For better or for worse: The health implications of marriage separation by migration in China

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Extended Abstract for PAA 2012

Existing research has consistently documented that involvement in a marital relationship is positively associated with health and well-being; and marital dissolution may lead to a decline in physical and mental health (Ross, Mirowsky and Goldstein 1990; Waite1995; Waite and Gallagher 2000; Williams and Umberson 2004; Liu and Umberson 2008). Notwithstanding selection mechanisms, it has been argued that marriage offers health benefits, as it provides better economic resources, enhances social integration, and promotes healthier lifestyle (Waite1995; Waite and Gallagher 2000). Do these presumed benefits of marriage extend to those whose spouses are absent on a frequent basis? This research question is rarely asked in the U.S., partly due to its temporary nature and the rarity of the arrangement (see Fuller 2010).

Typically, marital status and family structure do not receive separate consideration in empirical research; and the common assumption is that married couples share the same residence. However, the distinction becomes non-trivial when put in the context of China. What may seem to be an unconventional family type in the U.S. is a quintessential way of life for millions of married couples in China. Deemed as "a new demographic phenomenon in China" (Liang and Ma 2004: 467), massive rural to urban migration starting from the 1980s resulted in an astounding growth in the "floating population," i.e., internal "temporary" migrants, estimated at upwards of 150 million persons, more than one-tenths of its population (Chan and Zhang, 1999; Fan 2008). For married couples, it is common for one of them (more often male than female) to seek employment in the urban areas while the other stays behind to attend to agricultural work and family needs (Zuo 2007). The separation between spouses can extend beyond months and years and may not be a transient living arrangement.

Could such marriage separation by migration have any health implications for those who are left behind? Our paper fills an important gap in the literature and crosscuts the research on marriage, migration, and their linkages to health. The comparison between individuals who live with and without their spouses will help to shed light on the various pathways that marriage influences health. Using a longitudinal data that spans sixteen years (China Health and Nutrition Survey 1991, 1993, 1997, 2000, 2004, 2006), we will be able to document not only disparities in health status but also in health trajectories, in a context where the trend of rural-to-urban migration has increased substantially over time. Given that the trend is also gendered in nature, i.e., more male out-migrants than females (though with regional differences), we also explore gender differentials in the health effects of spatial separation from the spouse for those who are left behind.

<u>Research Question and Hypotheses</u>

Existing research suggests that marriage in general offers a protective effect on health, although the mechanisms of how it occurs remain a contentious subject. Some research suggests that the pooling of income, asset and wealth contributes to the health advantages enjoyed by married couples (Waite and Gallagher 2000). If economic resources hold the key to health, then the absence of the spouse may not bring much negative effects, particularly because remittance sent home by the migrant spouse could boost family economic well-being. Likewise, for scholars who argue that the benefits of marriage come from its institutionalized nature, they may contend that spatial separation may not affect the social connectedness of individuals to the society, as long as the "long-term contract" of marriage continues to be honored. Literature in the U.S. suggests that married couples enjoy better health than cohabiting couples. One of the reasons that some researchers suggest that may explain the difference is the enhanced level of social support experienced by married couples, due to the long-term commitment of marriage and its provision of access to other social institutions (Ross, Mirowsky and Goldstein 1990; Waite and Gallagher 2000).

At the same time, it is well known that married individuals exhibit higher levels of positive health behavior and are less likely to engage in risky behavior (Umberson 1987, 1992). If the benefits of marriage are instrumental, and day-to-day interaction is essential for the promotion of health behavior and psychological well-being, then the absence of the spouse for an extended period of time could be detrimental. The stress process theory would lead us to hypothesize that physical separation over an extend period of time may put a strain on marriage, induce stress, and reduce sexual intimacy and emotional closeness and thus lead to negative consequences (Williams and Umberson 2004). Indeed, in the migration and health literature, family disruption is often cited as a reason for the deleterious health effect on migrants (Lu 2010). Other studies in the developing countries investigate the effect of out-migration on children's well-being, or how it may affect intergenerational support to aging parents (Abas et al, 2009; Morooka, 2009; Guo, Chi, and Silverstein 2009; Schmeer, 2009; Gao, 2010). However, the issue of how out- migration affects the well-being of the left behind spouse has received considerable less attention. Our study will make a significant contribution to the literature, while using the above mentioned competing research hypotheses to guide our research. In addition to assess the direct effect of spousal absence, we will explore various mediating mechanisms, such as the role of economic resources, remittance, and health behavior (e.g. smoking, drinking).

