

**Spouses Crossing Borders: Husbands' International Migration and the Marital Relationship**

by

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## **Abstract**

This dissertation examines the associations among the family life course, labor migration, and marital processes. Existing literature shows that moving for work threatens marital quality and even increases the risk of marital dissolution. Scholars have also found, albeit indirectly, that marriage and parenthood greatly limit individuals' mobility. These literatures, however, are embedded in larger assumptions about marriage and the nature of migration, and are thus limited in their generalizability. In this study, I advance current understandings of how migration relates to family life, particularly the marital relationship, both theoretically and methodologically. I aim to identify specific conditions under which we would, and would not, expect these results. I leverage unique data and produce more precise estimates of two under-studied relationships - the family life course and spouses' marital quality, respectively, on men's subsequent migration - as well as of the effects of temporary migration on spouses' marital quality.

Theoretically, I draw on streams of prior research - the life course, historical gender norms, spousal decision-making processes, and social support - to develop a framework to understand this association. I then apply this framework to the rural, agricultural setting of Nepal, where the cultural conditions are similar to those in Western settings previously examined, but the social organization of work has shifted, from one close to home toward international markets. These conditions - patriarchal and family-oriented marriage norms; significantly higher international wages relative to those local; and strict migrant-monitoring systems in receiving countries - create expectations that family-related provider roles will

increase men's likelihood of migration; husbands in higher quality marriages will be more likely to migrate; and husbands' labor migration actually improves spouses' marital quality.

Methodologically, I leverage four analytic tools in order to account for the highly selective nature of family and migration. First, the Chitwan Valley Family Study is a longitudinal data set, which tracks family and migration events among a representative sample of nearly 10,000 individuals in rural Nepal, no matter where study members move. The second is measurement of a broad array of physical, social, and human capital and demographic characteristics, *prior to men's marriage and risk of migration*. The third is the ability to link individuals' reports of marriage and migration to those of their spouses. The fourth is repeated measures of multiple dimensions of marital quality *among the same married individuals* over time (enabled because Nepalese marriages rarely end in divorce). These tools present the rare opportunity to test these hypotheses regarding family, marriage, and migration among a population in which the majority are married.

Results show a number of patterns. One, husbands and fathers are significantly *more likely* to subsequently migrate than single/never married men and men who have no children, respectively. Second, husbands in higher quality marriages have greater odds of subsequently migrating than husbands in lower quality marriages. Third, controlling for marital quality assessed *prior to migration*, the temporary absence of a migrant husband does not negatively impact spouses' marital quality, although improvements do not benefit husbands and wives equally.

In sum, this dissertation critiques existing assumptions about the associations among family life, marriage, and migration by identifying specific conditions under which earlier results

do not hold. Additionally, it utilizes unique panel data to produce more accurate estimates of specific relationships previously under-studied, as well as changes in spouses' marital quality.

## **Chapter 1 The Life Course, Social Roles, and Men's Migration**

While a substantial literature has linked migration with the family life course (e.g., Bertoli and Marchetta 2015; Garip 2016; Liang, Yi, and Sun 2014; Lindstrom and Saucedo 2007; Parrado 2004; Sandefur 1985), explicit examination of how family life course statuses influence subsequent labor migration is rare. Existing studies have found, largely indirectly, that two key statuses – spouse and parent – greatly limit individuals' mobility due to familial responsibilities (e.g., Clark and Withers 2007; Jeffrey and Murison 2011; Kley 2011; Kulu 2008; Mulder and Hooimeijer 1999). While these results are not surprising, they make considerable assumptions about family life and the nature of migration and are thus limited in their generalizability. In this study, I aim to identify specific conditions under which we would, and would not, expect these results. I then leverage unique data to test context-specific hypotheses regarding an under-studied relationship: men's life course and their *subsequent* risk of international migration.

In this paper I first draw on various streams of prior research - the life course, role conflict/incompatibility perspective, and historical gender norms - to develop a framework to understand this association. The life course perspective conceives of individuals' lives as consisting of an orderly sequence of events, status passages, and social roles (Elder 1985; Giele and Elder 1998; Huinink and Kohli 2014). Role conflict/incompatibility acknowledges the difficulty in occupying multiple social roles simultaneously, and that individuals often delay assuming one role while focusing on another as a result (Rindfuss 1991; Thornton et al. 2008). Historical norms often dictate differences in these roles for men and women, including those regarding marriage. Spouse and parent are two important family life course status configurations,

are associated with specific gendered roles and expectations, and present conflict in assuming other roles concurrently. Next, I apply this framework to the rural, agricultural setting of Nepal, where the cultural conditions are similar to those in Western settings previously examined, but the social organization of work has shifted, from one close to home toward international markets. I thus identify specific conditions - patriarchal norms and significantly higher wages abroad – under which I expect family-related provider roles (husband and father) will actually *increase men's likelihood of subsequent migration*, rather than lessen it.

It is important to note that neither migration nor family experiences, such as marriage and fertility, are random (Lu 2008; Lu and Qin 2014; Thornton, Axinn, and Xie 2008). The highly selective nature of these events often presents considerable challenges when studying them. However, two key analytic tools support this present analysis. First, the Chitwan Valley Family Study (CVFS) is a longitudinal data set, which tracks monthly marital and migration events, as well as yearly fertility experiences, among a representative sample of nearly 10,000 individuals in rural Nepal. The second is measurement of a broad array of physical, social, human, and demographic capital previously documented in the literature to influence migration and family outcomes. Importantly, these measures are collected early in life, *before marriage or migration occurred*. These tools – the CVFS's highly-detailed nature and extensive assessment of socio-economic factors – present the rare opportunity to test this specific causal ordering while also accounting for potential confounders.

This study analyzes how important family life course statuses influence men's subsequent risk of migration using event history methods. I test whether marital status positively predicts male migration. Next, I test whether fatherhood increases the risk of international migration among ever-married men. Last, I analyze how specific timing within fatherhood –

recent birth of a child and having children of school age – relate to men’s risk of migrating abroad. I thus make two important contributions to the literature. Theoretically, I critique current understandings of how family structure influences subsequent movement for work and identify historical gender norms and changing work opportunities as key conditions shaping this relationship. Empirically, I leverage panel data uniquely designed for this study: monthly family and migration measures and careful assessment of background factors assessed prior to marriage and migration events, providing more precise estimates of this under-studied relationship.

### **Theoretical Framework**

Below I draw on prior literatures - the life course, role conflict/incompatibility, and historical gender norms - and develop a framework to understand how two key social roles – husband and father – influence men’s subsequent migration. Next, I present South Asia as a context in which the cultural (historical gender norms) and structural conditions (landscape of employment opportunities) vary from those in previously examined Western settings. Last, I identify setting-specific hypotheses and move to test them empirically.

#### *Social Roles, Work, and Migration Across the Life Course*

##### *The life course and gendered social roles*

The life course perspective acknowledges the importance of timing and sequencing of socially defined events, status passages, and roles occurring over the lifetime (Elder Jr et al., 2003; Giele and Elder 1998: 2). The sequence is embedded in social structures occurring at multiple levels, linking, for example, meso-level institutions and organizations (e.g., entry/exit age regulations) with micro-level life events and pathways (individual or family) (Elder 1985; Wiggins et al. 2011). Two inter-related concepts are key. The first is transitions, or age-graded

“changes in state that are more or less abrupt”, such as work, marriage, and parenthood (Elder 1985:31). The second is trajectories, or longer phases within the life course marked by sequences of transitions, such as career and/or family pathways (Elder 1994). Thus, an individual’s life course can be thought of as multiple, interdependent pathways, which consist of various status transitions and associated social roles. The role conflict/incompatibility perspective acknowledges that individuals are faced with many pathways, but states that occupying multiple social roles simultaneously is difficult (Rindfuss 1991; Shanahan 2000). As a result, individuals often delay assuming one social role while focusing on another (Thornton et al. 2008), as has been well documented across diverse settings in, for example, school enrollment delaying marriage (Sweeney 2002; Thornton, Axinn, and Teachman 1995; Yabiku 2005). So specific roles associated with key life course status configurations – e.g., spouse and parent - are likely to dominate and leave little room for other social roles, such as student.

Decades of research have examined how social roles – and those that prevail should multiple roles conflict - vary by gender (Bem 1993; Risman 2004). Feminist scholars aim to understand the nature and reproduction of these differences, which tend to emphasize separate roles based on perceived differences between men and women (Acker 1990; Scott 1986). In general, these historical roles shape the opportunities and trajectories to which men and women are typically exposed. For example, men may invest more in human capital accumulation as a way to maximize future income – an investment some see as less important for women’s historical roles in the home (Alexander and Eckland 1974; Becker 1991; Coleman 1990). In turn, these roles and experiences reinforce gender differences because they also shape men’s and women’s own attitudes and preferences, as well as interactions with and expectations of others (Blair-Loy 2003; Chodorow 1989; Goffman 1977; West and Zimmerman 1987).

### *Family-related social roles and work: Husband and father*

Marriage is a significant life course event that signals a transition in social activities and roles (Elder 1985; Huinink and Kohli 2014). Regarding spouses, historical gender norms emphasize the gainful employment of husbands and the provision of financial support, whereas wives are expected to remain close to home and provide emotional care for their family. Early work examining the association between family structure and migration mirrors these marital roles and expectations: relative to those single or never married, currently married persons are less likely to move (Clark and Withers 2007; Jeffrey and Murison 2011; Kley 2011; Maxwell 1988; Mulder and Wagner 1993; Mulder and Hooimeijer 1999; Polacheck and Horvath 1977). This is because, given the difficulty in occupying multiple roles at once, responsibilities and expectations associated with “husband” are more salient than those with other roles, such as student. So, men pursue non-family activities *prior* to marriage, whereas married men are expected to fulfill expectations associated with the husband role: provide financially and emotionally for their wives (Pasch and Bradbury 1998), thereby greatly limiting their mobility. Of course, the (best) work opportunities are not always available close to home. In such cases, mobility tends to align with historical norms as well: husbands’ employment is a central determinant, prompting residential moves for entire families (Bielby and Bielby 1992; Cooke 2008; Harbison 1981; Markham et al. 1983; Mincer 1978; Parsons and Bales 1955).

Of course, historical attitudes and expectations toward gender roles have been shifting in high-income settings in recent decades. Younger adults tend to prefer egalitarian relationships, which has led to more women entering the workforce and men becoming more involved with domestic tasks (Dey 2014; Pedulla and Thebaud 2015). Yet recent work reveals tensions between historical norms and these changing attitudes: spouses in dual career marriages, for

example, contest, but still reinforce traditional gender norms (Wong 2017). Similarly, Killewald (2016) finds a husband's gainful employment remains central to spouses' marital quality, regardless of their wives' workforce participation. These studies suggest that, even as cultural landscapes evolve, the male breadwinner role remains deep-rooted and central to spouses' expectations of marriage.

Parenthood is a second key life course status occurring within the family marked by social norms and expectations. Like marriage, historical expectations of parenthood vary greatly for men and women: women's roles often emphasize reproductive work, and thus center around bearing children and remaining close to home to care for them; formal work often conflicts with this role. In contrast, fathers (like husbands) are expected to provide financially for their offspring. Fertility has been found to significantly predict migration in Western settings, but these effects vary as children age: couples who experience a recent birth of a child are more likely to relocate to rural areas, whereas a larger family size lessens spouses' odds of moving larger distances for work (Kulu 2008).

In sum, husbands' and fathers' mobility declines as families settle and become more embedded in the local community and economy. And those who do move for work, tend to relocate with their families, rather than migrate back and forth independently. While these effects are not surprising in high-income contexts, they are not necessarily expected in settings in which historical gender norms remain largely unchanged and the social organization of work has shifted toward international markets.

### *Men's Migration in South Asia: Context*

#### *Family social roles and the male breadwinner*

Unlike high-income settings, marriage in Nepal remains universal and central to social life (Goode 1970; Yabiku 2005), and men's and women's roles and expectations remain tightly linked to the institution. These roles are dictated by the patriarchal nature of South Asian society: women move to their husband's village and are expected to remain close to the home to care for their families (Bennett 1983; Bohra and Massey 2009; Niraula and Morgan 1996; Williams 2009). Husbands, similar to historical norms in Western settings, should be gainfully employed outside the home and provide financially for their wives. Two characteristics of marriage in this setting emphasize the breadwinner nature the male role. First, in contrast to Western settings, individuals are historically seen as interdependent, with group goals primary to those more personal (Kim, Sherman, and Taylor 2008; Markus and Kitayama 1991). Marriage is no exception: for the majority of marriages, parents still participate in choosing their children's spouse (Allendorf and Pandian 2016), couples reside in close proximity to husbands' extended kin, and divorce remains rare. So, while spouses certainly support each other, the marital union often exists in a larger familial context. The second is that economic concerns remain central to households' priorities. In fact, managing costs are increasingly difficult as the cost of children's education continues to increase (Altback 1989) and local wages decline (ILO).

Fatherhood similarly remains near universal and tied to the provision of financial resources. Fertility is still tightly linked to marriage: non-marital births are rare and the majority of married couples have children (Coltabiano et al. 2008). Thus, even while fertility has declined in recent decades (PRB 2016), most men in this setting at some point become fathers. Historical norms identify parenthood as a particularly important life course event for economic, social, and religious reasons (Stone 1978). Sons are especially desired: daughters historically relocate to their husband's natal village, but sons remain as corporate members of the household estate,

providing labor and/or additional outside income until the estate is divided up among them and performing religious death ceremonies for their parents (Bennett 1983). Of course, financially supporting children in rural settings is increasingly difficult given rising educational costs. While the mean educational attainment in Nepal is 8.1 years, or some secondary schooling (CBS 2011), parents understand that enrollment in private schools – fees for which are relatively high compared to those for subsidized government schools – is the best way to ensure their children’s trajectory toward lucrative employment (Caddell 2007; Liechty 2003).

*Temporary migration as a household livelihood strategy*

Previous studies examining the association between the family life course and subsequent migration focus on Western settings and thus do not consider a dramatic global change in work opportunities: toward international markets. This change is particularly evident in Nepal, where, like much of South Asia, work has historically occurred close to home and was organized within the family (Axinn and Yabiku 2001; Fricke 1986). Poverty and topographical challenges hugely delayed infrastructure developments until recently, resulting in 75% of the population still relying on small-scale farming for their livelihood (Maharjan et al. 2013). Strong *pull* (rising foreign labor demand and eased migration policies) and *push* factors (inconsistent crop yields and a stagnant economy), has led to Nepali households increasingly sending members abroad for more lucrative work opportunities (Axinn and Yabiku 2001; Ministry of Labor and Employment 2015). The Middle Eastern oil boom in the 1970s was particularly consequential. While India remains the top international destination, Gulf Cooperation Council (GCC) member states have seen a dramatic increase in South Asian migrants in recent decades (Skeldon 2015; IOM 2010: 209).<sup>1</sup>

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<sup>1</sup> It is important to note that India remains a top destination for Nepalis. However, this movement is quite different from migration to other common destinations, such as the Middle East, in two key ways. One is the very nature of

The economic impact of migration on Nepal is considerable: migrants remitted nearly \$3 billion, or 28 percent of Nepal's GDP, in 2014 (Ministry of Labor and Employment 2015). And migration is likely to increase, as Nepal grows increasingly dependent on the significantly higher wages abroad (Graner and Seddon 2004; Lokshin et al. 2007). Two characteristics of Nepali labor migration are noteworthy. One, it is temporary by design: GCC countries maintain strict migrant monitoring systems and limit foreign workers to two or three year labor contracts at a time (De Bel-Air 2014; Gardner 2012; Gardner et al. 2013; Zachariah et al. 2002: 94), with no future options of obtaining citizen status, owning property, or sponsoring their family to join them (Khadria 2008; Naithani 2010). Two, the overwhelming majority (96%) of international migrants between 2008-2015 were men (Ministry of Labour and Employment 2015), with roughly 17% of Nepal's adult males involved in migration in 2008 (CBS 2009). That men migrate at higher rates than women reflects these enduring gendered preferences toward productive labor – a preference that is reinforced at the institutional level as well, with the government banning female migration in an attempt to protect women from unsafe working conditions (Graner 2001).

### *Men's Migration in South Asia: Empirical Predictions*

#### *Migration and the role of husband*

Given these social norms and the reorganization of work, marital status is expected to be a strong influence on men's migration in Nepal, although in the *opposite direction to those documented in Western settings*. While the breadwinner male role is not unique to this setting, the dramatic shift in work opportunities means that individuals are increasingly seeking more

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the movement between Nepal and these destinations: an individual can take a bus or even walk into India, with no paperwork. In contrast, migrating to, say, Qatar necessitates a visa and a formal labor contract and recruiter fees. Two, reasons for migration between Nepal and India are diverse: individuals study in Delhi, visit their spouse's natal home, or make a pilgrimage – all of which tend to be short trips. Travel to Malaysia or the Gulf, however, is rarely for purposes other than work, and, as noted above, is largely men migrating for longer spells.

lucrative employment opportunities abroad. And given the durability of men's and women's preferences toward labor, men are expected to make such temporary moves, rather than women – a role and expectation documented to influence migration preferences in other rural settings (De Jong 2000; De Jong, Johnson, and Richter 1996; Kanaiaupuni 2000). Moreover, that marriage emphasizes financial, more so than emotional, support, geographic distance between spouses is not likely to deter a husband's movement abroad as much as in Western settings. So, a husband's transition into marriage from being single/never married is likely to *increase* men's risk of migrating internationally, away from the family household, as they seek to maximize earnings and provide financially for their spouse (*Hypothesis 1: Marital status*).<sup>2 3</sup>

#### *Migration and the role of father*

Scholars have studied the relationship between fertility and labor migration in rural agrarian settings, albeit indirectly. Much attention has been given to how remittances affect children's health, education, and general wellbeing (e.g., Boehm 2008; Carling, Menjivar, and Schmalzbauer 2012; Nobles 2011, 2013; Parreñas 2005; Valentine et al., 2014; Yabiku and Agadjanian 2017), for example, suggesting that the financial support of children is an important driver of labor migration in low-income settings. This positive effect on parental migration runs counter to those previously documented in Western settings, however. Here, the provider nature of the father role is likely to *increase* fathers' odds of out-migration given the changing conditions of work opportunities (*Hypothesis 2a: Fatherhood status*).

