profit-oriented agencies (or commercialized brokers), which have played an important role in increasing the cross-border marriage market in Asia (Kim 2008c; Wang 2007). These international marriage agencies arrange meetings between local women in less developed countries and marginalized men in Korea. The international marriage market process takes only a few weeks and men pay a sizable fee to meet potential wives (Park, Park and Kim 2007). This process is defined by previous scholars as “mail-order brides” or the “commodification of cross-border marriage” (Wang and Chang 2002) which differs from the traditional concept of arranged marriage based on mutual understanding (Wang 2007). Because international marriages begin as economic arrangements, Korean husbands think of themselves as “owners” and think of their foreign wives as “products” and this concept in relationship continues throughout the marriages (Kim 2008b). This process establishes the high expectation that foreign-born wives will not only “serve” their husbands and their parents-in-law, but also continue their husbands’ lineage by bearing a child (Lim 1997). Accordingly, international marriages between foreign women and Korean males are likely to begin with male-dominated partner relationships, creating more patriarchal family structures in which male’s socioeconomic status, health behaviors and lifestyle tend to determine those of household (Lee, Lee and Kim 2012b).

In addition to economic or material dependency, psychological dimensions also may contribute to the strong husband dependency observed among foreign wives. Generally, migrants, including those who come to Korea face decreased social support due to the separation from family members and friends who remain in their countries of origin. Although local governments offer various

programs to offer female migrant partners social support, it is difficult to recover the decreased social support among marriage migrant women because of their limited living space in households and because they have little opportunity for social interaction because they do not work outside the home and they have no prior social connections in Korea (Jung and Kang 2008) and rural area residence in which institutions for social activities are relatively rare (Kim 2007). Under these circumstances, husbands are an important source of direct social support and also provide social networks by helping foreign wives to establish other types of social connections (Jeong et al. 2009).

Another factor influencing marriage migrant women's subordinate position in households is the procedure of obtaining residency status in South Korea. In order to gain citizenship, immigrants must maintain residence in the country for at least two years and women must obtain consent from their husbands. Usually, it is difficult for migrant wives to complete required paperwork and meet other citizenship requirements on their own due to language barriers and cultural differences. Furthermore, sometimes native-born husbands and their family members refuse to support the foreign wife in their quest for citizenship (Kim 2010). Although there is a high rate of divorce among female migrant partners, previous studies indicate that marriage migrant women have few alternatives but to remain in their current marriages. Divorce is viewed in negative terms by friends and family, which creates a barrier to dissolving marriage (Lee, Lee and Kim 2012b). Should a foreign woman divorce her native-born husband, she would be unable to support herself financially. It would also be difficult to seek economic assistance from family, as divorce is often regarded as a failure. This reliance on husbands to provide support during the citizenship acquisition process and few alternatives to staying in the marriage can reinforce male dominance in international marriage households.

Because of the conditions discussed above, we can expect husbands' socioeconomic characteristics to have a significant effect on foreign wives' health status. Earlier studies have discussed the ways in which native-born husbands characteristics may have an effect on foreign wives' health outcomes. The most common explanation is that at the micro-level, spouses' SES may affect the material conditions of the household and, therefore, the health outcomes and health behaviors of all household members. At the macro-level, one spouse's SES may affect household-level psychosocial factors (e.g., social support and social capital), which are positively associated with the health outcomes and health behaviors of both partners (Monden 2007). Another possibility is that an individual's level of education is associated with whether or not that person lives a healthy lifestyle. As spouses share a common lifestyle, women's health outcomes may be affected by their husband's level of educational attainment (Monden 2007; Van Berkel and De Graaf 1995). Husband's socioeconomic characteristics may affect foreign wives' life conditions directly, or indirectly by influencing the household culture (e.g., diet, lifestyle), which in turn affects the wife's health outcomes. For instance, the socioeconomic status of Korean husbands in multicultural households may affect their foreign wives' nutrition and access to health care. Or his diet that may be too salty for marriage migrant women, yet they are forced to eat foods as their husbands and parent-in-laws prefer may affect the foreign wife's nutrition and increase marital stress (Lee, Lee and Kim 2012b).