Furthermore, we aim to study the health effects of gender differences in spousal absence. Past research suggests marriage benefits men and women in different ways (Umberson 1992; Simon 2002; William and Umberson 2004). Conventional wisdom suggests that women benefit from improvement in material well-being and marriage enhances men's emotional well-being (Simon 2002). One might hypothesize that the left behind wife would fare better than the left behind husband, particularly if the migrant husband sends remittance home. On the other hand, women are the ones who typically stay behind to attend to family needs. The burden of caring for children and aging parents, housework, as well as the physical toil of agricultural fieldwork, without the support of the husband, could induce both physical and psychological strain and have a damaging effect on health. At the same time, because caregiving and housework are traditionally women's domain and men's involvement are limited to begin with, it is also

possible that the separation from the spouse has a minimal effect for women while it could negatively affect men's health.

Finally, we go beyond the examination of differentials in health status by the presence or absence of a spouse. With the use of longitudinal panel data, we further examine whether spousal absence has any immediate or long term consequences on the health trajectory (i.e. both its level and rate of decline). While short, temporary separation may not bring any ill effect, the longer the duration of the migratory separation may take a toll on the health of the left behind spouse. The frequent transition in and out of separation could be an indicator of family instability and has a disruptive effect. However, it could also suggest the strength of the marriage bond. Some research suggested that some migrant workers had started new families in the destination area and abandoned their families of origin, despite the absence of a formal divorce (Yang et al. 2009).

Data and Sample

Data are derived from the China Health and Nutrition Survey (CHNS). CHNS is a longitudinal survey collected by the Carolina Population Center at the University of North Carolina, the Institute of Nutrition and Food Hygiene, and the Chinese Academy of Preventive Medicine in Beijing. The CHNS was designed to examine the influence of social and economic transformations in China on population nutritional, demographic, and health status. The data were collected on individual, household, and community levels, and they covered nine provinces and autonomous regions in China: Liaoning, Heilongjian, Shandong, Jiangsu, Henan, Hubei, Hunan, Guangxi, and Guizhou. One third of Chinese population (approximately 450 million people in 1989) live in these provinces, which vary substantially in geography and economic development. Stratified multistage cluster design was applied to the process of sampling (A detailed description of the CHNS design can be found at http://www.cpc.unc.edu/projects/china). Although the CHNS sample are not representative of the whole Chinese population, previous studies show that the characteristics of the CHNS households and individuals are comparable to those from national samples (see Du et al. 2002; Entwisle and Chen 2002; Short, Ma, and Yu 2000). The CHNS has released seven waves of data so far (1989, 1991, 1993, 1997, 2000, 2004, 2006). In this study, we use the most recent six waves because the 1989 survey did not collect information on self-rated health. We restrict our sample to the rural residents, because of our primary interest in the phenomenon of rural-to-urban migration. We restrict our analysis to individuals aged 20 and older in every wave of the study, resulting in a preliminary sample of 11,660 individuals. On average, the individual is observed more than 3 times in the panel. We will conduct detailed analysis on attrition and loss to follow up in the full paper.

Measures

Our dependent variable is self-rated health. It is based on the survey question: ''How would you describe your health compared to that of other people your age?'' The responses range from 1 to 4, indicating excellent to poor health. We recode this variable with higher values indicating better health. We use this measure of self-reported health as our main dependent

variable, which has been used extensively in U.S. based research and has been consistently documented to be a valid measure of health (Farmer and Ferraro 1997; Hays et al. 1996; Johnson and Wolinsky 1993) and a potent predictor of survival and mortality even when objective measures of health based on physicians' examinations, medical records or extensive health histories are controlled (Idler and Angel 1990; Idler and Benyamini 1997).