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<sup>2</sup> Of course, selection into marriage is not random, and it is possible that single men migrate in order to build capital for marriage, as has been investigated elsewhere (e.g., migration spurs marriage) (Parrado 2004). While unlikely in this setting, this potential relationship is discussed in greater detail in the Analytic Approach and Data and Methods sections.

<sup>3</sup> Of additional consideration is the fact that once a man marries, he is thereafter considered to be at risk of marital dissolution. While it has become more common in the past ten years (Jennings 2014; Parry 2001), the event remains extremely rare since Hinduism prohibits divorce and remarriage after losing a spouse (Holden 2008; Parry 2001; Pothen 1989). Given its rarity, currently divorced/separated/widowed men are not the focus of this study, although models include a time-varying measure accounting for this change in marital status.

However, this main effect of fatherhood is likely to vary with children's age, similar to Western settings, and gender. First, the recent birth of a child (within the past year) is likely to motivate fathers to stay closer to home to care for their wives and expanding family. So, men who had a child within the past year are less likely to migrate abroad than men who have not recently had a child (*Hypothesis 2b: Recent birth of a child*). Second, children's education has been linked to international migration in similar settings, particularly when local economic opportunities are limited (Lu and Treiman 2011; Sobritchea 2007). So, I expect that men who have more children of school-age are more likely to migrate abroad than men who have fewer or no children of school-age (*Hypothesis 2c: School-age children*). Third, the children's gender is expected to matter as well. Given the patriarchal nature of social life, parents are historically motivated to invest in their sons' education more so than their daughters', so as to maximize sons' earning potential (Stash and Hannum 2001; Thornton, Alwin, & Camburn 1983). So, men who have more *sons* of school-age are more likely to migrate abroad than men who have fewer sons of school-age (*Hypothesis 2d: Gender of school-age children*), and this effect is expected to be larger than that for daughters. Last, fathers may migrate early in their children's education to ensure greater attainment and to provide a strong foundation for their future endeavors. Thus, I expect men who have more children of primary and secondary school age to be more likely to migrate abroad than men who have fewer (*Hypothesis 2e: Specific school ages*).

## **Data and Analytic Sample**

### *Sample*

I use highly detailed panel data from the Chitwan Valley Family Study (CVFS). The study collected data from all households in 151 neighborhoods using a clustered sampling

design. Baseline face-to-face individual and household interviews occurred in 1996 with all household members aged 15-59 and their spouses, regardless of age or place of residence. Individual interviews at baseline assessed marriage-related experiences, followed by family and travel updates, for everyone in the household. Following the individual interview, regular household interviews (HHR) tracked every respondent measuring monthly updates of family transitions, including marriage and travel events, for 144 months between 1997 and 2008. Individual life history calendars (LHC) in 1996 and 2008 captured annual retrospective measures of travel, marital status, schooling, employment, and fertility.

I leverage these data – prospective updates and retrospective reports of family and migration events, as well as extensive collection of important socio-economic characteristics – to test hypotheses regarding the family life course and men’s risk of migration. The study is uniquely designed to test these hypotheses for two reasons. One, baseline individual interviews in 1996 assessed a wide array of physical, human, and social capital, as well as demographic characteristics and marital and migration history. Two, the HHR collects monthly data on family and migration events starting in 1997. Thus, the study provides a unique opportunity to test the effects of time-varying family statuses on men’s *subsequent odds of international migration*, while also accounting for experiences *occurring prior to the marriage, fertility, and migration events*. The analytic ability to account for this specific time-ordering not only allows for empirical tests of the causal ordering of interest (family structure and subsequent migration), but allows for more precise estimates as well.

Specifically, this study examines the effects of marriage and fatherhood on men’s temporary migration abroad. The analytic sample consists of all male respondents aged 15-59 at baseline and all person-months in which men are living inside the 151 sample neighborhoods.

Since a man can take multiple trips throughout the observed period, he is again considered at risk for international migration once he returns to his family household within the study's sample neighborhoods. This resulted in a working sample of 156,387 person-months for analysis. An average of 1.3 migration events occurred among 1768 men, with 530 men migrating an average of 2.2 times outside Nepal and spending an average of 31.8 months away. Among ever-married men, there were 136,861 person-months for analysis at risk of male international migration.

### *Measures*

#### *Migration*

Migration is measured monthly, starting in 1997, in the HHR as the report of a change in a respondent's residential location, which is coded as 0 for any month in which a respondent resides for more than two weeks inside the study's sample neighborhoods. For months in which a respondent resides for more than two weeks outside Nepal, is living apart from his spouse, and is away from his family household, he is coded as a "migrant". International migration is coded 1 for any stretch of six consecutive months in which a respondent is coded as a migrant.<sup>4 5</sup>

#### *Marital status*

Marital status is assessed using the baseline interview in 1996, with monthly updates from the HHR starting 1997. Monthly measures of marital status are coded into three categories:

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<sup>4</sup> Additional models using different measurements of migration (that is, other thresholds of consecutive months used to define migration) yield similar results. Of import, however, is the difference between migration to India and that to other regions. As noted in above, migration to India is often much shorter in duration whereas migration to other regions, such as GCC member states, tends to be much longer. Using a 1-month threshold to define migration is thus likely to include these shorter trips to India. Since this study's focus is on temporary labor migration, rather than short trips for other purposes, models presented here use a minimum of 6 months to define migration.

<sup>5</sup> Person-months in which respondents migrated outside of Nepal but were reported as still living with their spouse or in the family household (e.g., living abroad with their family) were coded as "household migration" and were not included in analyses (78 migration events, or 5.1% of all 1,537 international migration events). Since this study is interested in life course predictors of men's temporary migration, excluding person-months in which a respondent is living outside Nepal but with his spouse and/or in the family household ensures that models capture only those migration events in which a man is living temporarily away from the household, rather than making a more permanent move with his family.

single/never married (reference), currently married, and divorced/widowed/separated. Utilizing the highly detailed nature of the data, respondents' marital status is lagged one month prior to the month in which they are considered at risk of migrating. Lagging marital status one month allows for careful estimation of the causal relationship of interest here: *the time-varying effects of marital status on subsequent migration* – precise to the month. In other words, this analytic strategy allows for estimation of respondents' marital status occurring *prior* to the risk of migration.

Table 1.1 presents descriptive statistics for key predictor variables used in analyses for all person-months and further stratified by international migration experience occurring during the observation period. Among the full sample of person-months, men are largely married (85%), followed by single/never married (12%) and divorced/separated/widowed (2%). Marital status varies significantly between person-months among respondents who migrate at any point during the study period (“migrants”) and person-months among those who do not (“non-migrants”): migrants are more likely to be single/never married and less likely to be married (noted with an \*). However, this difference is likely due to the fact that migrants are significantly younger at baseline than non-migrants (see table A.1.1 in the appendix).

[Table 1.1 about here]

#### *Fatherhood status and timing within fatherhood*

Models include eight time-varying fertility-related measures that are assessed yearly in the LHC and lagged one year. Like marital status, lagging the fertility measures so that they occur prior to months in which respondents are at risk of migration enables models to test the specific causal relationship of interest: *the time-varying effects of fertility on subsequent international migration*. The first is a dichotomous variable indicating whether a respondent has

any children (in other words, that he is a father). The second is a dichotomous measure, with 1 indicating the respondent experienced the birth of a child within the last year. The third is a continuous measure indicating the number of children of school age, which is then decomposed into two separate measures: number of daughters and number of sons of school age, respectively. Last, three similar continuous measures indicate the number of children of primary school age (5-10 years old), children of secondary school age (11-15 years), and children of higher secondary and college age (16-20 years). Again, fertility measures are lagged one year prior to the month in which a respondent is considered to be at risk of migrating abroad, allowing for models to estimate effects of fertility occurring *prior to the migration*.

The lowest rows in Table 1.1 show descriptive statistics for all fertility measures included in the analyses. Person-months among non-migrants are more likely to be fathers than person-months among migrants (0.96 versus 0.89). However, respondents – regardless of migration experience - are fathers in the majority of person-months. International migrants are more likely to have experienced a birth in the previous 12 months (.12), compared to non-migrants (.04). They also have fewer children (1.51 compared to 2.13, respectively), and, as expected, fewer children of school age, and this is true for both sons and daughters. Last, migrants' children are younger than non-migrants' children: most of migrants' children are of primary school age (.57), followed closely by secondary (.55) and higher secondary/college (.40). In comparison, non-migrants' children are most likely to be of higher secondary/college age (.98), followed by secondary (.71) and primary (.44).

#### *Marital characteristics*

In addition to marital status, specific characteristics of marriage may also influence male migration in this setting. Models including only ever-married male respondents (Table 1.3)

account for two key characteristics. Descriptive statistics for these measures are presented in Table A.1.1 in the Appendix. One is *timing of marriage*. This measure was assessed in the individual interview in 1996 for respondents married at baseline. For respondents married after baseline, but during the observed study period, age at marriage was assessed using the LHC and HHR. Marriage historically occurs in adolescence or early adulthood, with women marrying at younger ages than men (Williams 2009; Yabiku 2006): The average age at marriage for those marrying between 2000 and 2005 was 19.9 for women and 23.9 for men (Yabiku 2005). Marriage timing often indicates levels human capital accumulation, as later marriage is closely linked to education (Blossfeld and Huinink 1991; Sweeney 2002; Thornton et al. 1995; Yabiku 2005) and work experience. Additional human capital reflects higher earning prospects, which increases an individual's marriageability and their eventual propensity to migrate abroad for better paying work.

*Participation in spouse choice* is a second important characteristic of marriage. For respondents married at baseline, this measure was assessed in the individual interview in 1996. A marital supplement assessed participation in spouse choice for respondents who married at any point after baseline and during the observation period. Marriage is historically seen as a bond between families, rather than between two individuals, with parents arranging the majority of unions and limiting young people's say in who they marry (Banerjee 1984; Bennett 1983). However, the region is experiencing a slow transition away from parents arranging nearly all marriages, to a larger fraction of recent unions being based on young people's own choices (Ghimire et al. 2006). Individuals who enter a choice marriage are likely to hold different views and attitudes toward the institution. Specifically, they might view marriage as a union based on love and personal fulfillment, rather than one based purely on economic necessity and tradition.

These men who have any say in spouse choice may be motivated to seek the highest paying job available, including those abroad. At the same time, however, their emotional connection with their spouse may drive them to stay closer to home. In this case, these husbands may be less likely to migrate far from home. In reality, however, participation in spouse choice may not influence male migration at all: given the high rates of poverty in rural Nepal, married men, regardless of whether they had a say in who they married or not, may be driven to find work due to larger social roles and expectations.

*Other important factors*

Models also include various forms of capital – physical, social, and human - previously documented in the literature to influence both migration and marriage. It is crucial to note that the study design accounts for precise time-ordering of these measures with family and migration events. Specifically, the majority of control variables included in analyses were assessed at baseline, and thus *prior to any migration event*. Moreover, time-varying measures that were updated yearly in the LHC were lagged one year, so that models accounted for these experiences occurring before the migration.

First, I include a dichotomous measure indicating whether the respondent's household owns farmland at baseline, which is a key indicator of household wealth. I also include two time-varying measures of possession of physical capital, which can either mitigate the costs of migrating, but also decrease the need to do so: ownership of a home business and ownership of an outside business (Bohra and Massey 2009; Massey and Espinosa 1997). These measures are assessed yearly in the LHC and are lagged one year. Second, I include four measures of social capital assessed in the individual interview. The first two concern migration. Migrants transmit information about the process and experience of migration, thereby helping to alleviate concerns

associated with moving abroad and increasing the probability of doing so (Donato 1993; Massey and Espinosa 1997; Massey et al. 1998). Key sources of information are parents (Massey et al. 2010) and neighbors (Bohra and Massey 2009:632). Models include separate measures indicating whether either parent traveled outside Nepal before the respondent was 12 years old, and the percent of individuals in the neighborhood who ever traveled internationally by the time of the baseline interview. The second two measures concern family formation behaviors. Models include a dichotomous measure indicating whether either parent worked outside the home before the respondent was 12 years old, as well as a continuous measure indicating how many children the respondent's parents had at baseline. Next, human capital largely influences an individual's income opportunities and expected earnings, thereby affecting one's motivation to seek work abroad (Harris and Todaro 1970; Massey and Espinosa 1997; Stark and Bloom 1985), as well as the timing and characteristics of marriage. Education is a key source of human capital, and I include a continuous measure indicating an individual's educational attainment at baseline (Donato 1993; Hoelter et al. 2004; Massey et al. 2010). I also include a time-varying measure for school enrollment, which has been found to decrease the risk of migration for men (Williams 2009) and to delay marriage (Blossfeld and Huinink 1991; Sweeney 2002; Thornton et al. 1995; Yabiku 2005). Two time-varying dichotomous measures indicate salaried and wage employment, which might influence migration due to unique skill acquisition and experience moving (Bohra and Massey 2009). Enrollment and employment measures are lagged by one year. I include baseline migration history, with "1" indicating any experience migrating to Kathmandu or outside Nepal before 1996. Finally, since a respondent can take multiple trips abroad, I include a time-varying dichotomous measure indicating whether a respondent has migrated internationally during the observation period. This measure is lagged one month.

*Demographic characteristics.* Age is closely related to important life experiences, including education, labor force experience, and marriage. For men, migration tends to increase sharply with age, peaking in their 20s and 30s, then slowly decline with age and human capital accumulation. I measure birth cohort with respondent age at baseline. As significant ethnic/caste differences have been shown to influence social life in Nepal (Ghimire et al. 2006; Yabiku 2006), I also include a set of dichotomous measures corresponding to five broad ethnicity/caste categories reflecting meaningful distinctions in Nepalese society: Bhramin/Chhetri (reference), Dalit, Newars, Terai Janajati, and Hill Janajati.

All analyses include measures for other important factors and demographic characteristics, as well as controls for months in study and months in study squared. Descriptive statistics for other important factors and demographic characteristics are presented in Appendix A (Table A.1.1).<sup>6</sup>

#### *Analytic approach*

As marriage, fertility, and migration change over time, I utilize the longitudinal nature of the data and model the odds of men's out-migration using event-history methods. I test the time-varying effects of respondents' marital status, fatherhood status, and timing within fatherhood on the hazard of men's international migration, net of other key factors. Importantly, I lag these measures to account for family-related experiences occurring *prior to the event of migration*. Similarly, other important factors – various forms of capital and demographic

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<sup>6</sup> Of course, while the factors discussed and presented here are thorough, they are not exhaustive. Thus, I also estimate fixed effects models to account for any additional factors that may confound the association between family life course status configurations and male migration documented here. I focus this study's analysis on the multilevel mixed effects models, however, for two reasons. One, fixed effects models only include respondents who experience migration, and drop those who do not migrate. This results in a much smaller sample. Two, these models only estimate effects of variables that change over time, thereby dropping respondents who do not experience changes in marital status or fertility during the study period. As such, I present results from fixed effects models estimating these effects on male migration as a conservative approach in the Appendix (Tables A.1.2 for marital status and A.1.3 for fertility). Nevertheless, results from these models are consistent with those presented in Tables 1.2 and 1.3. In fact, estimates are larger and stronger than those presented in Tables 1.2 and 1.3.

characteristics – are assessed at baseline. Because the data are measured monthly, I use discrete-time methods to estimate these models. Person-months are the units of analysis, with respondents considered to be exposed to the risk of migration during any month in which they are living in one of the sampled 151 Chitwan neighborhoods. To estimate the discrete-time hazard models, I use logistic regression in the form

$$\ln\left(\frac{p}{1-p}\right) = a + \sum(B_k)(X_k)$$

where  $p$  is the monthly probability of migrating,  $p/1-p$  is the odds of migration occurring,  $a$  is a constant term,  $B_k$  are the effects parameters of the explanatory variables, and  $X_k$  are the explanatory variables in the model. I cluster the errors by neighborhood to account for the clustering of the CVFS sampling design at the neighborhood level. Results are presented as odds ratios, which can be interpreted as the amount by which the odds are multiplied with each unit change in the respective explanatory variable. An odds ratio greater than 1 indicates a greater hazard of migrating, where as a ratio less than 1 represents a lesser hazard.<sup>7</sup>

## Results

### *Hypothesis 1: Role of husband (marital status)*

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<sup>7</sup> It is also possible that the relationship between marital status and male migration operates in the opposite direction. This can happen in one of two ways. First, the absence of a husband for an extended period of time may increase couples' likelihood of marital dissolution. I estimate additional logistic regression models to test this effect. Results from these show that neither international migration status nor experience significantly influence a couple's risk of marital dissolution in this setting. Results are presented in Appendix A.1.4. Second, as noted briefly in above, migration may build capital for single men, in turn improving their marriageability. In this case, migration may occur *prior* to marriage, rather than after. While estimating the effects of male migration on marriage timing is beyond the scope of this paper, models presented here provide insight into this relationship, albeit indirectly. The highly detailed nature of the CVFS data – that marital status and migration are measured monthly – allows for analyses to carefully model the causal relationship between marriage and migration. If migration does in fact occur prior to marriage, the time-varying effect of marital status should not be significant, and may even be negative (e.g., married men are significantly *less* likely to migrate internationally than single/never married men). Results of the effects of marital status on men's international migration are presented in Tables 1.2 and A.1.2.

Table 1.2 presents results for logistic regression models estimating the effects of marital status on men's hazard of migration. Results in Table 1.2 show that marital status is an important predictor of male migration in this setting. Specifically, being currently married significantly increases a man's monthly odds of international migration by 64% ( $p < 0.001$ ) relative to men who are single/never married. Again, models estimate the effects of marital status – assessed monthly – on the *subsequent risk of international migration*. The dissolution of a marriage, either by divorce, separation, or widowhood, has no effect: these men are not significantly more or less likely to migrate outside Nepal than those who are single/never married. Results presented in Table 1.2 support *Hypothesis 1 (marital status)*: being married significantly increases a man's risk of migrating internationally, relative to being single/never married.<sup>8 9 10</sup>

Models also account for important factors previously identified in the literature to influence migration and marriage, and results shown here are consistent with these studies. Physical capital significantly predicts male migration: owning a home or outside business decreases a man's risk of international migration (by roughly 75%), whereas household ownership of any farmland at baseline increases it by nearly 70%. Multiple measures of human capital also have strong effects on migration: educational attainment at baseline (5%) and current enrollment in school (roughly 60%) both negatively influence migration. Salary and wage work

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<sup>8</sup> Since marriage tends to occur early in the life course, additional analyses estimated similar models but included men age 15-30 in analyses. Among this smaller sample, the effects of marital status remain positive and highly significant. Results not presented for parsimony but can be made available upon request.