In response to the significant association between husbands' characteristics and wives' health outcomes, studies that seek to examine health outcomes among marriage migrant women often include explanatory factors related to husbands. Despite the attention to husband's characteristics, however, a clear understanding of the extent to which husbands' socioeconomic status affects their foreign wives' health outcomes remains ambiguous. Although many studies have taken husband

characteristics into account in explaining foreign wives' health outcomes, this research has generally viewed the health problems of foreign wives only from an individual perspective, or as an attempt to evaluate the effects of migration policies. Yet, husbands' characteristics are generally considered to be simple confounders, or variables that partially affect foreign wives' health outcomes. Even studies that examine various health indicators that are closely related to a woman's husband –such as contraception (Kim, Kim and Kwon 2008), spousal support (Kim 2008a), acculturative stress, family conflict (Park, Park and Kim 2007)- do not focus on husband characteristics as primary predictor variables. Furthermore, studies that have explored the correlation between husbands' characteristics and foreign wives' health outcomes have been limited by small sample sizes, or have focused only on certain racial/ethnic groups. Therefore, previous findings are not generalizable to a larger population.

Thus, the present study examines the magnitude of the effect of husband's characteristics on migrant wife's health. We make use of a large-scale dataset that contains detailed demographic, socioeconomic and migration information on partners in multicultural families. To provide a broad understanding of marriage migrant health outcomes, we focus on female migrant partners from five sending countries, which represented 85.7% of all foreign wives in South Korea in 2010. In the current study, we used education as an indicator of husband's SES. To date, the relationship between education and various health conditions has received strong empirical support (Kilander et al. 2001; Mirowsky and Ross 2003; Monden et al. 2003b; Ross and Wu 1995). Generally, someone with higher education would be expected to have better financial stability and the ability to secure various health resources for themselves and the members of their households. In this manner, many studies that explored health disparities by spousal characteristics have particularly focused on partner's level of educational attainment (Martikainen 1995; Monden et al. 2003b). In Korea, differences in health

outcomes according to spouse's level of educational attainment may be more pronounced due to the particular meaning of education in the country, which is derived from the historical underpinnings of South Korea. After the Korean War, the country's economy began to develop rapidly. Dramatic socioeconomic changes created new occupational opportunities, such as administrative, managerial, and other professional positions within the public and private sectors. This created demand for a highly educated labor force in order to sustain continued economic growth (Douangngeune, Hayami and Godo 2005). In the process, education has become the most central factor to determine one's earnings, occupational status and overall quality of life in South Korea (Weidman and Park 2000). Several researchers demonstrated that the correlation between educational attainment and health indicators is stronger in South Korea than other countries (Khang, Lynch and Kaplan 2004; Son et al. 2002). Thus, in this study, education is a proxy for husband's socioeconomic status measures and other characteristics of husbands as well.

Methodology

Data Source and Analytic Sample

Data are drawn from a National Survey on Multicultural Families 2009 carried out by the Ministry for Health and Welfare, and Family Affairs. The survey investigated various dimensions of life among foreign brides and grooms including family relations, employment, children, social activities, health status and need for welfare. The survey sample included 131,000 multicultural families listed in Ministry of Justice, Republic of Korea, and response rate for the survey was 55.9 percent. The survey was conducted during 20th July to 20th September 2009. In the current study

female marriage migrants age 14 and over who came from China, Vietnam, Philippines, and Japan or are ethnic Korean Chinese ($n=63,048$). The respondents who are divorced or widowed ($n=3,628$) and those with missing information are not included in the analysis. The number of excluded observations due to missing information is not influential (about 18%), and in preliminary analyses we found no significant changes in results due to missing data.