We use the standard question on marital status, along with a question that indicates whether the spouse currently lives in the house or not, to create a five-category variable: married with spouse at home, married with spouse absent, never married, divorced/separated, and widowed. We do not restrict the analysis to married individuals, because we are precisely interested in a general comparison. No previous research has documented whether those living without spouse resemble more of their married counterparts or single persons. The CHNS data also provide information the length of absence of the spouse and whether they return to the household at a later point, thus allowing us to explore the effect of such transitions on individual health trajectories.

Other variables we use include age, gender, education, remittance, per capital family income, household composition (presence of children aged 0-16 and older adults 60+, as proxies for caregiving responsibilities), region (coastal, northeast, inland, mountainous south) as well as proxies for health behavior (smoking, drinking and body mass index as an indicator for diet). We will utilize economic resources and health behavior to explore the specific pathways that marriage may influence health.

Statistical Methods

To take advantage of six waves of longitudinal data, we use growth curve modeling techniques to estimate how marital status (including differentials between those whose spouses are absent or present) may shape or disrupt typical self-rated health trajectories across age. Age is the analysis time metric in the growth curve analyses. Growth curve techniques allow us to take into account that individuals start the study period with different levels of self-rated health, and that each individual may experience different rates of change in self-rated health across age as a function of marital status. Initial level (i.e., intercept) and rate of change (i.e., age slope) in self-rated health are modeled as individually-varying growth parameters (i.e., random effects). One of the major advantages of growth curve modeling in comparison to traditional regression modeling is its ability to distinguish the two levels (i.e., within- and between-individual) of heterogeneity in estimating self-rated health trajectories shaped by marital status (Singer and Willett 2003). The structural parameters from this part of the model will provide the basis for assessing effects of marriage (including spatial separation) on initial level and rate of change in self-rated health trajectories. The linear growth curve model we estimate can be specified as:

$$Y_{ij} = \pi_{0i} + \pi_{1i}(Age_{ij} - 20) + Z_{ij}'A + \varepsilon_{ij}$$

$$\pi_{0i} = \alpha_0 + \sum_k \gamma_{k0}M_{ki} + X_0'B_0 + \xi_{0i}$$

$$\pi_{1i} = \alpha_1 + \sum_k \gamma_{k1}M_{ki} + X_1'B_1 + \xi_{1i} \qquad (1)$$

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where Y_{ij} represents the outcome variable (i.e., the self-rated health of individual i at wave j) and where j = 1, 2…to 6, index CHNS waves 1 to 6 (starting from the 1991 wave). The term Age_{ij} is the main analysis time scale variable and represents the age of individual i at wave j. We center age at 20 so that the intercept reflects the level of self-rated health at the age of 20. The term ε_{ij} is the level one residual. The terms π_{0i} and π_{1i} represent the ith individual's intercept and age slope (i.e., random coefficients). α_0 and α_1 represent the constant terms. The term M_{ki} represents a set of dummy variables indicating marital status of individual i. γ_{k0} and γ_{k1} are the focus of our interpretation for this model as they indicate differences in self-rated health trajectories among marital status groups. Z' indicates the vector of time-varying covariates and X_0' and X_1' indicate all other time-invariant covariates controlled in the model to predict intercept and age slope respectively, and A, B_0 and B_1 are their population- average (i.e., fixed) effects of the covariates on initial level and changing rate of self-rated health trajectories. The terms ξ_{0i} and ξ_{1i} are individual specific (level-two) residuals. We will first compare the health trajectories of individuals based on their marital status and then include various mediating variables such as economic resources and health behavior step by step. We will also include measures of the duration of separation and transition in and out of separation. We will also separate the sample by gender and examine gender differences in the effect of marital status, particularly that of marriage separation by migration.

Preliminary Analysis

We present our preliminary results in Figure 1. It is based on an estimation of the growth curve model specified above, with only age, age squared, and indicators of marriage status in the model. Thus, the health trajectories presented in Figure 1 describe the association between marriage and health, without adjusting for any other individual or household characteristics. The figure clearly shows a health disadvantage experienced by those who are married but separated from their spouses spatially, compared with those whose spouse are present. Compared with the never married group, they experience a less rapid rate of health decline, but suffer from a lower average level of health. Consistent with existing research, those who were widowed have the worst health trajectories followed by those who experienced divorce. The preliminary results thus reveal a clear health gap between married individuals whose spouses are present versus those who are not. The subsequent analysis will further explore the mediating mechanisms, the effect of transition and duration of spousal absence on health trajectories, as well as gender differences in the health effects.