<sup>9</sup> Similar to fatherhood, it is possible that this positive effect of marriage is not uniform. Additional models tested the effect of *recent transition into marriage* on men's likelihood of international migration using various thresholds for "recent" (e.g., within the last month, within the last 6 months, etc.). Results show that, similar to men who have been married for longer periods of time, men who recently transitioned into marriage are significantly more likely than single/never married men to migrate abroad. However, these men who recently married are not significantly more or less likely to migrate than men who have been married for longer periods of time.

<sup>10</sup> As noted above, fixed effects models are a conservative approach to estimating the effects of marital status on male migration. Nevertheless, results from fixed effects models are presented in Table A.1.2 in the Appendix. Findings are consistent with those shown in Table 1.2: being married increases a man's odds of migrating by 62%, compared to being single/never married.

opposite directions: salary work greatly increases men's odds of migrating, whereas wage work decreases them (65%). As expected, men who have migrated internationally during the observation period are much more likely to migrate again. Last, migration varies across caste/ethnicity groups and decreases with age (13%).

[Table 1.2 about here]

*Hypotheses 2a-2e: Role of father (fatherhood status and times within fatherhood)*

Table 2.3 presents results of the effects of fertility on men's risk of international migration. Because fertility is extremely rare outside marriage, these models only include person-months in which respondents have ever been married (88% of the full sample of person-months). Results in Table 1.3 show that fertility influences men's migration in a number of important ways. First, fatherhood status significantly affects men's migration (Model 1): men who have children are 53% more likely to migrate abroad than men who do not have children, and this is significant at the  $p < .01$  level. Again, the panel study design means that these models are estimating the effects of fertility on men's *subsequent* migration; fertility is assessed prior to the migration. This supports *Hypothesis 2a (fatherhood status)*: being a father increases a man's likelihood of international migration.

[Table 1.3 about here]

Second, while fatherhood predicts migration, so do the *specific ages of the children* a man has; in other words, the timing within fatherhood matters. Model 2 shows that in the year directly following the birth of a child, a man is not significantly more or less likely to migrate internationally.<sup>11</sup> This result does not provide support for *Hypothesis 2b (recent birth of child)*, although that it does not (significantly) increase father's risk of migration is still noteworthy. The

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<sup>11</sup> Additional analyses defining "recent birth" as "within the last two years" yielded similar results.

effect changes, however, as children age: for each additional child of school age, a man's risk of international migration increases by 24% (Model 3) and this is significant at the  $p < .001$  level. This positive effect is true for having either daughters or sons of school age: a man's odds of migrating increase by 20% (Model 4;  $p < .05$ ) and 29% (Model 4;  $p < .01$ ) for each additional daughter and son of school age, respectively. These effects of daughters and sons are independent of each other. Models 3 and 4 provide strong support for *Hypothesis 2c (children of school age)*: men with more children of school age are more likely to migrate internationally than men with none or fewer children of school age. While results suggest that sons have a slightly stronger effect for men's migration, the effects for sons and daughters are not significantly different from each other. Thus, these models provide little support for *Hypothesis 2d (gender of children in school)*.

Last, Model 5 shows that having children of specific school ages also predicts men's international migration: it is not just the *number* of children of school age overall, but the *specific ages* of children matters as well. Results show that having younger children who are at the beginning of their education is particularly influential: with each additional child of primary school age a man's odds of migrating abroad increases by 28% ( $p < .001$ ). The effect of secondary school age is similar: each additional child increases a man's odds of migrating by 25% ( $p < .01$ ).<sup>12 13</sup>

Similar to results shown in Table 1.2, other important factors – physical, social, human, migration-specific capital, and demographic characteristics – significantly influence men's

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<sup>12</sup> Like marriage, fixed effects models are a conservative approach to estimating the effects of fertility on men's international migration. Results, presented in Table A.1.3 in the Appendix, are consistent with those shown and discussed in Table 1.3. These estimates of fertility are much stronger in magnitude.

<sup>13</sup> Additional analyses tested the effects of gender and specific school ages in one model. Results are presented in Table A.1.5 in the Appendix. Results show that having boys of primary and secondary school age is particularly strong, even when controlling for daughters of similar age. These effects for having sons and having daughters, however, are not significantly different from each other.

migration in this setting. These factors have similar effects, in both direction and magnitude, as those shown and discussed in Table 1.2. Models also control for marital status and key marital characteristics. Participation in spouse choice with parents slightly decreases men's odds of migrating (Models 1 and 2), whereas age at marriage significantly increases them ( $p < .001$ ).

## Discussion

Investigation of the association between family structure and migration is not new: a vast literature has considered how migration impacts marriage and fertility, for example, as well as variation in marital and fertility experiences among migrants over time. However, two important gaps in the literature remain. For one, explicit examination of this specific causal ordering - how family life course statuses influence men's *subsequent migration* - is rare. This is due in part to data limitations and to the fact that both family-related experiences and migration are highly selective. Two, existing studies show, albeit indirectly, that two key social statuses - spouse and parent - greatly limit individuals' mobility, which scholars argue is due to familial responsibilities. While these results are not entirely surprising, they are embedded in larger assumptions about familial roles, particularly the marital relationship, and the nature of migration, and are thus limited in their generalizability.

This study addresses these gaps and makes two important contributions to the literature. Theoretically, I challenge current understandings of how family structure influences subsequent movement for work. Specifically, I draw on literatures of the life course, role conflict/incompatibility, and historical gender norms to develop a framework and identify key conditions - historical gender norms and the employment landscape - shaping this association. I then apply this framework to a setting in which these conditions vary greatly from those previously

examined in Western settings: the rural agricultural setting of Nepal, where patriarchal and family-oriented norms remain and foreign labor jobs present more lucrative income opportunities relative to those more local. Empirically, I leverage unique panel data to produce more precise estimates of this under-studied relationship: monthly marriage, fertility, and travel measures and extensive assessment of socio-economic factors among a representative sample of nearly 10,000 individuals in rural Nepal, assessed *prior to marriage and migration events*. These tools provide the rare opportunity to estimate models of this specific causal ordering – life course statuses on men’s subsequent migration - while also accounting for potentially key confounders.

Results from event history models show a number of key patterns. First, I show that *marital status* predicts men’s subsequent risk of migration: husbands (married men) are significantly more likely to migrate abroad than single/never married men. Two, among ever-married men, I show that fatherhood also increases men’s likelihood of subsequent migration, relative to men who have no or fewer children. Third, I tease fatherhood apart and show that being a father does not uniformly affect migration, but rather the effects vary with children’s age and, to lesser extent, gender.

What do these results tell us about the association between family structure and migration? A central finding is the strong positive effect of marital status on men’s risk of migration, which is in contrast to existing literature in Western settings. Earlier work has identified marriage as an important life course event constraining personal mobility (e.g., Cooke 2008; Mincer 1978). But the present study shows that marital status in a low-income, rural agricultural setting operates quite differently: being currently married significantly *increases* men’s likelihood of temporarily migrating abroad. The effects of parenthood are similarly striking: previous work in high-income settings shows the recent birth of a child increases

parental mobility, while a growing family decreases it (Kulu 2008). However, I find that these characteristics of family structure influence men's migration in the reverse directions: their probability of migrating increases as their children grow older.

These findings highlight a number of conditions that shape the association between family and migration. One is cultural: the nature of social roles and expectations associated with key life course status configurations, which varies across contexts. In Western settings, attitudes toward historically complementary gender roles have been shifting in recent decades (Thornton, Axinn, and Xie 2008). Still, the provider nature of the male role remains central to family life: men's employment still weighs more heavily in family relocation decisions and plays a key role in marital satisfaction, and even dissolution (Killewald 2016). Moreover, marriage is a key social relationship in Western settings, with spouses serving as central sources of both emotional and instrumental support. Given these familial responsibilities, marriage greatly limits individual spouses' mobility. And when married men do move, they tend to move *with their families*.

In contrast, some social change has occurred in Nepal, although to a much lesser extent (Ghimire et al. 2006; Jennings 2014; Yabiku 2005). The historical centrality of the family and patriarchal and family-oriented social norms still characterize social life in this setting. So, marriage and childbearing remain largely universal, with most individuals assuming the roles of "spouse" and "parent" at some point in their lives, and often at relatively young ages. And given the difficulty in occupying multiple roles simultaneously, this provider role is particularly salient for husbands and fathers. The durability of this male provider role leads to strong preferences that it is men, *not women*, who work outside the home. Moreover, marriage in this setting emphasizes instrumental support (Nepal remains one of the poorest countries in the region), rather than an emotional connection (marriage exists in a larger familial context, which is

expected to provide emotional support should crises arise). So, the geographic distance between spouses may be less problematic here than in Western settings. Therefore, it is not surprising that married men and fathers, relative to single/never married men and men with no or fewer children, respectively, seek the most stable and lucrative income opportunities in order to fulfill expectations associated with these salient social roles.

Of course, husbands and fathers motivated to financially provide for their families is not unique to this setting. However, this study identifies a second condition shaping the association between the family life course and migration: the heterogeneity and changing nature of work opportunities. In high-income settings, strong economies often provide earning opportunities closer to home, enabling men (and women) to financially provide for their families without moving for work. Yet this is not the case in many low-income countries. In Nepal, for example, a stagnant domestic economy and inconsistent crop yields have led to declining local wages, motivating individuals to explore alternatives, which are increasingly abroad. This livelihood strategy – a household member moving away for work, and sending money back home – is a worldwide phenomenon (Castles, De Hass, and Miller 2013; Stark and Bloom 1985). And the preference that men, not women, move abroad for these jobs exists in many other low-income settings as well (Cerutti and Massey 2001; De Jong 2000). Yet structural factors play an important role here: the nature of foreign labor demands and domestic policies may present households with little choice. In Nepal's case, the majority of work in the Middle East – a common migrant destination - is in construction, which skews toward men, and while domestic jobs certainly exist, government bans limit Nepalese women from pursuing them. That these conditions - gendered preferences and specific labor demands – align in Nepal, results in men comprising the overwhelming majority of Nepalese international migrants. Of course, this is not

the case everywhere: research documents a “feminization” of labor migration (Donato 2010; Donato et al., 2006), with much work examining the conflict between women’s historical reproductive roles and their employment away from the family household (e.g., Hofmann and Buckley 2013; Honagneu-Sotelo; Parrenas 2005).

Policy implications for migrants and their “left behind” family members should keep these scope conditions in mind. For example, scholars have shown that transnational migrants have been found to be at greater risk of divorce (Antman 2011; Boyle et al. 2008; Muszynska and Kulu 2007; Yabiku, Agadjanian, and Sevoyan 2010). However, the nature of marriage in this setting suggests that the temporary absence of a spouse may not necessarily threaten marriage. As for children, studies show that fathers’ migration may have serious consequences for their children (e.g., Yabiku et al., 2012). At the same time, however, remittances have been shown to improve children’s educational outcomes in other low-income countries (Lu and Treiman 2011; Sobritchea 2007). Parents increasingly view school as a crucial pathway through which their children can maximize future earning potential and thus enjoy upward social mobility (Altbach 1989). But if labor migrants in this setting use temporary migration as a strategy to send their children to the best school possible, migration may contribute to growing social inequality. While labor migration may work as an equalizer in other contexts (e.g., Garip 2014), results shown here suggest that this may not be the case in Nepal. Migrating abroad demands large upfront costs for travel, paperwork, and recruiter fees, and not all families can afford it. Rather, the poorest of the poor are least likely to fill better paying job opportunities offered abroad, resulting in widening gaps in educational attainment and quality for this next generation.

A related finding worth noting is the effects of having daughters and sons of school age. Men’s and women’s enrollment in school are both increasing, and this is reflected in the fact that

having daughters and sons in school both independently increase men's subsequent risk of international migration. At the same time, results suggest that having sons of school age may have a slightly stronger effect on fathers' migration than does daughters. That the relationship between parents' migration and children's education may be gendered has been documented in other low-income settings (Yabiku and Agadjanian 2017). Given the patriarchal nature of social life in this setting, this is not entirely surprising: social opportunities are expanding for women as well as for men, particularly in the education sector. However, the historical expectation that men pursue a career and provide for their families – in the form of caring for their parents, as well as their spouse and children - remains. So the gendered nature of work patterns observed in international migration today may translate into similarly gendered employment trajectories for this next generation as well – consequences of the benefits of migration that should not be overlooked. Of course, that these independent effects for sons and daughters are not significantly different indicates that any gendered effects are likely small.

In sum, this study analyzes how specific family-related statuses occurring across the life course influence men's subsequent risk of migration. Similar to previous studies, it identifies husband and father – and specific timing within fatherhood - as two key social statuses affecting men's subsequent migration. However, the findings documented here are in strong contrast the existing literature, which find that family life greatly limits individual mobility. I thus make two important theoretical and empirical contributions to the literature. I critique current understandings of how family structure influences subsequent movement for work and identify two key conditions - gender and marriage norms and work opportunities – under which prior results may (or may not) hold. Moreover, I leverage panel data uniquely designed for this analysis: monthly family and migration measures and careful assessment of background factors

assessed *prior to marriage and migration events*, providing more precise estimates of this understudied causal relationship.

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Table 1.1 Descriptive Statistics for Key Variables Used in Analyses

	All			International migrants			Non-migrants		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Respondents	1768			530			1238		
Person-months	156387			38569			117818		
Ever-married person-months	136861			29255			107606		
Migration									
# migration events	0.55	1.33	0-20	2.22	1.87	1-20			
Months away	8.38	20.33	0-133	31.78	29.5	1-133			
Marital status <sup>a</sup>									
Single/never married	0.12			0.24			0.09		
Married	0.85			0.75			0.88		
Divorced/separated/widowed	0.02			0.01			0.03		
Fatherhood status and characteristics									
Any kids (is a father) <sup>a</sup>	0.94	0.23	0-1	0.89	0.31	0-1	0.96	0.2	0-1
# births 1+ <sup>a</sup>	0.06	0.24	0-1	0.12	0.32	0-1	0.05	0.21	0-1
Number of school-age children									
Total # of Kids school age <sup>a</sup>	1.99	1.68	0-10	1.51	1.51	0-8	2.13	1.7	0-10
# Daughters school age <sup>a</sup>	1.01	1.16	0-7	0.78	1	0-6	1.07	1.2	0-7
# Sons school age <sup>a</sup>	0.99	1.02	0-7	0.73	0.9	0-6	1.06	1.03	0-7
Number of children specific school ages									
# Kids primary age <sup>a</sup>	0.47	0.76	0-5	0.57	0.8	0-4	0.44	0.74	0-5
# Kids secondary age <sup>a</sup>	0.67	0.94	0-6	0.55	0.87	0-5	0.71	0.95	0-6
# kids higher secondary/college age <sup>a</sup>	0.85	1.1	0-7	0.4	0.83	0-5	0.98	1.14	0-7

Note: superscripts next to measures included in analyses represent a t-test or chi square,  $p < .05$ : <sup>a</sup> between non-migrants and international migrants

Table 1.2 Effects of Marriage on Men's Risk of International Migration

Marital status (ref: single/never married)		
Currently married	1.64	***
	0.23	
Divorced, separated, widowed	1.47	
	0.73	
Other important factors		
Physical capital (time-varying)		
Own a home business	0.33	***
	0.07	
Own an outside business	0.37	***
	0.11	
HH owns any farmland (baseline)	1.72	*
	0.41	
Social capital (baseline)		
Parents' travel	1.1	
	0.17	
NBH travel outside Nepal	1.42	
	1.96	
Parents work outside home	0.86	
	0.13	
Parents' # kids	1.04	
	0.03	
Human capital		
Educational attainment (baseline)	0.96	*
	0.02	
Enrolled in school	0.33	***
	0.06	
Salary work	6.28	***
	0.69	
Wage work	0.4	***
	0.06	
Migration-specific		
International migration experience	2.41	***
	0.34	
Ever to KTM/abroad (baseline)	1.11	
	0.17	
Caste/ethnicity		
Dalit	1.59	*
	0.42	
Newar	0.93	
	0.33	
Terai Janajati	0.59	*
	0.16	
Hill Janajati	1.98	**
	0.46	
Age at baseline	0.89	***

	0.01	
Month in hazard	1	
	0	
Month in hazard squared	1	
	0	
Constant	0.02	***
	0.01	
chi2	993.06	
p	0	
ll	-4376.12	
N	156387	

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Note: Columns show results from logistic regression models with standard errors presented below; \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests.