Measures

Two outcomes are chosen to investigate the health of female marriage migrants: self-rated health (SRH) and self-reported life satisfaction. SRH has been used as a proxy of health status in existing studies and is closely associated with health outcomes such as mortality and morbidity (Gogers, Hummer and Nam 2000; Hoeymans et al. 1997) and it has also been used in studies of immigrant health (Bruce Newbold 2005; Cho et al. 2004). Furthermore, given that migrant women have lower access to the health care system and lack official health records, it is possible that self-reported health may provide a more accurate and reliable health measure. Like SRH, life satisfaction is an indicator of general well-being and it has been demonstrated to serve as an appropriate physical health indicator (Koivumaa-Honkanen et al. 2000). Also life satisfaction is related to health behaviors and social support which are other aspects of health (Strine et al. 2008). Therefore, these two measures of health would allow us to identify marriage migrant women's physical health and quality of life simultaneously. With regard to the outcome variables, respondents were asked to rate their general health as very good, quite good, neutral, bad and very bad and we classified these in two categories: higher than neutral and else. Similarly, the survey asked the level of life satisfaction as a whole with a five-point scale; Very much satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied and very

much dissatisfied. Like SRH, these categories are collapsed to dichotomous variable; one category includes the first two responses and the other includes the rest.

Independent variables are largely divided into three dimensions: female migrant characteristics, husband characteristics and couple's characteristics. For each partner, we included their level of education –which is the key variable in the study-, employment status and age. Education is classified into three categories: less than 9 years (less than middle school), 10 to 12 years (some high school to high school graduate), and 13 years or more (at least some college). Employment status and age are considered as categorical in the analysis. The survey measures average household income before tax and this is coded in five groups; less than 1.0 Korean million won (KMW, about 1,000 USD), 1.1 to 2.0 KMW, 2.1 to 3.0 KMW, more than 3.1 KMW and 'don't know'. We also control for the duration of the marriage in years. Several variables including husband's employment status and age, and household income included category of 'don't know'. The proportions of 'don't know' responses in the first two variables is small (less than 5%) but relatively high in household income (17%). In the preliminary analysis we found that marriage migrant women who select this category were statistically different from others regarding health outcomes. Rather than exclude the 'don't know' responses from the analyses, we included them as a distinct group that may illustrate the nature of the relationship dynamics between foreign wives and Korean husbands. Previous literature indicates that many of foreign females involved in international marriages have limited or false information on their future South Korean husbands, mostly because international marriage agencies distort or even withhold information on husband's characteristics such as his age and income to facilitate the negotiation of the marriage match (Seol et al. 2005b). One survey shows that about 25 percent of foreign wives reported the information they have before marriage did not match actual husband's

characteristics, and usually husband's income level (28%) and occupation (20%) are incorrect (Seol et al. 2005a). Whether before or during marriage, the fact that a foreign wife is not aware of information that is supposed to be shared in advance to the marriage shows the imbalanced partner relationship inherent to these types of marriages, which is cornerstone to our argument regarding the disadvantageous position of foreign wives in South Korea.

Methods

We first present descriptive statistics on the sample and the main covariates of interest. Next, we used logistic regression models to estimate the relationship between the main covariates of interest and the two outcomes of interest, SRH and life satisfaction. In the logistic analysis, three sequential models were estimated. In the baseline model, only female migrant's characteristics were included as determinants of their own outcomes, model 2 adds husband's characteristics, and the full model, model 3, adds household characteristics. This modeling strategy helps to understand the contribution and mediation effects of husband's education and couple's characteristics. All results in the model were expressed as odds ratios. Since the influence of husband's characteristics on foreign wife's health is not temporary but the effect essentially cumulative over time, it is assumable that the magnitude of the effect varies by the duration of marriage. To investigate different husband's educational influence, we applied interaction term between husband's education and duration of marriage. The result of interaction effect is presented in the table 4.