Figure 1: Predicted Self-Reported Health Trajectories by Marital Status and Living Arrangements (CHNS 1991-2006)
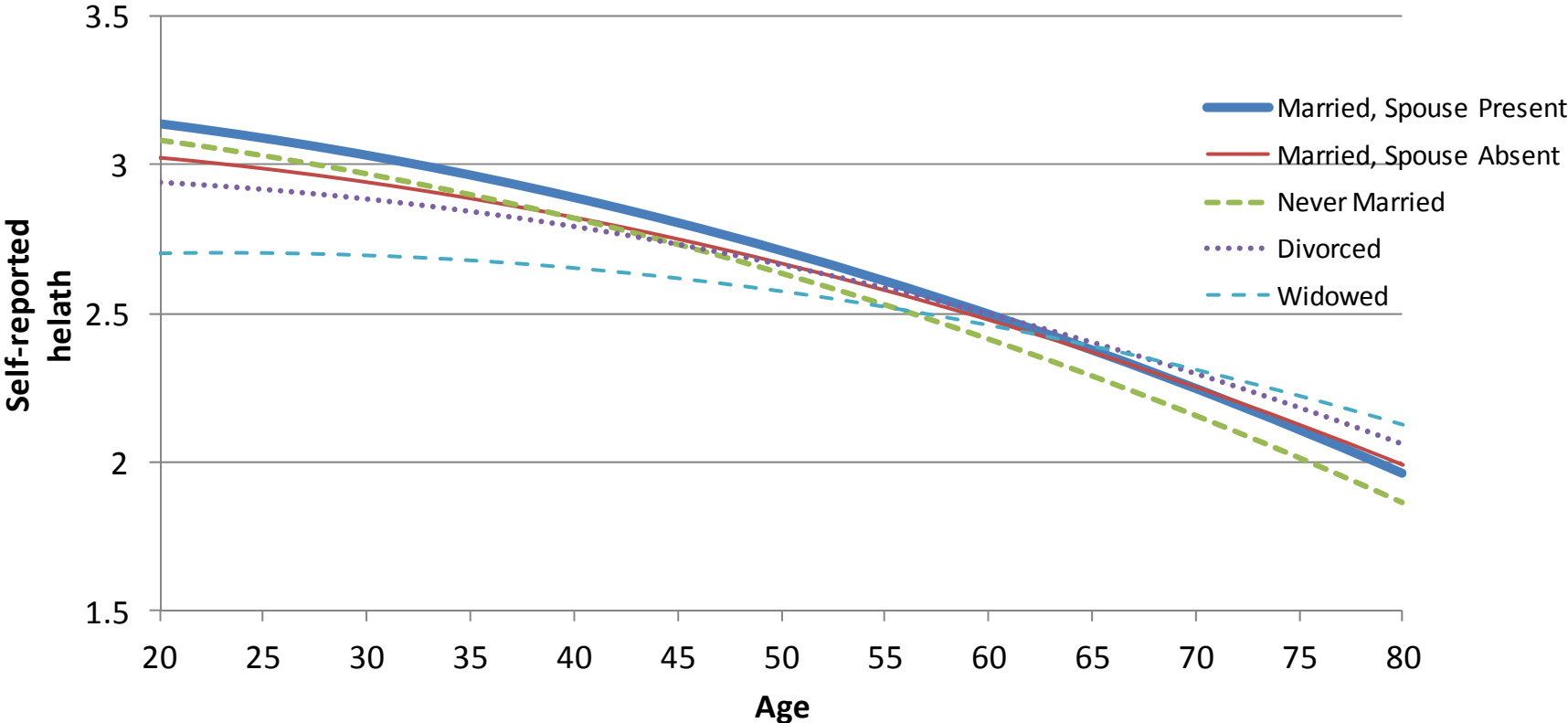
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