Table 1.3 Effects of Fertility on Men's Risk of International Migration Among Ever-Married

Men

	1		2		3		4		5
Fatherhood status and characteristics									
Any kids (is a father)	1.53	**							
	0.25								
# births 1+			0.91						
			0.12						
Number of school-age children									
Total # of Kids school age					1.24	***			
					0.06				
# Daughters school age							1.20	*	
							0.08		
# Sons school age							1.29	**	
							0.10		
Number of children specific school ages									
# Kids primary age									1.28 ***
									0.08
# Kids secondary age									1.25 **
									0.08
# kids higher secondary/college age									1.07
									0.10
Marital status									
Divorced, separated, widowed	0.89		0.78		0.89		0.89		0.89
	0.45		0.39		0.45		0.45		0.45
Marital characteristics									
Participation in choosing spouse									
Any choice	0.70	*	0.70	*	0.70		0.70		0.71
	0.14		0.14		0.15		0.15		0.15
Full choice	0.84		0.85		0.86		0.86		0.87
	0.16		0.16		0.17		0.17		0.17
Age at marriage	1.09	***	1.08	***	1.11	***	1.11	***	1.10 ***
	0.02		0.02		0.02		0.02		0.02
Other important factors									
Physical capital (time-varying)									
Own a home business	0.25	***	0.25	***	0.24	***	0.24	***	0.24 ***
	0.07		0.07		0.06		0.06		0.06
Own an outside business	0.36	***	0.38	***	0.38	**	0.38	**	0.38 **
	0.11		0.12		0.12		0.12		0.12
HH owns any farmland	1.69	*	1.66	*	1.69	*	1.69	*	1.70 *
	0.44		0.43		0.44		0.44		0.45
Social capital (baseline)									
Parents' travel	1.16		1.15		1.15		1.15		1.15
	0.20		0.19		0.20		0.20		0.20
NBH travel outside Nepal	2.35		2.27		2.40		2.33		2.39
	3.36		3.22		3.46		3.36		3.43
Parents work outside home	0.80		0.80		0.80		0.81		0.80

	0.13		0.13		0.14		0.14		0.14
Parents' # kids	1.06 *		1.06 *		1.06		1.06		1.06
	0.03		0.03		0.03		0.03		0.03
Human capital									
Educational attainment									
(baseline)	0.95 *		0.95 *		0.95 *		0.95 *		0.95 *
	0.02		0.02		0.02		0.02		0.02
Enrolled in school	0.46 *		0.38 **		0.38 *		0.38 *		0.39 *
	0.19		0.15		0.15		0.15		0.16
Salary work	6.67 ***		6.76 ***		6.77 ***		6.78 ***		6.74 ***
	0.87		0.88		0.89		0.89		0.89
Wage work	0.35 ***		0.36 ***		0.34 ***		0.34 ***		0.34 ***
	0.06		0.06		0.06		0.06		0.06
Migration-specific									
International migration									
experience	3.11 ***		3.15 ***		2.96 ***		2.96 ***		2.94 ***
	0.47		0.48		0.46		0.45		0.45
Ever to KTM/abroad (baseline)	1.07		1.11		1.07		1.07		1.06
	0.18		0.18		0.18		0.18		0.18
Caste/ethnicity									
Dalit	1.50		1.50		1.45		1.45		1.45
	0.44		0.44		0.43		0.43		0.43
Newar	0.89		0.89		0.86		0.85		0.86
	0.36		0.36		0.35		0.35		0.36
Terai Janajati	0.64		0.65		0.62		0.62		0.61
	0.19		0.19		0.18		0.18		0.18
Hill Janajati	2.20 ***		2.18 ***		2.21 **		2.21 **		2.21 **
	0.55		0.54		0.56		0.56		0.56
Age at baseline	0.88 ***		0.88 ***		0.86 ***		0.86 ***		0.87 ***
	0.01		0.01		0.01		0.01		0.01
Month in hazard	0.99		0.99		0.99		0.99		0.99
	0.00		0.00		0.00		0.00		0.00
Month in hazard squared	1.00		1.00		1.00		1.00		1.00
	0.00		0.00		0.00		0.00		0.00
Constant	0.01 ***		0.01 ***		0.01 ***		0.01 ***		0.01 ***
	0.00		0.01		0.01		0.01		0.00
chi2	849.05		858.68		825.81		825.21		829.66
p	0.00		0.00		0.00		0.00		0.00
ll	-3469.89		-3472.93		-3464.49		-3464.23		-3462.73
N	136861		136861		136861		136861		136861

Note: Columns show results from logistic regression models with standard errors presented below. \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests.

## Appendix

Table A.1.1 Descriptive Statistics for Key Covariates Used in Analyses for All, Migrant, and Non-migrant Person-Months

R	All			International migrants			Non-migrants		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Person-months	1768			530			1238		
	156387			38569			117818		
<b>Marital characteristics</b>									
Age at marriage*	20.77	4.34	7-60	21.1	3.89	9-36	20.68	4.45	7-60
Any say in spouse choice*	0.58			0.64			0.56		
<b>Other important factors</b>									
Physical capital (time-varying)									
HH owns farmland	0.85	.35	0-1	0.9	0.31	0-1	0.84	0.37	0-1
Own home business *	0.15	.36	0-1	0.11	0.31	0-1	0.17	0.37	0-1
Own outside business *	0.05	.22	0-1	0.07	0.25	0-1	0.05	0.21	0-1
Social capital									
Parents' travel experience *	0.34	.47	0-1	0.37	0.48	0-1	0.32	0.47	0-1
NBH's travel experience *	0.15	.07	0-.46	0.15	0.07	0-.38	0.15	0.08	0-.46
Parents' # kids *	5.83	2.54	1-17	5.73	2.47	1-16	5.86	2.56	1-17
Parents' work *	0.49	.50	0-1	0.54	0.5	0-1	0.48	0.5	0-1
Human capital									
Educational attainment *	5.25	4.46	0-16	6.51	3.7	0-16	4.83	4.61	0-16
Enrolment (time-varying) *	0.07	.26	0-1	0.13	0.33	0-1	0.06	0.23	0-1
Salary work (time-varying) *	0.22	.41	0-1	0.31	0.46	0-1	0.19	0.39	0-1
Wage work (time-varying) *	0.31	.46	0-1	0.25	0.43	0-1	0.33	0.47	0-1
Migration-specific									
Ever travel international/internal (time-varying)*	0.34	.47	0-1	0.48	0.5	0-1			
Travel to KTM/outside Nepal (baseline)	0.48	.50	0-1	0.5	0.5	0-1	0.48	0.5	0-1
Caste/ethnicity *									
Brahmin/Chettri	0.48			0.5			0.48		
Dalit	0.1			0.12			0.09		
Newar	0.06			0.04			0.07		
Terai Janajati	0.23			0.19			0.24		
Hill Janajati	0.13			0.15			0.12		
Age at baseline*	35.23	12.98	15-60	26.76	10.83	15-60	38.01	12.41	15-60
Months in hazard*	68.19	41.52	2-144	65.12	40.8	2-144	69.2	41.71	2-144

Note: \* next to measures included in analyses represent a t-test or chi square,  $p < .05$  \*, between non-migrants and international migrants (two-tailed)

Table A.1.2 Results from Fixed Effects Logistic Regression Models of the Effects of Marriage on Men's Risk of International Migration

Marital status (ref: single/never married)		
Currently married	1.84	***
	0.31	
Divorced, separated, widowed	2.02	
	1.38	
Other important factors		
Physical capital		
Own a home business	0.26	***
	0.08	
Own an outside business	0.31	**
	0.12	
Human capital		
Enrolled in school	0.23	***
	0.05	
Salary work	6.56	***
	0.82	
Wage work	0.45	***
	0.09	
Migration-specific		
International migration experience	0.36	***
	0.05	
Month in hazard	1.02	***
	0	
Month in hazard squared	1.00	**
	0	
chi2	646.00	
p	0	
ll	-2798.99	
N	28635	

Note: Columns show results from fixed effects logistic regression models with standard errors presented below. \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests.

Table A.1.2 Results from Fixed Effects Logistic Regression Models of the Effects of Fertility  
on Men's Risk of International Migration Among Ever-Married Men

	1	2	3	4	5
Fatherhood status and characteristics					
Any kids (is a father)	2.19 *** 0.46				
# births 1+		0.92 0.13			
Number of school-age children					
Total # of Kids school age			1.78 *** 0.14		
# Daughters school age				1.69 *** 0.18	
# Sons school age				1.89 *** 0.23	
Number of children specific school ages					
# Kids primary age					1.81 *** 0.15
# Kids secondary age					1.76 *** 0.17
# kids higher secondary/college age					1.57 *** 0.2
Marital status					
Divorced, separated, widowed	1.1 0.73	0.99 0.64	0.9 0.57	0.9 0.58	0.92 0.59
Other important factors					
Physical capital					
Own a home business	0.23 *** 0.09	0.22 *** 0.09	0.19 *** 0.08	0.19 *** 0.08	0.19 *** 0.07
Own an outside business	0.31 ** 0.13	0.33 ** 0.14	0.37 * 0.15	0.37 * 0.15	0.37 * 0.15
Human capital					
Enrolled in school	0.18 ** 0.12	0.12 *** 0.07	0.11 *** 0.07	0.11 *** 0.07	0.11 *** 0.07
Salary work	7.59 *** 1.14	7.88 *** 1.17	7.82 *** 1.16	7.88 *** 1.17	7.79 *** 1.16
Wage work	0.4 *** 0.1	0.4 *** 0.09	0.4 *** 0.09	0.4 *** 0.09	0.4 *** 0.1
Migration-specific					
International migration experience	0.44 *** 0.07	0.46 *** 0.07	0.41 *** 0.07	0.41 *** 0.07	0.41 *** 0.07
Month in hazard	1.02 *** 0.01	1.02 *** 0.01	1.01 0.01	1.01 0.01	1.01 * 0.01
Month in hazard squared	1 ** 0	1 ** 0	1 * 0	1 * 0	1 * 0
chi2	407.6 7	392.89	454.92	455.34	456.34

p	0	0	0	0	0
	-				
ll	2125.28	-2132.67	-2101.65	-2101.44	-2100.94
	2019				
N	8	20198	20198	20198	20198

Note: Columns show results from fixed effects logistic regression models with standard errors presented below. \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests.

Table A.1.3 Effects of Husbands' International Migration on Couples' Risk of Marital

Dissolution

	1	2	3	4
Migration status/experience (time-varying)				
International migration				
Currently outside Nepal	1.36 0.81			
Ever outside Nepal (0/1)		0.84 0.48		
# trips out			0.85 0.23	
# months outside Nepal				1.01 0.01
Constant	0 *** 0	0 *** 0	0 *** 0	0 *** 0
chi2	32.49	32.34	31.78	31.11
p	0.01	0.01	0.02	0.02
ll	-309.55	-309.62	-301.44	-301.46
N	180971	180971	180756	180709

Notes: models present estimates of logistic regression models. Standard errors below. All models control for marital circumstances; physical, social, cultural, and migration capital; and demographic characteristics, but factors not presented for parsimony.

\*p<.05; \*\*p<.01; \*\*\*<.001; one-tailed tests. Migration measures are time-varying and lagged one month.

Table A.1.4 Effects of Children's Gender and Specific School Age on Men's Risk of International Migration Among Ever-Married Men

	1		2		3	
Number of children specific school ages						
# Daughters primary age	1.24 *				1.20	
	0.12				0.11	
# Daughters secondary age	1.25 *				1.19	
	0.13				0.12	
# Daughters higher secondary/college age	1.09				1.09	
	0.13				0.14	
# Sons primary age			1.38 ***		1.36 **	
			0.13		0.13	
# Sons secondary age			1.35 **		1.31 **	
			0.14		0.14	
# Sons higher secondary/college age			1.01		1.05	
			0.14		0.15	
Marital status						
Divorced, separated, widowed	0.82		0.89		0.91	
	0.41		0.45		0.46	
Marital characteristics						
Participation in choosing spouse						
Any choice	0.70		0.70		0.71	
	0.15		0.15		0.15	
Full choice	0.85		0.86		0.87	
	0.16		0.16		0.17	**
Age at marriage	1.09 ***		1.09 ***		1.10 *	
	0.02		0.02		0.02	
Other important factors						
Physical capital (time-varying)						
Own a home business	0.24 ***		0.24 ***		0.24 *	**
	0.06		0.07		0.06	
Own an outside business	0.39 **		0.37 **		0.37 **	
	0.12		0.11		0.12	
HH owns any farmland	1.69 *		1.70 *		1.71 *	
	0.44		0.44		0.45	
Social capital (baseline)						
Parents' travel	1.13		1.18		1.16	
	0.19		0.20		0.20	
NBH travel outside Nepal	2.52		2.09		2.30	
	3.59		3.00		3.31	
Parents work outside home	0.80		0.81		0.80	
	0.14		0.14		0.14	
Parents' # kids	1.05		1.06		1.06	
	0.03		0.03		0.03	
Human capital						

Educational attainment (baseline)	0.95 *	0.95 *	0.95 *
	0.02	0.02	0.02
Enrolled in school	0.39 *	0.39 *	0.39 *
	0.15	0.16	0.16
			**
Salary work	6.74 ***	6.79 ***	6.76 *
	0.88	0.89	0.89
			**
Wage work	0.35 ***	0.35 ***	0.34 *
	0.06	0.06	0.06
Migration-specific			
			**
International migration experience	3.07 ***	2.97 ***	2.93 *
	0.47	0.46	0.45
Ever to KTM/abroad (baseline)	1.08	1.08	1.06
	0.18	0.18	0.18
Caste/ethnicity			
Dalit	1.47	1.48	1.46
	0.43	0.43	0.43
Newar	0.88	0.87	0.86
	0.36	0.36	0.36
Terai Janajati	0.62	0.63	0.61
	0.18	0.18	0.18
Hill Janajati	2.19 **	2.21 **	2.21 **
	0.55	0.56	0.56
			**
Age at baseline	0.88 ***	0.88 ***	0.87 *
	0.01	0.01	0.01
Month in hazard	0.99	0.99	0.99
	0.00	0.00	0.00
Month in hazard squared	1.00	1.00	1.00
	0.00	0.00	0.00
			**
Constant	0.01 ***	0.01 ***	0.01 *
	0.01	0.00	0.00
chi2	842.56	841.50	830.85
p	0.00	0.00	0.00
ll	-3468.95	-3464.68	-3462.16
N	136861	136861	136861

Note: Columns show results from logistic regression models with standard errors presented below. \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests.

## **Chapter 2 Spouses' Marital Quality and Husbands' Migration**

A substantial literature has linked family structure with migration, with particular interest in the association between marriage and migration. For example, studies have examined the impact of migration on men's transition to marriage (Lindstrom and Saucedo 2007; Parrado 2004), as well as the effects of migration on marital dissolution (e.g., Agadjanian and Hayford 2011; Hirsch 2003; Landale and Ogena 1995) and overall marital quality (Hengstebeck, Helms, and Rodriguez 2015). Recent work shows a strong positive effect of marriage on men's subsequent labor migration abroad (Compernelle 2017).

Though a strong link has been established, dimensions of the marital relationship itself – specifically, husbands' and wives' marital quality – and their influence on husbands' subsequent migration has yet to be examined. Yet marital quality is likely to play a key role in spouses' migration, particularly for work, given dominant models and recent trends in migration. Current models of migration argue that migration strategies and benefits occur at the household or family level, filling gaps in access to capital and insurance by sending members to diversify income sources (Stark 1991; Stark and Bloom 1985; Stark and Taylor 1991). In this case, migration decisions about whether or not to send a specific household member away is of great concern to the household in general, and to spouses in particular. And with the spousal relationship central to such decisions, husbands' and wives' marital quality is likely of great consequence.

In this paper I first draw on two streams of prior research – historical gender norms and spousal decision-making processes – and develop a framework to understand this association. The first situates migration into a larger social context by considering cultural factors – e.g.,

preferences shaped by strong historical norms regarding social roles - involved in decision-making processes. The second considers how agreement in these individual-level preferences influences how spouses make important decisions, such as those regarding labor migration. I then apply this framework to the rural, agricultural setting of Nepal, where the male provider role remains, but the social organization of work has shifted, from one close to home toward international markets. I identify setting-specific hypotheses and move to test them empirically. As agreement has been linked to both higher marital quality (less conflict) and greater odds of the focal behavior being realized, it is expected that men in higher quality marriages are more likely to subsequently migrate than men in lower quality marriages. In fact, given the difficulties surrounding temporary labor migration, spouses' agreement is expected to be particularly powerful in Nepal, and similar low-income settings as well.

It is important to note that neither marriage nor migration is random (Lu 2008; Lu and Qin 2014; Thornton, Axinn, and Xie 2008). The highly selective nature of these events often presents considerable challenges when studying them. However, three key analytic tools support this present analysis. First, the Chitwan Valley Family Study (CVFS) is a longitudinal data set, which tracks monthly marital and migration events among a representative sample of nearly 10,000 individuals in rural Nepal. The second is measurement of a broad array of physical, social, human, and demographic capital previously documented in the literature to influence migration and family outcomes. The third is the rare assessment of individuals' *and their spouses'* reports of multiple dimensions of marital quality before migration. Importantly, these measures are collected early in life, *before migration occurred*. These tools – the CVFS's highly-detailed nature, extensive assessment of socio-economic factors, and spouses' independent

reports – present the rare opportunity to test the effects of spouses’ marital quality on husbands’ *subsequent migration*, while also accounting for potential confounders.

This study analyzes how husbands’ and wives’ marital quality influence the subsequent migration of married men using event history methods. I test how 1) specific *dimensions* (frequency of disagreements and of criticism) and 2) key *sources* (husband and wife) of marital quality influence husbands’ subsequent risk of migrating abroad. I also combine husbands’ and wives’ reports of marital quality and 3) examine the effects of marital quality on married men’s subsequent migration at the couple-level. I make two important contributions to the literature. I develop a framework and apply it to a setting not previously considered in the literature: where historical preferences toward the male role as breadwinner remains, whereas the conditions of labor have greatly shifted, away from home. I leverage panel data uniquely designed for this study: monthly migration measures, careful assessment of background factors assessed *prior to marriage and migration events*, and spouses’ separate reports of marital quality.

### **Theoretical Framework**

Below I develop a framework to understand the association between spouses’ marital quality and husbands’ migration. I then apply this framework to a South Asian setting. The goal is to identify setting-specific hypotheses and move to test them empirically.

#### *The Marital Relationship: Gender, Labor, and Decision-Making Processes*

##### *Gender and the marital relationship*

Marital quality is an important indicator of married persons’ wellbeing. Scholars have identified multiple dimensions of marital quality, including communication, satisfaction, and conflict (Koren, Carlton, and Shaw 1980; Mickelson, Claffey, and Williams 2006; Norton 1983).

However, marital conflict – disagreements and criticism - is a particularly key dimension of marital quality given its centrality to decision-making processes. This dimension gauges the extent to which a marriage experiences negative interactions. These two components, while closely related, reveal two distinct characteristics of the spousal relationship. Disagreements indicate interactions in which spouses may not agree, but they ultimately experience any negativity equally. On the other hand, criticism reflects interactions in which one spouse, not both, is the recipient of negative relations. So, higher marital quality is characterized by less conflict: fewer disagreements and less criticism.

Of course, men and women historically occupy different social roles, reflecting a larger cultural reality shaped by gendered norms of behavior (Bem 1993; Martin 2004; Risman 1999, 2004). The nature of these roles, which is based on perceived differences between men and women (Acker 1990; Scott 1986), historically emphasized gender complementarity in household management (Becker 1991; Coleman 1990). These roles and experiences in turn reinforce gender differences because they also shape men's and women's own attitudes and preferences, as well as interactions with and expectations of others (Blair-Loy 2003; Chodorow 1989; Goffman 1977; West and Zimmerman 1987). These historically different social roles greatly influence husbands' and wives' expectations of and processes within marriage, including decision-making.