Results

Table 1 shows descriptive information of female migrant partners and their husbands by the outcome variables. Among the national/ethnic categories, the highest percentage in the sample is Korean ethnic Chinese (38.6%), followed by Vietnamese (30.8%) and Chinese (14.9%). The proportion of Filipinas and Japanese women is relatively small that they make up 9.8 percent and 6.0 percent of total marriage migrant women respectively. Overall, about half of foreign brides (50.9%) reported their health is better than 'quite good' and a similar but higher percent of women (56.7%) reported more than 'satisfied' to life satisfaction. Also there is little difference in education level between female migrant partners and their husbands. However there are, considerable differences between wives' and husbands' employment status and age. First, only 14 percent of husbands are currently unemployed, while this figure is 62.7% for female migrant partners. In addition, husbands are about 10 years older than female migrant partners. When we compare partners' age, only two percent of husbands are younger than 30 years old, compared to about 40 percent of female migrants. With regard to couple's characteristics, monthly household income of sample is relatively low, 57.1% responded that their household income is less than 2.0 KMW, and for 20.6% their income is less than 1.0 KMW, lastly, 17 percent of women reported they are not aware of current household income. Female migrant partners who have children comprise about 65 percent of the sample. If we look at how they meet their husbands, the highest proportion report they did so through commercialized agencies (29%). Column 2 and 3 in Table 1 show the distribution of female migrant partners by their responses regarding health outcomes. We can observe a higher percentage of those who have highly educated, employed and younger husbands report above average better SRH and satisfied life. This pattern is also found in SRH column in household income variable that the percentage of women in

more than 3.0 KMW household income (10.0%) is higher than overall percent (7.6%) but that of less than 1.0 KMW (16.3%) exhibit lower percent than that of in general (20.6%).

In Table 2, we present the results of logistic regression models for SRH. Model 1 shows an educational gradient in SRH for female migrant women that those of more than college education (OR: 1.34, 95% CI: 1.27-1.42) and high school (OR=1.09, CI: 1.09-1.13) are more likely to show better SRH status than those who have less than 9 years of education. Also, the employment status and age of female migrants are significantly associated with better SRH, specifically, employed female migrants are more likely to show better health status (OR=1.08, CI: 1.04-1.13). Additionally, older women tend to report poorer SRH, female migrants who are more than 40 years old are about 70% less likely show better health than their counterparts. Model 2 adds husband's characteristics, results show reduced, but still significant, differences in SRH by education of female migrants. In the model educational differences in SRH are larger by husbands' education than for women's own education. For example, female migrant partners with college or more education have 1.21 times the odds of reporting higher than neutral health compared to those educated less than 9 years, but this figure is 1.33 times the odds for education of husband. Husband's age shows the same pattern than female migrant age, migrant women with older husbands show lower odds of reporting higher than neutral health. The female migrant partners who do not know their husband's age have similar odds of reporting higher than neutral SRG than those women with husbands older than 50 years old. In model 3, we observe that controlling for couple's characteristics (household income, number of children and duration of residence) has mediate effects of both partner's education on migrant women's SRH. Despite of less strong gradient in SRH, however, the odds ratios for husband's education remain significant, but adding couple's characteristics eliminates advantage of female migrant partners in high school education compared to their counterparts. Among the couple's characteristics household

income and duration of marriage are significantly associated with the SRH. Migrant women who live in households with higher monthly income are more likely to report better SRH. But those who don't know about their family income have 1.05 higher odds of reporting higher than neutral SRH than the reference group. Also duration of marriage is negative effect on migrant women's SRH that every one-year increase in marriage duration is associated to a four percent decrease in the probability of reporting better SRH.

With regard to life satisfaction, the result shows more dynamic pattern. In model 1, only female migrant women with college education or more are more likely to show higher life satisfaction than the reference group (OR=1.16, CI: 1.10-1.22), but this effect disappears after adjusting for husband's characteristics in model 2. Instead, female migrant partners with a high school diploma are less likely to report better life satisfaction than their counterparts. Despite of this pattern, we found an educational gradient for husband in reporting higher life satisfaction for SRH. We also observed age gradient in reporting poor life satisfaction for migrant women. But in general, foreign wives with older husband are less likely to show favorable life satisfaction. The next model, which considers couple's characteristics, shows an even stronger negative effect of migrant partner's education on wives' life satisfaction. For example, female migrant partners with more than college diploma tend to show lower life (OR=0.87, CI: 0.81-0.93) satisfaction compared to women with less than 9 years of education. However, similar to the results for SRH, husband's education has a positive effect on the life satisfaction of migrant women, and migrant women with higher education are more likely to show improved life satisfaction than the reference group. Other couple's characteristics show similar patterns than those in SRH models, household income is associated to higher odds of life satisfaction, while the duration of marriage is related to a decrease in the odds of reporting higher life satisfaction.