#### *Marital quality and spouses' decision-making processes*

Investigation of decision-making processes between spouses is not new (e.g., Blau 1964; Godwin and Sanzoni 1989a; Hocker and Wilmot 1978; Manser and Brown 1980; Salazar 2015; Scanzoni 1977). Historically, gender norms associated household management, and thus control over decisions regarding the household, with the male role. These attitudes and expectations have been shifting in Western settings in recent decades, however (Dey 2014; Pedulla and

Thebaud 2015; Thornton and Young-DeMarco 2001). Research argues that, as these roles shift, changes in spouses' decision-making processes occur as well (Scanzoni 1977). Specifically, as women enter the formal workforce, they begin to challenge "long-standing consensus" in the formerly predominant marital arrangement, in which gender roles were clearly defined and thus necessitated little discussion (Blau 1964).

While husbands may have historically made household decisions independently, many married couples make important decisions together. An important piece of this process is the extent to which spouses agree on a topic: spousal agreement is a strong predictor of whether or not the actual behavior is realized (Hill, Stycos, and Back 1959; Link 2011). Of course, scholars have noted that decision-making processes are not consistent across issues (Godwin and Scanzoni 1989b) or space, even among the same couples. Whereas husbands and wives often agree on topics in which historical norms remain quite strong, agreement is not always achieved when spouses do not hold similar attitudes or preferences. In this case, studies have linked a lack of agreement between husbands and wives to increased spousal conflict (Gottman et al., 1976; Hocker and Wilmot 1978; Salazar 2015). These negative interactions in turn negatively affect the overall quality of communication about the relationship (Alberts and Driscoll 1992; Pike and Sillars 1985), and decrease the likelihood of the behavior of interest being carried out.

#### *Preferences toward work and migration-related decisions*

A large literature investigates the predictors of migration, including decision-making processes regarding migration. Early theory focused on the individual and argued that geographic wage differentials drive migration. Married persons have been found less likely to seek higher wages away from home than single/never married persons due to the emotional responsibilities associated with marriage, (e.g., Clark and Withers 2007; Jeffrey and Murison

2011; Kley 2011; Polacheck and Horvath 1977). Among couples that do move, however, the husband's job is often a central determinant; in Western settings, women were historically seen as "tied movers" or "tied stayers" (Bielby and Bielby 1992; Cooke 2008; Mincer 1978). Even among dual career marriages, couples challenge but still prioritize husbands' work (Wong 2017). So, studies suggest that spouses make migration decisions that prioritize one residence – so, spouses move together, rather than one moving back and forth - the location of which is based on shared preferences (agreement) toward employment.

More recent migration theory sees migration strategies and benefits as occurring at the *household or family level*, filling gaps in access to capital and insurance by sending members to diversify income sources (Stark 1991; Stark and Bloom 1985; Stark and Taylor 1991). Scholars have sought to understand how households decide whether and who to send in such cases. One factor is enduring gendered preferences, like Western settings: individuals prefer that men migrate for work, rather than women (De Jong 2000; De Jong, Johnson, and Richter 1996). But the decision is often more complicated than that: migration has been shown to threaten the marital relationship due to new social networks that exert less social control, exposure to new potential partners, and declines in emotional support between spouses (Hirsch 2003; Landale and Ogena 1995; Nobles, Rubalcava, and Teruel 2015). Moreover, an absent husband presents real challenges for wives "left behind". They must absorb duties historically performed by men, which, in rural settings, often include agricultural tasks, rice and vegetable production, and roles associated with household heads, as well as additional labor and childrearing tasks. Thus, a spouse moving for work is incredibly complex, and for a household to succeed in sending a migrant away likely necessitates tremendous cooperation and joint commitment from both spouses; spouses' preferences and attitudes toward migration must align.

### *Marriage and Migration in South Asia: Context*

Existing literature expects spouses' marital quality to play a key role in migration. This is due to the nature of decision-making processes occurring within marriage, which concerns shared preferences (e.g., agreement) toward employment. Much of the previous studies, however, focus on Western settings and thus does not consider a global reorganization of work, away from home toward international markets. Spouses' marital quality (agreement) is expected to be especially important in contexts in which temporary labor migration is increasingly common.

#### *Marriage and gendered social roles*

Hindu society historically shaped Nepalese marital characteristics, which have been linked to spouses' marital quality (Allendorf and Ghimire 2013; Hoelter et al. 2004). While recent decades have seen changes in these marital characteristics (Ghimire et al. 2006; Yabiku 2005), married life in this setting remains unaffected in two key ways. First, in contrast to Western settings, individuals are historically seen as interdependent, with group goals primary to those more personal (Kim, Sherman, and Taylor 2008; Markus and Kitayama 1991). Marriage is no exception: for the majority of marriages, parents still participate in choosing their children's spouse (Allendorf and Pandian 2016), couples reside in close proximity to husbands' extended kin, and divorce remains rare. So, while spouses certainly support each other, the marital union often exists in a larger familial context. Second, economic concerns remain central to households' priorities. In fact, managing costs are increasingly difficult as the cost of children's education continues to increase (Altback 1989) and local wages decline (ILO).

Men's and women's social roles remain tightly linked to family life and the institution of marriage in South Asia. These roles are dictated largely by the patriarchal nature of South Asian

society: women move to their husband's village and are expected to remain close to the home to care for children upon marrying (Bohra and Massey 2009; Williams 2009). Men, on the other hand, are expected to be gainfully employed outside the home and provide financially for their families, either through employment or assets, such as ownership of land (Allendorf 2017). Yet, unlike Western settings, these historical norms have changed little in Nepal. Men's and women's diverging paths are evident across a range of non-family services and institutions: men still marry at older ages than women (Yabiku 2005), enroll in and attain more schooling (Stash and Hannum 2001), and gain more work experience outside the home (World Bank 2011). That these opportunities to invest in human capital are expanding more for men than for women underscores the fact that both women and men continue to see men, not women, as a household's primary income earner.

#### *Temporary migration as a household livelihood strategy*

Like much of South Asia, work has historically occurred close to home and was organized within the family (Axinn and Yabiku 2001; Fricke 1986). Poverty and topographical challenges hugely delayed infrastructure developments until recently, resulting in 75% of the population still relying on small-scale farming for their livelihood (Maharjan et al. 2013). Strong *pull* (rising foreign labor demand and eased migration policies) and *push* factors (inconsistent crop yields and a stagnant economy), has led to Nepali households increasingly sending members abroad for more lucrative work (Axinn and Yabiku 2001; Ministry of Labor and Employment 2015). While India remains the top international destination, Gulf Cooperation Council (GCC) member states have seen a dramatic increase in South Asian migrants, in large part due to the 1970s Middle Eastern oil boom (IOM 2010:209; Skeldon 2015).<sup>14</sup>

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<sup>14</sup> It is important to note that India remains a top destination for Nepalis. However, this movement is quite different from migration to other common destinations, such as the Middle East, in two key ways. One is the very nature of

The economic impact of migration on Nepal is considerable: migrants remitted nearly \$3 billion, or 28 percent of Nepal's GDP, in 2014 (Ministry of Labor and Employment 2015). As a result, Nepal is growing increasingly dependent on the significantly higher wages abroad (Graner and Seddon 2004; Lokshin et al. 2007). Two characteristics of Nepali labor migration are noteworthy. One, it is temporary by design: GCC countries maintain strict migrant monitoring systems and limit foreign workers to two or three year labor contracts at a time (De Bel-Air 2014; Gardner 2012; Gardner et al. 2013; Zachariah et al. 2002: 94), with no future options of obtaining citizen status, owning property, or sponsoring their family to join them (Khadria 2008; Naithani 2010). Two, the overwhelming majority (96%) of international migrants between 2008-2015 were men (Ministry of Labour and Employment 2015), with roughly 17% of Nepal's adult males involved in migration in 2008 (CBS 2009). Moreover, the majority of these men are married with children (Williams et al., 2012). That men migrate at higher rates than women reflects these enduring gendered preferences toward productive labor – a preference that is reinforced at the institutional level, with the government banning female migration in an attempt to protect women from unsafe working conditions (Graner 2001).

#### *Marriage and Migration in South Asia: Empirical Predictions*

The mechanisms discussed above – decision-making processes and shared preferences toward employment – help identify setting-specific hypotheses regarding the association between marital quality and men's subsequent migration in a context in which the employment landscape has shifted greatly. First, marriages in which spouses report less conflict – fewer disagreements and less criticism - are more likely to have husbands migrate for work. This is because husbands

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the movement between Nepal and these destinations: an individual can take a bus or even walk into India, with no paperwork. In contrast, migrating to, say, Qatar necessitates a visa and a formal labor contract and recruiter fees. Two, reasons for migration between Nepal and India are diverse: individuals study in Delhi, visit their spouse's natal home, or make a pilgrimage – all of which tend to be short trips. Travel to Malaysia or the Gulf, however, is rarely for purposes other than work, and, as noted above, is largely men migrating for longer spells.

and wives in rural agricultural settings likely agree on a number of important factors directly related to labor migration. That Nepal's domestic economy is so dire means that households are increasingly crossing borders in search of significantly higher wages abroad. And spouses likely maintain similar preferences toward *who* should migrate in search of these wages. The gendered nature of migration in South Asia is a clear reflection of these preferences. Importantly, sending a spouse away for work is a highly consequential decision, and only those marriages in which spouses are greatly motivated and committed to the experience (e.g., less conflict) are likely to experience a husband's subsequent migration abroad.

Second, husbands' and wives' reports of marital quality are not necessarily closely related. Social life is historically patrilineal and patrilocal, meaning that men often get more say, live with their families, and exercise more independence/freedom in daily life (Allendorf 2017). It is thus expected that men and women experience even the same marriage differently. While spouses are likely to hold unique reports of marital quality, both are still expected to influence husbands' migration due to the nature of decision-making processes. Specifically, that marital conflict arises when spouses do not share similar preferences means that both of their points of view are likely to matter when they are making the decision to migrate (or not).

Of course, although higher marital quality is expected to positively influence husbands' odds of migration, it may not be the only association. For example, a man in a lower quality marriage may be more likely to migrate as a way to escape a negative relationship with his spouse. In other words, a husband who reports more frequent disagreements and more criticism from his wife may be more motivated to migrate so as to create more distance between him and his wife or escape a negative relationship. Although this association is possible, theoretical

reasoning and previous empirical evidence lead to expectations that higher marital quality (e.g., less conflict) positively influences male migration. I thus move to test this hypothesis.<sup>15</sup>

## **Data and Analytic Approach**

### *Sample*

I use data from the Chitwan Valley Family Study (CVFS). The study collected data from all households in 151 neighborhoods using a clustered sampling design. Baseline face-to-face individual and household interviews occurred with all household members aged 15-59 and their spouses, regardless of age or place of residence. Individual interviews at baseline assessed marriage-related experiences, including marital quality, followed by family and travel updates, for everyone in the household. Following the interview, regular household interviews (HHR) tracked every respondent measuring monthly updates of family transitions, including marital status, and travel events. Individual life history calendars (LHC) in 1996 and 2008 captured annual retrospective measures of travel and marriage events (Axinn, Pearce, and Ghimire 1999).

I leverage these data – prospective updates and retrospective reports of family and migration events, as well as extensive collection of important socio-economic characteristics – to test hypotheses regarding spouses’ marital quality and husbands’ subsequent risk of migration. The study is uniquely designed to test these hypotheses for two reasons. One, baseline individual interviews in 1996 assessed a wide array of physical, human, and social capital, as well as demographic characteristics and marital and migration history. Two, the HHR collects monthly data on family and migration events starting in 1997. Three, individual interviews assessed

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<sup>15</sup> An additional possibility is that a lower quality marriage is a function of the husband wanting but not being able to migrate (and thus unable to fulfill gender roles). I address this possibility analytically by controlling for migration experience, as well as numerous key sources of capital. See discussion of “other important factors” in the Measures section below.

individuals' *and their spouses'* independent reports of multiple dimensions of marital quality before migration. Thus, the study provides a unique opportunity to test the effects of *both husbands' and wives'* reports of marital quality on husbands' *subsequent odds of international migration*, while also accounting for experiences *occurring prior to marriage and migration*.

This study investigates the effects of husbands' and wives' reports of specific dimensions of marital quality on husbands' subsequent risk of out-migration. As such, the analytic sample consists of all person-months in which married men participated in the 1996 baseline interviews, whose wife also participated in the 1996 baseline interview, and who are living with their spouse in one of the 151 sample neighborhoods. Since a husband can take multiple trips throughout the study period, he is once again considered at risk for international migration once he returns to his wife and family household within the study's selected neighborhoods. This resulted in a working sample of 117,105 person-months (N=1228) for analysis of risk of husbands' international migration. A total of 573 international migration events occurred among 230 migrant men. Migrants averaged 2.5 trips, ranging from 1-11.

### *Measures*

#### *Migration*

Migration is measured monthly in the HHR as the report of a change in a respondent's residential location, which is coded as 0 for any month in which a respondent resides with his wife for more than two weeks inside the study's selected 151 neighborhoods. For months in which a respondent resides for more than two weeks outside Nepal, living apart from his spouse, and away from the family household, the respondent is coded as a migrant. International

migration is coded 1 for any stretch of at least six consecutive months in which a respondent is coded as a migrant.<sup>16 17 18</sup>

### *Dimensions of marital quality*

*Individual-level.* Two measures assess marital quality during the baseline interview in 1996. Husbands and wives were interviewed separately from their spouses so that their responses were confidential and independent from each other's. These measures ask with what frequency the respondent has disagreements with and is criticized by his/her spouse, respectively. The measures are coded 1-4, with 1 being "frequently" and 4 being "never". Importantly, these measures were assessed *prior to the husbands' migration*. The correlations between husbands' and their wives' reports of the same dimension – disagreements and criticism – are .19 and .15, respectively. Last, to account for the fact that the effects of marital quality likely change over time, each model includes an interaction term between the specific dimension of marital quality and time (month).

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<sup>16</sup> Additional models using different measurements of migration (that is, other thresholds of consecutive months used to define migration) yield similar results. Of import, however, is the fundamental difference between migration to India and that to other regions. As noted above, migration to India is often much shorter in duration, whereas migration to, say, GCC member states, is longer. Thus, using a 1-month threshold to define migration is likely to capture short trips to India. Since this study's focus is on temporary labor migration, models presented here use a minimum of 6 months to define migration.

<sup>17</sup> This conceptualization of international migration does not include potential trips in which husbands migrate abroad from other locations within Nepal, such as Kathmandu. I do not include these trips in analyses for two reasons. For one, while more common today, potential migrants did not typically spend time in other regions of Nepal before migrating abroad during the observation period of this study (1997-2008). As a result, the number of these trips is quite small. Two, this analysis is interested in the effects of husbands' and wives' reports of marital quality on husbands' odds of international migration. However, person-months in which husbands are inside Nepal, but not living with their wives are likely substantively different from those in which they are living together when it comes to their relationship quality.

<sup>18</sup> Of course, it is possible that a husband migrates from inside the sample neighborhoods to outside Nepal *with his* wife, rather than solo. In this case, the migration is not necessarily a husband's temporary international migration, but may actually be capturing family or household migration. As such, person-months in which respondents migrated outside of Nepal but were reported as still living with their spouse or in the family household were coded as "household migration". These person-months (49 migration events, or 7.9% of all 622 international migration events) were not included in analyses.

*Couple-level.* Two separate measures assess specific dimensions of marital quality – frequency of disagreements and frequency of criticism – at the couple-level. The measures are calculated as the mean of a husband’s and his wife’s reports of the same dimension. Again, these measures are coded from 1-4 so that higher values indicate higher marital quality: 1 is “frequently” experience conflict and 4 is “never” experience disagreements and criticism.<sup>19</sup>

#### *Marital characteristics*

*Respondent (husband).* Models include marital characteristics that have been linked to spouses’ marital quality, and which may influence a husband’s migration as well. First, I include a time-varying measure indicating a husband’s marital status. While divorce remains extremely rare, the event is occurring more often and spouses’ reports of marital quality have been shown to increase a couple’s risk of dissolution (Jennings 2014). Models account for changes in marital status by including a monthly time-varying measure indicating whether a male respondent is divorced/separated/widowed. Person-months in which male respondents are divorced/separated/widows comprise less than 1% of the total sample. The marital status measure varies monthly and is lagged one month so as to capture the marital status in the months in which a respondent is at risk of migration (e.g., the month prior to a migration event). Second, I include various characteristics assessed at baseline, including a dichotomous measure indicating whether the respondent has more than one spouse. I include a continuous measure indicating duration of a husband’s most recent marriage, which has been shown to relate to marital quality (VanLaningham, Johnson, and Amato 2001). A third binary measure indicates a respondent’s level of participation in spouse choice, with “1” indicating any say (reference

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<sup>19</sup> Marital satisfaction (love for spouse) and communication are additional dimensions of marital quality associated with demographic outcomes. Studies have documented their effects on fertility in this setting (Axinn, Ghimire, and Smith-Greenaway 2017; Link 2011; Macht 2008). However, I focus this study on marital conflict given its centrality to spousal decision-making processes and migration.

category: no say). Greater participation in spouse choice is associated with higher quality marriages, as these spouses tend to base their marriages more on love than the historical bond between families (Hoelter et al. 2004). Two final measures assessed at baseline are age at marriage (continuous) and the presence of any children (dichotomous).

*Spouse (wife).* Models also include spouses' (wives') characteristics of marriage, as these factors are similarly associated with their own reports of marital quality. A dichotomous measure indicates any say in spouse choice (reference: no say) and a continuous measure indicates their age at marriage.

#### *Other important factors*

Models also include various forms of capital – physical, social, and human - previously documented in the literature to influence both migration and marital quality. It is crucial to once more note that the study design accounts for precise time-ordering of these measures with subsequent migration events. Specifically, the majority of control variables included in analyses were assessed at baseline, and thus *prior to any migration event*. First, I include a dichotomous measure indicating whether the respondent's household owns farmland at baseline. Household wealth is an important factor in determining an individual's motivation and ability to migrate. In rural agricultural settings, ownership of land is a key indicator of household wealth. Second, I include four measures of human capital, also assessed at baseline. Human capital largely influences an individual's income opportunities and expected earnings, thereby affecting one's motivation to seek work abroad (Harris and Todaro 1970; Massey and Espinosa 1997; Stark and Bloom 1985), as well as the timing and characteristics of marriage. Education is a key source of human capital, and I include a continuous measure respondent's educational attainment at baseline (Donato 1993; Hoelter et al. 2004; Massey et al. 2010), as well as a second similar

measure indicating the respondent's wife's attainment. Two dichotomous measures indicate salaried and wage employment, which might influence migration due to unique skill acquisition and experience moving (Bohra and Massey 2009).

Last, I include four measures of social capital, also assessed at baseline, that are tightly linked with migration. I include baseline migration history, with "1" indicating any experience migrating to Kathmandu or outside Nepal before 1996. Migrants transmit information about the process and experience of migration, thereby helping to alleviate concerns associated with moving abroad and increasing the probability of doing so (Donato 1993; Massey and Espinosa 1997; Massey et al. 1993). Key sources of information are parents (Massey et al. 2010; Regmi 1999) and neighbors (Bohra and Massey 2009:632). Models include separate dichotomous measures indicating whether either parent traveled outside Nepal before the respondent was 12 years old, and the percent of individuals in the neighborhood who ever traveled internationally by the time of the baseline interview. Finally, since a husband can take multiple trips throughout the study period, I include a time-varying dichotomous measure indicating whether a respondent has migrated internationally during the observation period. This measure is lagged one month.

*Demographic characteristics.* Age is closely related to important life experiences, including education, labor force experience, and marriage. For men, migration tends to increase sharply with age, peaking in their 20s and 30s, then slowly decline with age and human capital accumulation. I measure birth cohort with respondent age at baseline. As significant ethnic/caste differences have been evidenced to influence social life in Nepal (Ghimire et al. 2006), I also include a set of dichotomous measures corresponding to five broad ethnicity/caste categories reflecting meaningful distinctions in Nepalese society: Bhramin/Chhetri (reference), Dalit, Newars, Terai Janajati, and Hill Janajati.

All analyses include measures for other important factors and demographic characteristics, as well as controls for months in study and months in study squared. Descriptive statistics for other important factors – physical, human, and social capital, and migration experience - and demographic characteristics are presented in Appendix A (Table A.2.1).

### *Analytic approach*

I utilize the longitudinal nature of the data and model the odds of husbands’ international migration using event-history methods. I test the effects of spouses’ reports of marital quality on the hazard of husbands’ *subsequent international migration*, net of other key factors. Because the data are measured monthly, I use discrete-time methods to estimate these models. Person-months are the units of analysis, with respondents considered to be exposed to the risk of migration during any month in which they report that they are living in one of the sampled 151 Chitwan neighborhoods. To estimate the discrete-time hazard models, I use logistic regression in the form

$$\ln\left(\frac{p}{1-p}\right) = a + \sum(B_k)(X_k)$$

where  $p$  is the monthly probability of migrating,  $p/1-p$  is the odds of migration occurring,  $a$  is a constant term,  $B_k$  are the effects parameters of the explanatory variables, and  $X_k$  are the explanatory variables in the model. I cluster the errors by neighborhood to account for the clustering of the CVFS sampling design at the neighborhood level. Results are presented as odds ratios, which can be interpreted as the amount by which the odds are multiplied with each unit change in the respective explanatory variable. An odds ratio greater than 1 indicates a greater hazard of migrating, where as a ratio less than 1 represents a lesser hazard.

## **Results**

### *Descriptive statistics*

Table 2.1 presents descriptive statistics for dimensions of marital quality at the couple-level (husbands and wives combined into one measure) and the individual-level (for husbands and wives separately) for the full sample and then stratified by husbands' international migration experience during the observation period. Statistics for the full sample are in the left most columns, those for international migrants and their wives in the middle columns, and those for non-migrant husbands and their wives in the right most columns. Both dimensions of marital quality – frequency of disagreements and frequency of criticism – are on a scale from 1 to 4, with 4 indicating higher quality marriages (e.g., fewer disagreements or less criticism,). At the couple-level, husbands and wives report higher marital quality regarding criticism (3.35) compared to disagreements (3.17). The difference between migrants and non-migrants are small: migrant spouses report less criticism from their spouses (3.37 compared to 3.35) and more disagreements (3.14 compared to 3.17).

[Table 2.1 about here]

At the individual-level, marital quality is also generally high. Again, marital quality is measured on a scale from 1 (frequent) to 4 (never), with higher values indicating higher marital quality. Here, all four reports of marital quality (i.e., wives' and husbands' separate reports of two different dimensions each). Husbands and wives report the highest marital quality regarding frequency of criticism (3.37 and 3.33, respectively), followed by frequency of disagreements (3.17 for both husbands and wives). Interestingly, husbands' and wives' reports of frequency of disagreements are the same (3.17), whereas husbands report slightly less criticism (3.37 to 3.33, respectively).

Finally, three of four reports of marital quality at the individual-level (again, husbands' and wives' separate reports of two dimensions each) vary significantly by husband's migration

experience during the observation period (marked with an \* in Table 2.1; two-tailed tests).

Wives' reports of criticism are the same (3.33), regardless husbands' migration status. Among men, migrant husbands report less criticism (3.42 compared to 3.36) than non-migrants husbands, whereas non-migrant husbands report fewer disagreements than migrant husbands do: 3.18 compared to 3.08, respectively. Interestingly, the opposite is true among women: migrants' wives report fewer disagreements than non-migrants' wives (3.20 compared to 3.16)..

### *Multivariate models*

#### *Couple-level*

Table 2.2 presents results for logistic regression models estimating the effects of couples' (husbands' and wives' reports combined into one measure) reports of their marital quality on husbands' subsequent migration. So, these models show effects of the two dimensions of marital quality – frequency of disagreements and frequency of criticism - on husbands' risk of migration assessed at the couple-level. Again, marital quality was assessed *prior to husbands' migration*. Models in Table 2.2 show a number of patterns. One, dimensions of marital quality are important predictors of husbands' migration: both measures positively influence migration (Models 1-3). Two, both dimensions related to conflict are particularly powerful: husbands in couples who report fewer disagreements and less conflict are significantly more likely to migrate internationally (Models 1 and 2,  $p < 0.01$ ). Last, the magnitudes of these effects of conflict are quite large: husbands in couples that report higher quality marriages (fewer disagreements and less criticism) have over 100% (Model 1,  $p < 0.01$ ) and 94% (Model 2,  $p < 0.01$ ) greater odds of migrating, respectively. These strong positive effects decrease with time, which is evident in the significant interaction effects shown below the two main effects.

[Table 2.2 about here]

Effects for other important factors controlled in these models are consistent with previous studies. Of note: compared to men currently married, those divorced, widowed, or separated have greater odds of migrating abroad. However, this large effect size is likely due to the small number of men who experience marital dissolution, as is evident in the large standard errors. Husbands' and wives' ages at marriage positively and negatively influence husbands' migration, respectively. Household ownership of farmland and experience working a salary job both increase husbands' risk of migration, whereas educational attainment and wage work experience decrease it. Men whose parents have travel experience are more likely to migrate abroad. As expected, husbands who have migrated internationally during the observation period are much more likely to migrate again. Last, migration varies across caste/ethnicity groups and decreases with age.

#### *Individual-level*

Table 2.3 presents results similar to those presented in Table 2.2, although at the individual-level for husbands' and wives' separate reports of marital quality on husbands' *subsequent* migration. Models on the left (1-2) show results of husbands' reports of marital quality; models to the right show results for wives' reports (Models 3-4). For both husbands and wives, the top models show results for disagreements, with the bottom model showing results for criticism. Again, greater values for marital quality reflect higher quality marriages (e.g., less frequency disagreements and criticism); conversely, lesser values indicate lower quality marriages.

Overall, results in Table 2.3 show that husbands' and wives' reports of marital quality influence male migration similar to those at the couple-level. One, three out of four reports of marital quality – wives' reports of disagreements and criticism and husbands' reports of

disagreements - significantly increase a husband's risk of international migration. That these three reports of marital quality positively affect male migration again suggests that husbands in higher quality marriages – as reported by both spouses – are more likely to migrate abroad. Similar to Table 2.2, these positive effects of husbands' and wives' reports of conflict significantly decrease with time. This trend is clear in the interaction effects between time (month) and each report of marital quality.

[Table 2.3 about here]

Two, both dimensions related to conflict (frequency of disagreements and criticism) are strong predictors of husbands' subsequent migration. Specifically, husbands who report fewer disagreements and who have wives who report fewer disagreements are 51% and 54% more likely to migrate abroad, respectively, than couples whose spouses report more disagreements (Model 1,  $p < 0.05$ ; Model 3,  $p < 0.05$ ). As far as criticism, a second component of conflict, wives' reports also positively influence their husbands' migration: husbands whose wives report less criticism are 82% more likely to migrate, and this is significant at the  $p < 0.01$  level (Model 4). Thus, three of out of four reports of conflict – husbands' reports of disagreement and wives' reports of disagreement and criticism – significantly relate to husbands' migration, and all in the same direction: less conflict increases a husband's odds of migrating abroad.

In sum, the above discussion notes 1) the overall positive direction of the effects of various dimensions of marital quality on husbands' international migration; and 2) that both dimensions relating to conflict are particularly influential. A third pattern also emerges, and that is the *source* of marital quality reports. Table 2.3 shows that both spouses' reports of marital quality are important: husbands' and wives' reports of fewer disagreements and wives' reports of less criticism increase a husbands' risk of migrating abroad. While both spouses' reports of

marital quality matter, results suggest that wives' reports are particularly influential: *both* dimensions of conflict (frequency of disagreement and of criticism) significantly affect their husbands' risk of migration. In comparison, just one dimension from the husband (disagreement) is significant, although the effect of husbands' criticism is not significantly different from the effect of their wives' criticism. Nevertheless, results highlight the importance of wives' reports of their marriage when examining migration patterns among married men.

Last, similar to results shown in Table 2.2, effects of respondents' and their wives' marital characteristics and other important factors operate in expected directions. Husbands' age at marriage significantly increases their odds of migration. Being divorced/widowed/separated does as well, although this large effect is again likely due to the small number of men who experience marital dissolution in this setting. Wives' age at marriage has a negative effect on husbands' international migration. Owning farmland and salary work positively influence migration, whereas wage work and educational attainment decrease husbands' risk. Similar to models in Table 2.2, parents' travel, as well as respondents' own experience during the study's observation period, positively affects husbands' migration. Last, clear differences across caste/ethnicity groups exist and migration significantly decreases with age.

## **Discussion**

Research has documented a strong association between family structure, particularly marriage, and migration. Yet important gaps in the literature remain. One, investigations of how variation within marriage – specifically, spouses' marital quality – influences subsequent migration remains lacking. This is somewhat surprising, however, given recent theories and trends in migration, both of which emphasize the temporary migration of household member(s)

as a common strategy to alleviate poverty. In this sense, the marital relationship is especially central to migration decisions, as well as the migration itself. The dearth of studies is in part due to data limitations: assessment of both husbands' and wives' marital quality, and prospective measures of subsequent migration, is extremely rare. Two, existing literature expects that spouses in lower quality marriages – more conflict – are less likely to successfully make important decisions, and thus to carry out related behaviors. This is particularly true regarding moving for work, which is often an extremely stressful event. Yet few studies consider a recent global reorganization of work: from one centered on the home toward international markets.

In this study, I address these gaps and make two important contributions to the literature. One, I draw on literatures of historical gender norms and spousal decision-making processes and develop a framework to understand how marital quality influences husbands' subsequent migration. I then apply this framework to a rural South Asia setting in which historical norms have changed little, particularly with regards to labor, whereas the landscape of employment opportunities has shifted to favor more lucrative foreign labor jobs over those local. I then identify setting-specific hypotheses. As spousal agreement has been linked to both higher marital quality (less conflict) and greater odds of the focal behavior being realized, it is expected that men in higher quality marriages are more likely to subsequently migrate than men in lower quality marriages. In fact, given the difficulties involved with temporary labor migration, spouses' agreement is expected to be particularly powerful in such settings. Two, I leverage panel data uniquely designed for this study - monthly migration measures, careful assessment of background factors assessed *prior to marriage and migration events*, and spouses' separate reports of marital quality – to produce more precise estimates, while also accounting for potentially key confounders.

Results from event history models show a number of key patterns. First, I show that this specific dimension of spouses' marital quality significantly predict husbands' subsequent migration: husbands in marriages with less conflict (fewer disagreements and less criticism) are significantly more likely to migrate abroad than husbands in marriages with more conflict. Two, by combining husbands' and wives' reports of marital quality, I show that higher quality marriages as reported at the couple-level (i.e., reported by both spouses) are particularly powerful predictors husbands' migration. Third, I show that *both* husbands' and wives' reports of marital quality are strong predictors of husbands' subsequent migration.

What do these results tell us about migration? A central finding is the direction of the effects of spouses' reports of marital quality on husbands' migration (Tables 2.2 and 2.3): higher marital quality, as reported by husbands and wives, *increases* husbands' odds of subsequently migrating abroad. Given existing theoretical and empirical work, this finding is not entirely surprising. More agreement between spouses indicates less conflict – fewer disagreements and less criticism – and both play key roles in spousal decision-making processes. Here, spouses who share similar attitudes and preferences toward a topic (i.e., agree more) experience less conflict, and are in turn more likely to see the behavior of interest carried out.

While the overall direction of the effect is not surprising, a number of conditions in this setting help explain its sizeable magnitude. One is the dramatic change in the social organization of work: much of Nepal, and South Asia in general, relies on subsistence agriculture for their livelihoods. Shifts in foreign labor in recent decades have presented new opportunities abroad that are much more lucrative than those local; large increases in migration and remittances in Nepal reflect this change. A large literature has long sought to understand why people migrate, with geographic wage differentials certainly playing a part. In Western contexts, spouses tend to

seek the highest income opportunities available closer to home. In cases in which work is farther away and thus necessitates a move, families tend to relocate together. Yet specific characteristics of common South Asian migration streams present unique challenges to those who hope to seek these higher wages away from home. The Gulf region - one of the most common migrant destinations for Nepalese working abroad – is temporary by design, with strict migrant monitoring systems, two or three year labor contracts, and no future options of obtaining citizen status, owning property, or sponsoring their family to join them. In fact, studies show that conditions are particularly challenging for South Asian migrants given ethnic and cultural differences and language barriers. In this case, spouses and/or families are unable to relocate as an entire unit for these higher wages. As a result, households opt to send a member temporarily.

Much research has documented the tremendous challenges and social consequences associated with temporary labor migration, particularly for spouses. The effects are especially powerful for transnational marriages: they have been shown to experience declines in marital quality and even to be at higher risk of divorce. This is due migrants' exposure to new social networks that exert less social control, exposure to new potential partners, and declines in emotional support between spouses. Spouses (wives) “left behind” also feel the weight of additional tasks associated with household head and childrearing duties. Given these significant costs, *the marriages that choose to and are actually able send a spouse away for work are unique*. In other words, not all marriages are up for the challenge. Rather, these are spouses who share similar attitudes and preferences regarding migration. Their agreement results in less conflict, which enables them to undertake such a stressful experience. In fact, recent studies show that coordination between migrant spouses facilitates more successful labor migration (Seshan and Yang 2014). This is not to say that spouses who migrate in high-income settings do

not make a similar commitment together; it is just that these decisions rarely concern separate residences for extended periods of time.

Thus, the nature of work opportunities is an important factor shaping the association between marital quality and migration. While not directly tested here, theory suggests an additional factor: cultural consensus regarding *who should migrate* in times of financial need. In Nepal, historical gender norms have changed little relative to shifts documented in Western settings: while women are enrolled at higher rates and attain more schooling than before, they still lag behind men. The same can be said for work outside the home. In this case, that husbands and wives share similar preferences regarding gender roles – men financially support the family whereas women remain close to home – also enables them to make important household-related decisions without much conflict. It is extremely important to note that labor demands worldwide are not just for men: a growing number of the world's migrants are women responding to expanding needs in domestic and textile industries. But that Nepali international migrants are overwhelmingly men highlights a strong cultural factor influencing migration in this setting: both men and women continue to expect men, rather than women, to migrate in search of higher wages should a household experience financial stress. These shared attitudes and expectations reduce conflict when trying to make household decisions – a decrease that subsequently increases the likelihood of their carrying through with behavior of interest (labor migration).

Results also show that *both* husbands' and wives' reports of marital quality significantly predict male migration; in other words, the *source* of reports of marital quality matters as well. This finding is important for two reasons. First, men historically enjoy more freedom and power when it comes to household decisions and married life in general in this setting. However, wives' reports are found to be particularly powerful here: women's reports of both dimensions of

conflict - fewer disagreements and less criticism - significantly increase their husband's likelihood of migrating. That wives' reports of the quality of their marriage are influential suggest that women may be experiencing more say in important household goings-on. This finding is somewhat consistent with a recent study in Mexico (Nobles and McKelvey 2015), which finds that wives may have say, but that those who do, prefer that their husbands do not migrate. Second, while husbands may make decisions regarding other behaviors, such as large purchases, independently, a husband's migration appears to be an important event that involves both spouses. That both husbands' and wives' reports of marital quality matters – and that higher quality marriages are more likely to experience migration – further supports that spouses in these marriages are more in sync when it comes to decisions regarding migration. Taken together, these two points paint a complicated story about gender roles and women's preferences toward them. On the one hand, historical gender norms appear quite rigid. On the other hand, women may have more say in household decisions, which runs counter to historical practices. That women may simultaneously have more say (the household is more egalitarian) and yet also encourage the maintenance of these norms is consistent with studies in Western settings; careful examination in a rural South Asian demands further attention.

These results shed light on how husbands' and wives' marital quality relates to husbands' subsequent migration abroad – an increasingly common form of spousal residential separation worldwide. Previous work in this setting has investigated how spouses' marital quality influences another type of spousal separation: marital dissolution. While still extremely rare in Nepal, Jennings (2014) found that marriages in which husbands and wives report higher discord – more frequent disagreements – are more likely to experience marital dissolution than couples

who report fewer disagreements. Results from both studies show that spouses' reports of conflict are particularly consequential when it comes to various circumstances of spousal separation.