Model 4 which add an interaction effect between husbands' education and marriage duration also reveal an important influence of husband's education on marriage migrant partners. This model includes all variables in model 3 and suggests that the likelihood of showing better health and life satisfaction among marriage migrant women decreases as they spend more time in the marriage and the rate of this change is faster when women marrying uneducated males. For example, the chance of reporting better health status is rises 1.8% when marriage migrant women with husband in college or more education compared to those with husband less than 9 years education in every a year after marriage. As life satisfaction, this figure is higher that the probability is raised by 2.7% with a year.

Discussion

The current study examined the effect of husband's education on SRH and life satisfaction of marriage migrant women in South Korea. Due to migrant women's high dependency on husbands, we hypothesized significant differences in health outcomes according to level of education and socioeconomic status of their husbands. The results, on the whole, suggested that there are significant disparities of SRH and life satisfaction among female migrant partners by husband's educational attainment and the effect is greater than that of migrant women's own education. These significant differences in health outcomes were found even after adjustment for all other variables. After controlling for other characteristics, the education of migrant women is partially associated with their own SRH however, the effect is than the effect of husband's education on wives' SRH. Of interest is that education of marriage migrant women has a negative effect on their life satisfaction.

The findings in this analysis show important patterns in the current situation of marriage migrant women in South Korea. First, more than half of respondents are in ‘good’ or ‘satisfied’ for outcome variables and this result is similar to findings in previous studies (Jeong et al. 2009; Lee 2008b). The results also present financial hardship that multicultural families confront (Seol, Lee and Cho 2006b). In our sample, about 20 percent of women reported their monthly household income is less than 1.0 KMW (about 100 USD).

The results from logistic regression models, on the one hand, are largely similar to findings of previous studies that explored the relationship between spouse SES indicators and one’s health. For example, Moser et al. (1998) investigated inequality in the mortality of women in England using Census data and reported that those woman whose husbands have non-manual job show decreased mortality than those marrying husbands in manual jobs (Moser, Pugh and Goldblatt 1988). Additionally, Martikainen (1995) found that husband’s education and occupational conditions are important explanatory factors in mortality differences of Finnish women (Martikainen 1995). A recent study conducted by Monden and colleagues reported that controlling for own education, partner’s education is significantly associated with self-assessed health and smoking, for both men and women (Monden et al. 2003b). These studies similarly emphasized the important role of spouse’s SES in explaining one’s health and life conditions. On the other hand, the present analysis shows different results than those of earlier research in several ways: first, while most these studies did not consider occupation or educational attainment simultaneously, or control for all the pertinent variables in this study we considered both education and occupation for wives and husbands, as well as various household characteristics at the same time to obtain a more accurate independent effect of husband’s education, net of any confounders. Second, after adjusting for pertinent confounders, the effect of

husband's education appeared much stronger than that reported from other studies. For example, earlier studies which demonstrated significant influence of husband's SES on wife's health indicators explained that wives are more affected by their own SES (Monden 2007; Moser, Pugh and Goldblatt 1988) or the influence are similar to that of husband's SES (Martikainen 1995). In our results, however, odds ratios and significance of husband's education are higher than those of female migrant women own education characteristics.

Our specific findings suggest several implications. As we argued before, partner's SES may affect one's health through household level economic well-being. Yet, the differences in health outcomes remained after controlling for monthly household income, a commonly used measure of household SES. It is possible that our measure of income is not enough to explain the whole extent of household economic wealth since household material conditions are not determined only by income, but various factors such as residence type and quality, as well as the degree of social support. But when we take into account migrant women's low earning power and the higher poverty rate among multicultural families, the relationship between household material circumstances and health of migrant women may vary by husband's socioeconomic characteristics that are not measured by income, we use education of husbands as a more reliable measure of SES, that may explain variation related to other sources of material well being in the household. For example, educated husbands are more likely to live in urban area and have high quality of social support. Then marriage migrant women in urban areas would have higher accessibility to health care services or cultural institutions and improved social networks, which would enhance the socioeconomic status of the household (Ross and Huber 1985).