This study documents a clear association between marital quality and husbands' subsequent labor migration. That less conflict significantly predicts migration points to the complexities of decision-making when the best-paying employment opportunities are no longer close to home: only highly functioning – more agreement/less conflict – marriages are capable of executing such a difficult task. Of course, how and whether these dimensions of marital quality influence other types of migration– internal migration and/or emigration – would further deepen current understandings of this association. And while extremely rare in this setting, future consideration should be given to whether this relationship holds for female migrants. Last, this study does not explicitly examine how the decision was made to send a husband temporarily abroad. However, the patterns discussed above - direction of and specific dimensions and sources of marital quality – provide a solid foundation on which to test this gap for future work.

In sum, this study moves beyond the well-documented link between marriage and labor migration and analyzes how variation within the spousal relationship influences husbands' subsequent risk of migration. It identifies spousal agreement – lack of conflict between them – as a key component positively affecting men's subsequent migration. I expand current understandings of marriage and migration by applying a theoretical framework to a vastly different setting, in which employment landscapes have moved toward international markets. Yet for a spouse to migrate temporarily is extraordinarily difficult for a household, particularly a marriage. That spouses with higher marital quality experience the subsequent migration of a husband highlights this complexity: only those marriages in which spouses agree and commit to the event together are even capable of making appropriate arrangements. Last, I leverage panel

data uniquely designed for this analysis to produce more precise estimates of this under-studied causal relationship.

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Table 2.1 Descriptive Statistics for Key Variables Used in Analyses

	Full sample (n=1228) (117105 person-months)			International migrants (n=230) (14914 person-months)			Non-migrants (n=998) (102191 person-months)		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Migration									
Migrant	0.19	0.42	0-1						
# trips, total				573					
# trips, mean	0.47	1.32	0-11	2.49	1-11				
Couple-level marital quality (mean)									
Disagreements*	3.17	0.53	1-4	3.14	0.55	1-4	3.17	0.53	1-4
Spouse criticize*	3.35	0.52	1-4	3.37	0.52	1-4	3.35	0.52	1.5-4
Individual-level marital quality									
Spouses'									
Disagreements*	3.17	.69	1-4	3.2	0.67	1-4	3.16	0.7	1-4
Spouse criticize	3.33	.71	1-4	3.33	0.7	1-4	3.33	0.71	1-4
Respondents'									
Disagreements*	3.17	.68	1-4	3.08	0.78	1-4	3.18	0.66	1-4
Spouse criticize*	3.37	.67	1-4	3.42	0.7	1-4	3.36	0.67	1-4

Notes: An \* indicates statistically significant ( $p < .05$ ) difference between international migrant and non-migrant person-months; two-sample *t*tests

Table 2.2 Effects of the Mean of Husbands' and Wives' Reports of Marital Quality on Husbands' Risk of International Migration

	1		2	
Mean of husbands' and their wives' reports of marital quality (1 "frequent" to 4 "never")				
Fewer disagreements	2.08	**		
	0.51			
Fewer disagreements x time	0.99	***		
	0			
Less criticism			1.94	**
			0.48	
Less criticism x time			0.99	**
			0	
Marital characteristics (respondent/husband)				
Divorced/widowed/separated (time-varying)	2.58	*	2.7	*
	1.41		1.46	
More than 1 spouse	1.28		1.28	
	0.61		0.61	
Duration of most recent marriage	1.02		1.03	
	0.04		0.04	
Participation in spouse choice				
Any say	1.07		1.07	
	0.24		0.24	
Age at marriage	1.13	**	1.13	**
	0.05		0.05	
Any kids	1.09		1.05	
	0.37		0.36	
Marital characteristics (spouse/wife)				
Participation in spouse choice				
Any say	0.72		0.73	
	0.2		0.21	
Age at marriage	0.9	**	0.9	**
	0.04		0.04	
Other important factors (baseline)				
Physical capital				
Household owns farmland	2.79	**	2.69	**
	0.93		0.89	
Human capital				
Respondent education attainment	0.95	*	0.95	*
	0.03		0.03	
Spouse education attainment	0.98		0.99	
	0.04		0.04	
Wage work	0.33	***	0.34	***

	0.09		0.1	
Salary work	1.93	**	1.89	**
	0.45		0.44	
Social capital				
Ever to KTM/abroad	1.27		1.27	
	0.28		0.28	
Parents' travel	1.52	*	1.52	*
	0.32		0.32	
NBH travel outside Nepal	16.73		15.94	
	31.8		30.11	
Ever migrate (time-varying)	4.2	***	4.29	***
	0.88		0.89	
Demographic characteristics				
Caste/ethnicity				
Dalit	2.27	*	2.2	*
	0.87		0.84	
Newar	0.51		0.52	
	0.29		0.3	
Terai Tibeto Burmese	0.84		0.85	
	0.34		0.34	
Hill Tibeto Burmese	2.49	**	2.35	**
	0.85		0.81	
Age at baseline	0.84	***	0.84	***
	0.04		0.04	
Month in hazard	1.02	*	1.01	
	0.01		0.01	
Month in hazard squared	1		1	
	0		0	
Constant	0	***	0	***
	0		0	
chi2	321.27		319.17	
p	0		0	
ll	-2493.6		-2496.54	
N	117105		117105	

Note: Estimates represent results from logistic regression models. Results are presented as odds ratios, with standard errors below. Dimensions of marital quality measures are assessed from 1 "frequent" to 4 "never" and coded so that greater values indicate higher quality marriage. \*p<0.05; \*\*p<.01; \*\*\*p<.0001; one-tailed tests

Table 2.3 Effects of Husbands' and Wives' Reports of Marital Quality on Husbands' Risk of International Migration

	1	2	3	4
Spouse's (wife) reports of marital quality (1 "frequent" to 4 "never")				
Fewer disagreements	1.54 *			
	0.29			
Fewer disagreements x time	0.99 *			
	0			
Less criticism		1.82 **		
		0.36		
Less criticism x time		0.99 **		
		0		
Respondent's (husband) reports of marital quality (1 "frequent" to 4 "never")				
Fewer disagreements			1.51 *	
			0.27	
Fewer disagreements x time			0.99 ***	
			0	
Less criticism				1.21
				0.21
Less criticism x time				0.99
				0
Marital characteristics (respondent/husband)				
Divorced/widowed/separated (time-varying)	2.43	2.63 *	2.62 *	2.48 *
	1.33	1.42	1.4	1.33
More than 1 spouse	1.28	1.28	1.33	1.3
	0.6	0.6	0.62	0.61
Duration of most recent marriage	1.03	1.03	1.03	1.03
	0.04	0.04	0.04	0.04
Participation in spouse choice				
Any say	1.08	1.08	1.07	1.08
	0.24	0.24	0.24	0.24
Age at marriage	1.13 **	1.13 **	1.14 **	1.14 **
	0.05	0.05	0.05	0.05
Any kids	1.09	1.08	1.06	1.04
	0.37	0.37	0.36	0.36
Marital characteristics (spouse/wife)				
Participation in spouse choice				
Any say	0.72	0.75	0.71	0.72
	0.2	0.21	0.2	0.2
Age at marriage	0.9 **	0.9 **	0.9 **	0.9 **
	0.04	0.04	0.04	0.04
Other important factors				
Physical capital				

Household owns farmland	2.75 **	2.63 **	2.8 **	2.77 **
	0.91	0.87	0.94	0.92
Human capital				
Respondent education attainment	0.95 *	0.95 *	0.95	0.95
	0.03	0.03	0.03	0.03
Spouse education attainment	0.99	0.99	0.98	0.99
	0.04	0.04	0.04	0.04
Wage work	0.33 ***	0.34 ***	0.32 ***	0.33 ***
	0.09	0.1	0.09	0.09
Salary work	1.88 **	1.85 **	1.96 **	1.92 **
	0.44	0.43	0.46	0.45
Social capital				
Ever to KTM/abroad	1.25	1.25	1.26	1.26
	0.28	0.28	0.28	0.28
Parents' travel	1.51 *	1.49 *	1.51 *	1.5 *
	0.32	0.31	0.32	0.32
NBH travel outside Nepal	16.57	15.97	16.44	16.28
	31.33	30.04	31.41	30.9
Ever migrate (time-varying)	4.38 ***	4.38 ***	4.08 ***	4.26 ***
	0.91	0.91	0.85	0.88
Demographic characteristics				
Caste/ethnicity				
Dalit	2.27 *	2.24 *	2.24 *	2.22 *
	0.87	0.85	0.86	0.85
Newar	0.53	0.54	0.49	0.5
	0.3	0.31	0.28	0.29
Terai Tibeto Burmese	0.84	0.81	0.82	0.82
	0.33	0.32	0.33	0.33
Hill Tibeto Burmese	2.42 **	2.23 **	2.5 **	2.44 **
	0.83	0.76	0.86	0.84
Age at baseline	0.83 ***	0.84 ***	0.83 ***	0.84 ***
	0.04	0.04	0.04	0.04
Month in hazard	1.01	1.01	1.01	1
	0.01	0.01	0.01	0.01
Month in hazard squared	1	1	1	1
	0	0	0	0
Constant	0 ***	0 ***	0 ***	0.01 ***
	0.01	0	0.01	0.01
chi2	317.86	323.8	316.67	312.19
p	0	0	0	0
ll	-2497.72	-2495.78	-2494.98	-2499.69
N	117105	117105	117105	117105

Note: Estimates represent results from logistic regression models. Results are presented as odds ratios, with standard errors below. Dimensions of marital quality measures are assessed from 1 "frequent" to 4 "never" and coded so that greater values indicate higher quality marriage. \*p<0.05; \*\*p<.01; \*\*\*p<.0001; one-tailed tests

## Appendix

Table A.2.1 Descriptive Statistics for Key Covariates Used in Analyses for All, Migrant, and Non-migrant Person-Months

	Full sample (n=1228) (117105 person-months)			International migrants (n=230) (14914 person-months)			Non-migrants (n=998) (102191 person-months)		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
<b>Marital characteristics (respondent/husband)</b>									
Currently div/wid/sep (time-varying)*	0.01	0.11	0-1	0.02	0.13	0-1	0.01	0.11	
More than 1 spouse*	0.05	.22	0-1	0.04	0.19	0-1	0.05	0.22	
Duration of most recent marriage*	16.81	10.55	0-45	8.67	7.25	0-37	17.99	10.43	0-45
Participation in spouse choice*									
No say	0.53			0.48			0.53		
Any say	0.47			0.52	0.5		0.47		
Age at marriage*	20.47	4.28	7-45	20.67	3.69	13-33	20.44	4.35	7-45
Any kids*	0.95	.22	0-1	0.87	0.33	0-1	0.96	0.19	0-1
<b>Marital characteristics (spouse/wife)</b>									
Participation in spouse choice*									
No say	0.81			0.78			0.82		
Any say	0.19			0.22			0.18		
Age at marriage*	16.25	3.13	5-33	16.65	2.48	5-28	16.2	3.21	7-33
<b>Other important factors</b>									
Physical capital									
Household owns farmland*	0.85	.36	0-1	0.9	0.3	0-1	0.84	0.36	0-1
Human capital									
Respondent education attainment*	4.69	4.55	0-16	5.94	3.74	0-16	4.51	4.63	0-16
Spouse education attainment*	1.84	3.28	0-14	2.96	3.57	0-14	1.67	3.2	0-14
Wage work*	0.2	.40	0-1	0.28	0.45	0-1	0.19	0.39	0-1
Salary work*	0.35	.48	0-1	0.28	0.45	0-1	0.35	0.48	0-1
Social capital									
Ever to KTM/abroad*	0.52	.50	0-1	0.59	0.49	0-1	0.51	0.5	0-1
Parents' travel*	.31	.46	0-1	0.39	0.49	0-1	0.3	0.46	0-1
NBH travel outside Nepal*	.15	.08	0-.46	0.15	0.07	0-.38	0.15	0.46	0-1
Ever migrate (time-varying)	.05	.22	0-1	0.42	0.49	0-1			
<b>Demographic characteristics</b>									
Caste/ethnicity*									
Brahmin/Chhetri	.47			0.5			0.46		
Dalit	.11			0.11			0.11		
Newar	0.07			0.02			0.07		
Terai Tibeto Burmese	0.23			0.2			0.23		
Hill Tibeto Burmese	0.13			0.17			0.12		
Age at baseline*	39.07	10.51	17-59	30.13	8.06	17-56	40.38	10.18	17-59

Notes: An \* indicates statistically significant ( $p < .05$ ) difference between international migrant and non-migrant person-months; two-sample *t* tests

Table A.2.2 Effects of Husbands' Migration on Spouses' Risk of Marital Dissolution

	1	2	3	4
<b>Migration status/experience (time-varying)</b>				
International migration				
Currently outside Nepal	1.36 0.81			
Ever outside Nepal (0/1)		0.84 0.48		
# trips out			0.85 0.23	
# months outside Nepal				1.01 0.01
Constant	0 ***	0 ***	0 ***	0 ***
chi2	32.49	32.34	31.78	31.11
p	0.01	0.01	0.02	0.02
ll	-309.55	-309.62	-301.44	-301.46
N	180971	180971	180756	180709

Notes: models present estimates of logistic regression models. Standard errors below. All models control for marital circumstances; physical, social, cultural, and migration capital; and demographic characteristics, but factors not presented for parsimony.

### **Chapter 3 The Impact of Husbands' Labor Migration on Spouses' Marital Quality**

Much research has examined marital processes, with particular interest in how and why the marital relationship changes over time (e.g., Allendorf and Ghimire 2013; Hoelter et al., 2004; Karney and Breadbury 1995a, 1995b; Kornrich et al., 2013; Macht 2008). A large literature has identified personal experiences and preferences, including spouses' work, and the divisions of labor within a household, as particularly influential (Gottman 2004; Rogers and Amato 1997; VanLaningham, Johnson, and Amato 2001). Scholars have investigated an increasingly common circumstance – moving for work – and its implications for the marital relationship. Much of this work identifies migration as a threat to marital quality and a risk to marital dissolution overall (e.g., Booth et al. 1991; Boyle et al. 2008; Breault and Kposowa 1987; Frank and Wildsmith 2005; Mincer 1978; Muszynska and Kulu 2007), which scholars argue is due to new social networks that exert less social control, exposure to new potential partners, and declines in emotional support between spouses.

While these findings are not entirely surprising, they are limited in their generalizability. These effects – that migration threatens the marital relationship – are embedded in larger assumptions about marriage and the nature of migration. In this study, I aim to identify specific conditions under which we would (and would not) expect these results. I draw on two streams of prior research – social support and historical gender norms and expectations – to develop a framework for understanding this association. The provision of social support, which consists of both emotional (e.g., empathy, trust) and instrumental (e.g., tangible aid, service), has been linked to individuals' wellbeing. Historical gender norms identify the male breadwinner/

provider role as particularly durable among spouses' expectations – an expectation that scholars have linked to both the provision of social support and spouses' marital quality. I then apply this framework to a setting in which the cultural conditions are similar to those previously examined, whereas the social organization of work has shifted, from one close to home more toward international markets. In applying this framework to a vastly different context from those in Western settings, I am able to identify three key conditions under which labor migration is likely to *improve* spouses' marital quality, rather than threaten it: patriarchal and family-oriented marriage norms, significantly higher wages abroad, and receiving countries' strict migrant monitoring systems. I then move to test setting-specific hypotheses empirically.

I focus on the rural agricultural setting of Nepal for two important reasons. One, like many low-income settings, men are increasingly seeking employment opportunities abroad in response to declining local wages (Compernelle 2017; Williams et al., 2012). Two, marriage remains largely universal, with individuals marrying early and rarely divorcing. This is in stark contrast to Western settings, where high divorce rates have led to considerable bias in estimates of changes in couples' marital quality (Cohen 2014; Kennedy and Ruggles 2014). Nepal's dramatic increase in migration and the centrality of marriage to social life present a rare opportunity to study the effects of labor migration on marital quality, among a sample in which the majority of individuals become and remain married.

Three key analytic tools allow for this analysis. First, the Chitwan Valley Family Study (CVFS) is a unique panel data set, which tracks international migrants over time and collected complete work, travel, and family histories for all respondents, in rural Nepal. Importantly, these background measures are assessed *prior to husbands' migration*. The second is repeated measures of multiple dimensions of marital quality *among the same married individuals*, 6 years

apart. The third is the ability to analytically link husbands' and wives' separate reports of marital quality and migration experiences to those of their spouses'. Given the highly selective nature of both migration and marriage, these tools allow for more precise estimation of the effects of husbands' temporary international migration on changes in spouses' marital quality - frequency of disagreement, frequency of criticism, and love for spouse - net of potential confounders. Using lagged dependent variable models, I thus make two important contributions to the literature: 1) I critique current understandings of migration and marriage and show that previous findings are not universal; and 2) I identify three specific conditions under which migration is not likely to threaten the marital relationship, but rather improve it.

### **Theoretical Framework**

It is first critical to note that both migration and marriage are highly selective events; they are not random. In fact, many experiences that influence marriage and marital quality (for example: education) also influence migration. Decades of research have identified factors associated with these behaviors across settings (Massey and Espinosa 1997; Thornton, Axinn, and Xie 2008). I consider these factors in theoretical reasoning as I identify key hypotheses, as well as in estimating models to test them.

Below I develop a framework to understand the association between labor migration and marital quality, drawing on literatures of social support and historical gender roles and expectations. Next, I apply this framework to a South Asian context and identify three specific conditions under which I do not expect to see results similar to those previously documented in Western settings. Last, I identify setting-specific hypotheses regarding husbands' temporary labor migration and spouses' marital quality and move to test them empirically.

## *The Marital Relationship: Social Support, Gender, and Labor*

### *Social support and marital quality*

Marriage is a key social relationship, particularly in Western settings, where individuals are seen as independent selves who make decisions of their own volition and enter relationships by choice (Kim, Sherman, and Taylor 2008). Research has identified the provision of social support as an important component of marriage: spouses serve as central sources of both emotional (expressions of empathy, love, trust, and care) and instrumental (tangible aid, financial assistance, and service) types of social support. Scholars have shown that married person's provision (and reception) of these types of support have been linked to husbands' and wives' overall wellbeing (Pasch and Bradbury 1998).