In contrast to our expectations, migrant women with higher education are more likely to show lower life satisfaction than reference group (model 3). This result is different from the general idea

that education has positive effect on individual's material conditions and well-being which are closely related to happiness. One possible explanation is that migrant women's measure of their life satisfaction depends on how much their financial or living conditions have been improved and whether they send enough remittances to their family back in their home countries. However, this expectation of improved life conditions is often not achieved because ironically the men who marry foreign brides are likely to come from disadvantaged backgrounds in terms of SES. Regarding this issue Wang (2007), who investigated international marriage between Taiwan man and Vietnamese women which is very similar to that of South Korea, documented that "no sooner had they arrived in Taiwan than they found out that their husbands' social status was not what they had imagined"(Wang 2007). In contrast to self-rated health which is mainly determined by physical health status, the concept of life satisfaction is affected by how people rate their life in terms of relative standards compared to what they would expect their life to be given their circumstances and social status (Duncan 1975). Thus marriage migrant women in higher level of education are more likely to feel disappointment of their current circumstances when they could have had a better economic status and more equality in a relationship in their country of origin.

Age independent duration of marriage has a negative effect on both health outcomes (Model 3). Prior research shows inconsistent results about whether marriage migrant women would have better health outcomes than native women. However, most research findings are consistent with the idea that health outcomes of marriage migrant women are likely to be worse as they spend longer periods in Korea. When migrating to a different social environment female migrant women tend to confront various challenges such as the stress of adapting to the new society, psychological isolation, social exclusion and language barriers (Kim 2010; Kim 2007; Lee, Lee and Kim 2012b). These series of

events would erode their physical and mental health over time even though they have good health status upon arrival to the country given their young age and likely the positive selection among immigrants. Findings in the final model suggest that this adverse effect of duration of marriage could be different depending on who migrant women live with. Husbands' characteristics are thus an important determinant of the environment that female migrants are likely to encounter in their own households and in their communities. The household environment appears to be even more consequential for the acculturation of these women because they rarely work outside the home, and they have lower rates of participation in social activities. Our findings have highlighted the importance of husband's SES in approaching health and life experience of marriage migrant women in Korea. In investigating the marriage migrant women's health in South Korea, this article attempts to place a new conceptual framework for health implications of females who involving in cross border marriages in Asia. Although we focus our study on Korea, the key underpinnings of the argument are found in other countries in Asia such as Taiwan and Japan. As international marriage migration continues to increase, health issues will be more important in both health policies and the scholarship in public health and demography.

Tables

Table 1. Percentage Distributions of Health Outcomes, Demographic and SES Characteristics for Marriage Migrant Women

Variables	Overall (%)	Higher than neutral self-reported health status (%)	Higher than neither satisfied or dissatisfied in life (%)
Good or satisfied	-	50.9	56.7
Independent Variables			
<i>Own Characteristics</i>			
Education			
Less than middle school graduate	38.3	36.3	39.8
High school graduate	43.3	43.6	42.7
College or more	18.4	20.1	17.5
Occupation			
Employed	37.3	36.4	35.5
Unemployed	62.7	63.6	64.5
Age (Mean:33.5, SD:10.1)			
-20	1.34	1.6	2.1
20-29	40.3	43.9	29.1
30-39	32.2	34.1	47.1
40 and more	26.1	20.5	17.1
Country of origin			
Korean ethnic Chinese	38.6	37.8	38.4
Chinese	14.9	16.0	15.6
Vietnamese	30.8	30.5	33.6
Filipino	9.8	10.7	8.9
Japanese	6.0	4.9	3.6
<i>Husband Characteristics</i>			
Education			
Less than middle school graduate	25.2	21.5	22.8
High school graduate	50.6	52.1	51.2
College or more	20.2	22.6	22.2
Occupation			
Employed	82.8	85.9	86.5
Unemployed	14.0	11.8	11.0
Don't know	3.2	2.4	2.5
Age(Mean:43.8, SD:8.1)			

-30	2.0	2.5	2.1
30-39	26.7	30.5	29.1
40-49	48.0	47.6	47.1
50 and more	18.4	14.9	17.1
Don't know	5.1	4.6	4.6
<i>Couple's characteristics</i>			
Household income (KMW)			
Less than 1.0	20.6	16.3	9.2
1.1-2.0	37.1	38.0	20.9
2.1-3.0	17.7	20.6	11.8
More than 3.0	7.6	10.0	5.7
Don't know	17.0	15.1	9.2
Duration of marriage (in years, SD)	5.08(4.9)	4.57(4.1)	4.53(4.5)
Children			
None	35.6	35.7	38.1
1	39.7	41.0	40.0
2 or more	24.7	23.3	21.9
Marriage Path			
Through an agency	29.0	29.3	29.8
Through family or a relative	25.5	25.6	26.8
Through a friend or co-worker	20.3	20.4	20.7
Others (religious group, by self and etc.)	25.2	24.8	22.7

Table 2. Odds Ratios for the Effects of Marriage Migrant Women, Husbands and Couple Characteristics on Self-Reported Health

	Model 1		Model 2		Model 3	
<i>Own Characteristics</i>						
Education [less than 9 years]						
High school graduate	1.09**	(1.04-1.13)	1.05*	(1.01-1.09)	1.02	(0.97-1.06)
College or more	1.34**	(1.27-1.42)	1.21**	(1.15-1.29)	1.12**	(1.04-1.18)
Occupation [unemployed]						
Employed	1.08**	(1.04-1.13)	1.07**	(1.03-1.11)	1.04*	(1.00-1.08)
Age[Less than 20]						
20-29	0.77**	(0.66-0.88)	0.85*	(0.73-0.98)	1.00	(0.84-1.17)
30-39	0.55**	(0.47-0.64)	0.68**	(0.58-0.79)	0.85	(0.71-1.01)
40 and more	0.31**	(0.27-0.37)	0.45**	(0.38-0.53)	0.59**	(0.49-0.70)
Country of origin[Korean Chinese]						
Chinese	0.96	(0.90-1.01)	1.01	(0.96-1.06)	0.94	(0.88-0.99)
Vietnamese	0.59**	(0.56-0.62)	0.74**	(0.70-0.78)	0.78**	(0.73-0.83)
Filipino	0.85**	(0.79-0.91)	0.98	(0.92-1.05)	1.21**	(1.12-1.30)
Japanese	0.64**	(0.60-0.70)	0.65**	(0.60-0.70)	0.71**	(0.64-0.77)
<i>Husband Characteristics</i>						
Education [less than 9 years]						
High school graduate			1.19**	(1.14-1.25)	1.14**	(1.08-1.19)
College or more			1.33**	(1.26-1.40)	1.18**	(1.11-1.25)
Occupation [unemployed]						
Employed			1.37**	(1.30-1.43)	1.13**	(1.07-1.19)
Don't know			0.91	(0.80-1.03)	0.78**	(0.67-0.90)
Age[Less than 30]						
30-39			0.78**	(0.69-0.89)	0.77**	(0.66-0.87)
40-49			0.67**	(0.59-0.76)	0.68**	(0.59-0.77)
50 and more			0.63**	(0.55-0.72)	0.67**	(0.53-0.75)
Don't know			0.63**	(0.54-0.73)	0.64**	(0.53-0.75)
<i>Couple's characteristics</i>						
Household income(KMW, Less than 1.0)						
1.1-2.0					1.45**	(1.37-1.52)
2.1-3.0					1.91**	(1.79-2.02)
More than 3.0					2.66**	(2.45-2.88)
Don't know					1.10**	(1.03-1.17)
Duration of marriage[in years]					0.96**	(0.96-0.97)

Children[None]						
1					0.95	(0.95-1.05)
2 +					0.94	(0.94-1.06)
Marriage Path(Through an agency)						
Through family members					0.97	(0.92-1.02)
Through friends or co-workers					0.99	(0.92-1.04)
Others (religious group, by self and etc.)					0.98	(0.92-1.04)
Intercept	1.53**	(0.05)	0.43**	(0.10)	0.28*	(0.12)
N						
Chi-square (df) model improvement			2990(3)	P<0.001	11061(4)	P<.001

** P<.001 * p<.05

Table 3. Odds Ratios for the Effects of Marriage Migrant Women, Husbands and Couple Characteristics on Life Satisfaction

	Model 1		Model 2		Model 3	
<i>Own Characteristics</i>						
Education [less than 9 years]						
High school graduate	0.99	(0.95-1.03)	0.91**	(0.88-0.95)	0.87*	(0.83-0.91)
College or more	1.16**	(1.10-1.22)	0.98	(0.92-1.03)	0.87**	(0.81-0.93)
Occupation [unemployed]						
Employed	0.93	(0.90-0.97)	0.93**	(0.89-0.96)	0.86**	(0.83-0.98)
Age[Less than 20]						
20-29	0.58**	(0.49-0.68)	0.63**	(0.54-0.75)	0.77**	(0.64-0.93)
30-39	0.41**	(0.35-0.48)	0.49**	(0.41-0.58)	0.60**	(0.50-0.77)
40 and more	0.37**	(0.32-0.44)	0.50**	(0.42-0.60)	0.63**	(0.52-0.77)
Country of origin[Korean Chinese]						
Chinese	1.01	(0.96-1.07)	0.97	(0.92-1.02)	0.92*	(0.87-0.98)
Vietnamese	0.91**	(0.96-0.96)	0.97	(0.92-1.02)	1.14**	(1.07-1.22)
Filipino	0.68**	(0.63-0.72)	0.74**	0.69-0.79)	0.99	(0.92-1.07)
Japanese	0.38**	(0.35-0.41)	0.34**	(0.32-0.37)	0.38**	(0.35-0.42)
<i>Husband Characteristics</i>						
Education [less than 9 years]						
High school graduate			1.22**	(1.17-1.28)	1.13**	(1.08-1.19)
College or more			1.57**	(1.49-1.66)	1.34**	(1.26-1.42)
Occupation [unemployed]						
Employed			1.78**	(1.69-1.86)	1.45**	(1.37-1.53)
Don't know			1.18**	(1.04-1.33)	1.05	(0.91-1.22)
Age[Less than 30]						
30-39			0.96	(0.85-1.09)	0.95	(0.83-1.09)
40-49			0.86*	(0.76-0.97)	0.87	(0.76-1.00)
50 and more			0.91	(0.80-1.05)	0.94	(0.81-1.09)
Don't know			0.78**	(0.91-1.09)	0.83**	(0.70-0.98)
<i>Couple's characteristics</i>						
Household income(KMW, Less than 1.0)						
1.1-2.0					1.47**	(1.40-1.55)
2.1-3.0					2.36**	(2.22-2.51)
More than 3.0					3.73**	(3.43-4.07)
Don't know					1.28**	(1.20-1.37)
Duration of marriage[in years]						
					0.98**	(0.97-0.98)

Children[None]					
1				0.82**	(0.78-0.86)
2 +				0.84**	(0.79-0.89)
Marriage Path(Through a agency)					
Through family members				1.28**	(1.21-1.35)
Through friends or co-workers				1.19**	(1.12-1.26)
Others (religious group, by self and etc.)				1.14**	(1.07-1.22)
Intercept	1.17**	(0.09)	0.48**	(0.11)	0.19** (0.12)
N					
Chi-square (df) model improvement			11061(3)	P<0.001	11897 P<0.001

** P<.001 * p<.05

Table 4. Odds Ratios of the Interactive Effect Husbands' Education and Marriage Duration on Self Reported Health and Life Satisfaction

	Self-reported health	Life satisfaction
Less than 9 years ×Duration of Marriage(years)	1.000(reference)	1.000(reference)
High school graduate ×Duration of Marriage(years)	1.005(0.005)	1.010(0.006)
College or more ×Duration of Marriage(years)	1.013(0.006) *	1.027(0.009)**

Models control for migrant women characteristics, husbands characteristics and couple characteristics, full results from these models available upon request.

** P<.001 * p<.05

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