An important indicator of married persons' wellbeing is their perceptions of marital quality. Scholars have identified two key dimensions of marital quality, which are not mutually exclusive: conflict and satisfaction (Koren, Carlton, and Shaw 1980; Mickelson, Claffey, and Williams 2006). Marital conflict – disagreements and criticism - gauges the extent to which a marriage experiences negative interactions. These two components, while closely related, reveal two distinct characteristics of the spousal relationship. Disagreements indicate interactions in which spouses may not agree, but they ultimately experience any negativity equally. On the other hand, criticism reflects interactions in which one spouse, not both, is the recipient of negative relations. In contrast, love for spouse indicates satisfaction, or the extent to which an individual feels positively toward his/her spouse. So, higher marital quality is characterized by less conflict (fewer disagreements and less criticism) and more love for a spouse.

### *Gender and the marital relationship*

Of course, men and women historically occupy different social roles, reflecting a larger cultural reality shaped by gendered norms of behavior (Bem 1993; Martin 2004; Risman 1999, 2004). As a result, spouses often experience even the same marriage differently. The nature of these roles, which is based on perceived differences between men and women (Acker 1990; Scott 1986), historically emphasized gender complementarity in household management (Alexander and Eckland 1974; Becker 1991; Coleman 1990). These roles and experiences in turn reinforce gender differences because they also shape men's and women's own attitudes and preferences, as well as interactions with and expectations of others (Blair-Loy 2003; Chodorow 1989; Goffman 1977; Martin 1998; West and Zimmerman 1987). Studies show that individuals often seek partners who are likely to fulfill these roles: women tend to seek earning potential whereas men, physical attractiveness (Buss 1994).

Given these gendered preferences and expectations, it is not surprising that the specific type of social support most emphasized in marriage has been found to differ between husbands and wives. For example, emotional support is a key dimension of social support in marriage for women (Acitelli 1996; Fuller 2010; Mickelson et al. 2006), but tends to be less emphasized among men. In contrast, financial strain – instrumental support - has been found to significantly and negatively affect marital satisfaction for both spouses (Conger et al., 1990, 1999; Liem and Liem 1988; Vinokur et al., 1996). Household economic stress is especially central to men's marital quality (Amato et al., 2003; Conger et al., 1990).

#### *Work, migration, and the marital relationship*

Productive work (employment), a key type of instrumental support, is historically associated with men's roles of provider. Of course, historical attitudes and expectations regarding gender roles have been shifting in Western settings in recent decades: younger adults

tend to prefer egalitarian relationships, which has translated into more women entering the workforce and men becoming more involved with domestic tasks (Dey 2014; Pedulla and Thebaud 2015; Thornton and Young-DeMarco 2001). Scholars have explored how these shifts in traditional roles affect spouses' marital quality (e.g., Gottman 2004; Rogers and Amato 1997; VanLaningham, Johnson, and Amato 2001). While some find that more egalitarian unions and husbands' greater participation in household work improve marital satisfaction (Amato et al., 2003; Schwartz 2007), more recent studies find lower marital satisfaction and greater risk of dissolution when spouses' work patterns violate gender norms, such as when a wife enters the workforce or a husband is un- or under-employed (Carlson et al., 2016; Kornrich, Brines, and Leupp 2013; Killewald 2016; Sayer et al, 2011).

These literatures suggest that, even as cultural landscapes evolve, the male provider role remains intertwined with preferences toward labor and spouses' marital quality. Moving for work is no exception. Due to the financial and emotional responsibilities associated with spousal roles, marriage tends to limit mobility (e.g., Clark and Withers 2007; Jeffrey and Murison 2011; Kley 2011; Polacheck and Horvath 1977). Yet the (best) work opportunities are not always available close to home. In such cases, husbands' employment is a central determinant, even among dual career marriages (Bielby and Bielby 1992; Cooke 2008; Mincer 1978; Wong 2017).

Despite financial motivations, moving for work has serious consequences for spouses' provisions (and reception) of emotional and instrumental support. Scholars have long found migration to greatly threaten marriage, arguing that migrants are drawn away from their partners due to exposure to new networks that exert less social control over individuals or challenge historical family values, which, in many cases, emphasize marriage and childbearing (Booth et al. 1991; Breault and Kposowa 1987). Migrants themselves have been found to be at greater risk

of depression (Lu 2012), and, for spouses residing far away from their family household, they may seek emotional support in new partners, increasing the risk of marital dissolution (Boyle et al. 2008; Frank and Wildsmith 2005; Mincer 1978; Muszynska and Kulu 2007). A migrant spouse's absence has been found to negatively affect the spouse "left behind" as well, as emotional support decreases, spouses spend less time together, and the non-migrant spouse navigates a non-normative marital arrangement (Bergen 2010; McKenzie and Menjivar 2011). International movement has been found to be particularly consequential for the spousal relationship (Hirsch 2003; Landale and Ogena 1995; Nobles, Rubalcava, and Teruel 2015).

### *Marriage and Migration in South Asia: Context*

Much of the existing work expects migration to greatly threaten marriage given the decline in emotional support and introduction to new networks. Below I consider a different context – South Asia – and identify three key conditions under which I do not expect these effects to hold: patriarchal and family-oriented marriage norms; significantly higher international wages relative to those local; and strict migrant monitoring systems in receiving countries.

### *Marriage and gendered social roles*

In contrast to Western settings, social life in South Asia emphasizes the family and remains centered on marriage (Barber 2004; Goode 1970), with marriage remaining nearly universal (Yabiku 2005) and individuals marrying in adolescence or early adulthood (Holden 2008; Parry 2001). As a result, men's and women's social roles remain tightly linked to family life and, in particular, the institution of marriage. These roles are dictated largely by the patriarchal nature of South Asian society: women move to their husband's village and are expected to remain close to home to care for children upon marrying (Bennett 1983; Niraula and Morgan 1996). Men, on the other hand, are expected to be gainfully employed outside the home

and provide financially for their families, either through employment or assets, such as ownership of land. Given these roles, women historically attain less education than men (Beutel and Axinn 2002; Stash and Hannum 2001), are less likely to work for salary outside the home, and tend to defer household decision-making to their husbands or, depending on residential status, their in-laws (Fricke et al. 1993; Yabiku 2005). While recent decades have seen changes in family-related attitudes and behaviors (Compernelle 2015; Ghimire et al. 2006), this expectation of men as breadwinners remains quite durable in Nepal.

Two additional characteristics of marriage in this setting are important to note. First, in contrast to Western settings, individuals are historically seen as interdependent, with group goals primary to those more personal (Kim, Sherman, and Taylor 2008; Markus and Kitayama 1991). Marriage is no exception: for the majority of marriages, parents still participate in choosing their children's spouse (Allendorf and Pandian 2016), couples reside in close proximity to husbands' extended kin, and divorce remains rare (Jennings 2014). So, while spouses certainly support each other, the marital union often exists in a larger familial context, which is implicitly expected to provide social support, should crises (e.g., the temporary absence of a spouse) emerge. The second is that economic concerns remain central to households' priorities, particularly as the cost of children's education continues to increase (Altbach 1989) and local wages decline (ILO).

#### *Temporary migration as a household livelihood strategy*

Like much of South Asia, work in Nepal has historically occurred close to home and was organized within the family (Axinn and Yabiku 2001; Fricke 1986). Poverty and topographical challenges hugely delayed infrastructure developments until recently, resulting in 75 percent of the population still relying on small-scale farming for their livelihood (Maharjan et al. 2013). The proliferation of nonfamily services and institutions, however, coupled with strong *pull*

(rising foreign labor demand and eased migration policies) and *push* factors (inconsistent crop yields and a stagnant economy), have led to dramatic changes in the organization of work in rural Nepal (Axinn and Yabiku 2001). Similar to global trends, the shift away from local toward international markets has resulted in Nepali households increasingly sending members abroad for more lucrative work opportunities (Ministry of Labor and Employment 2015; Stark and Bloom 1985). While India remains the top international destination, the Gulf region has seen a dramatic increase in South Asian migrants in recent decades due to the 1970s Middle Eastern oil boom (Skeldon 2015; IOM 2010:209).

Distinct conditions both at home and in top receiving countries characterize Nepalese migration. The first two regard economic and social factors in Nepal. One, the economic impact on Nepal is considerable: remittances accounted for nearly \$3 billion, or 28 percent of Nepal's GDP, in 2014 (Ministry of Labor and Employment 2015). Nepal is growing increasingly dependent on the significantly higher wages abroad (Graner and Seddon 2004; Lokshin et al. 2007). Two, the overwhelming majority (96%) of formal international migrants are men (Ministry of Labour and Employment 2015), with roughly 17% of Nepal's adult males involved in migration in 2008 (CBS 2009). That men migrate at higher rates than women reflects these enduring gendered preferences toward productive labor – a preference that is reinforced at the institutional level with government bans on female migration (Graner 2001) aimed at protecting women from unsafe working conditions.

The third concerns structural and cultural characteristics of common migration streams. Labor migration in Nepal is largely temporary by design: Gulf Cooperation Council (GCC) member states – one of the most common migrant destinations for Nepalis working abroad - limit foreign workers to two or three year labor contracts at a time, with no future options of

obtaining citizen status, owning property, or sponsoring their family to join them (Khadria 2008; Naithani 2010). These countries also have one of the most constraining migrant monitoring systems, or *kalafa* (De Bel-Air 2014; Gardner 2012; Gardner et al. 2013; Zachariah et al. 2002: 94), under which migrants are highly exploited and social integration is restricted (De Bel-Air 2014; Gardner 2012). Studies show that conditions are particularly challenging for South Asian migrants given ethnic and cultural differences and language barriers (Gardner et al. 2013).

#### *Migration and Marital Quality in South Asia: Empirical Predictions*

Given these conditions, I expect the effects of husbands' labor migration on spouses' marital quality in Nepal to diverge from those previously documented in the literature. Rather than threaten marriage, labor migration in this setting is likely to *improve* marital quality, although this effect is not expected to benefit wives and husbands equally.

#### *Wives "left behind"*

Migration studies often emphasize decreases in emotional support, citing declines in marital quality and increased risks to dissolution. But studies also show that women tend to seek emotional support from multiple sources, and Nepalese wives may receive sufficient emotional support from extended family members while their husbands are away. As far as instrumental support, migrant wives absorb duties historically performed by men, which, in rural settings, often include agricultural tasks, rice and vegetable production, and roles associated with household heads (Colter 1985; Siegel 1969), as well as additional labor and childrearing tasks (Vredenburg 1964). At the same time, the economic benefits of remittances for Nepali households are well documented (Lokshin et al. 2007; Maharian et al. 2013). Relative to declining local wages, the significant financial boost is likely to alleviate household stress, as well as provide potential benefits for women in particular. While such empowering shifts vary,

remittances have been found to expand Nepalese wives' income opportunities, household decision-making power, and control of family finances (Gartaula et al. 2010, 2012; Kasper 2006; Maharjan et al. 2012; Yabiku et al. 2010) – changes that may improve their marital quality. Thus, a temporarily absent husband may worsen wives' marital quality due to lessened emotional support and increased household tasks, whereas the benefits of remittances may work in the opposite direction, essentially netting each other out. *Hypothesis 1*: Husbands' migration is not expected to significantly improve or worsen their wives' marital quality.

### *Migrant husbands*

Two conditions create expectations that migrant husbands' marital quality is likely to *improve* rather than decline in Nepal. One, while migration studies in Western settings emphasize emotional support, gender roles in this setting stress instrumental support, particularly when it comes to husbands: men should financially provide for their families. In rural Nepal, poverty runs high and small-scale, household-led farming remains common (Maharjan et al. 2013). The significantly higher wages abroad thus enable husbands to fulfill societal expectations of breadwinner, which is likely to improve their marital quality. Two, the migrant monitoring systems in top destination countries greatly limit migrants' abilities to explore new potential partners. This lack social integration in local communities may lead migrant husbands to value their marriages back home more, also improving their marital quality. *Hypothesis 2*: Migrant husbands are expected to have higher marital quality than non-migrant husbands.<sup>20</sup>

## **Data and Methods**

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<sup>20</sup> An additional possibility is that a husband's lower quality marriage is a function of his wanting but not being able to migrate (and thus unable to fulfill gender roles). I address this possibility analytically by controlling for migration experience, as well as numerous economic indicators, occurring prior to initial reports of marital quality. See discussion of "other important factors" in the Measures section below.

### *Sample*

I use data from the Chitwan Valley Family Study (CVFS), a panel study in South Central Nepal. The study collected data from all households in 151 neighborhoods using a clustered sampling design. Baseline face-to-face individual and household interviews were conducted in 1996 with all household members aged 15-59 and their spouses, regardless of age or place of residence. Following the interview, regular household interviews tracked every respondent measuring monthly updates of family transitions and travel events. Individual interviews in 2008 again assessed marriage-related experiences, including reports of marital quality, and attitudes toward marriage, similarly followed by family and travel updates for everyone in the household. Individual life history calendars in 2008 captured annual retrospective measures of travel, marital status, schooling, and employment. Importantly, these background measures, previously identified in the literature to influence both marriage and migration, were assessed *prior to the husbands' migration*.

From the larger panel study sample, I created a list of couples that were married in both 2008 and 2014, had both spouses participate in the individual interview in 2008 and *were both living in Chitwan in 2008*, and based on husbands' migration experience between 2008-2014. Because multiple marriages occur, although increasingly less common, I included only most recent spouses in this list. From this list, I randomly selected 280 couples. Again, all couples had both husbands and wives living in Chitwan in 2008. However, the couples varied in the husbands' 2014 migrant-status: for 130 couples, the husband was currently living and working outside Nepal (and India) at the time of the 2014 survey ("treatment group": migrant couples), whereas for 150 couples, neither the husband nor wife had lived or worked outside Nepal (and India) since 2008, and the husband was currently living in Chitwan at the time of the 2014

survey (“control group”: non-migrant couples).<sup>21</sup> All wives, regardless of their husbands’ migration status, were living in Chitwan at the time of the 2014 survey. Dimensions of marital quality assessed in the 2008 interview were assessed again in 2014 with all 560 individuals: face-to-face in Chitwan with non-migrant men, non-migrants’ wives, and migrant wives, and telephonically with migrant husbands abroad. Thus, marital quality measures were assessed *among the same married individuals, 6 years apart*. Moreover, these measures were collected from husbands and wives separately so as to ensure privacy and more accurate reports; these individual reports of marital quality and migration experiences were then linked to those of their spouses’. The assessment of a broad array of background and demographic characteristics, repeated measurement of marital quality among the same individuals, and the ability to link spouses’ marital quality reports allow for more precise estimation of the effects of husbands’ temporary international migration on spouses’ reports of marital quality - frequency of disagreement, frequency of criticism, and love for spouse - net of potential confounders.

### *Measures*

#### *Dimensions of marital quality*

Three measures assess dimensions of marital quality in 2008 and again in 2014. Scholars have used these measures to examine marital quality in Nepal previously (e.g., Allendorf and Ghimire 2013; Axinn, Ghimire, and Smith-Greenaway 2017; Hoelter et al. 2004; Jennings 2014).

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<sup>21</sup> Due to Nepal’s cultural similarities, geographic proximity, and open border with India, I conceptualize international migration destinations as different from movement to India. I do this for two main reasons. One, the very nature of the movement between Chitwan and these destinations differs: an individual can take a bus or even walk into India, with no paperwork. In contrast, migrating to, say, Qatar necessitates a visa and often a formal labor contract and recruiter fees. Two, reasons for migration between Nepal and India are diverse: individuals often study in Delhi, relocate to their spouse’s natal home, or make a pilgrimage. Travel to Malaysia or the Gulf, however, are rarely for purposes other than work. To account for these differences, I utilize location-specific data to conceptualize international migration as movement occurring to destinations outside Nepal and India. Couples in which either spouse migrated to India at any time between the 2008 and 2014 surveys were not included from analyses. Couples in which the husband migrated after 2008, but had since returned to Chitwan by the 2014 survey were dropped from analyses as well.

Two measures assess marital conflict, asking with what frequency the respondent has disagreements with and is criticized by his/her spouse, respectively. The measures are coded 1-4, with 1 being “frequently” and 4 being “never”. A third measure assesses how much the respondent loves his/her spouse. The measure is coded 1-4, with 1 being “very much” and 4 being “not at all”. I reverse code this measure so that larger numbers indicate more positive marital quality on all three measures. Summary measures of marital quality consist of the average of all three marital dimensions. Again, these measures were assessed among the same married individuals, 6 years apart.

### *Migration*

One dichotomous measure indicates whether the respondent is a migrant husband or has a migrant husband at the time of the 2014 survey. So, “1” indicates that the respondent is either currently living and working away from his wife outside Nepal and India (if a male respondent) or that the respondent has a husband who is currently living and working outside Nepal and India (if a female respondent). Conversely, a “0” indicates that the respondent (either male or female) is part of a couple in which both the husband and wife are currently living in Chitwan at the time of the 2014 survey, and that neither has ever lived or worked outside Nepal since 2008.

### *Controls*

*Marital circumstances.* Analyses include important marital characteristics previously documented to influence migration and/or marital quality in this setting. Each of these measures were assessed prior to the husbands’ migration. Spouse choice is included as a set of dichotomous measures: if the respondent selected his/her spouse independently; if the respondent participated in selecting his/her spouse, along with relatives; and if the respondent did not participate in selecting his/her spouse (reference group). Higher quality marriages are likely to be

positively correlated with greater say in spouse choice, as these unions are based more on individuals' emotional connection than on parents' arrangement (Allendorf and Ghimire 2013). A continuous measure reflects respondents' age at first marriage. Individuals who enter marriage later are likely to hold different views and attitudes toward marriage, specifically that marriage is a union based on love and personal fulfillment. Last, I include a continuous variable indicating the number of children in 2008. While early studies find that fertility decreases migration, recent work shows fertility as a predictor when local economic opportunities are limited, particularly as a way to provide for children's education (Compernelle 2017; Lu and Treiman 2011; Sobritchea 2007). Having children has also been negatively linked to marital satisfaction (Twenge and Campbell 2003). A dichotomous measure indicates whether the respondent has been married more than once. Because women do not historically have more than one husband at a time and remarriage remains uncommon after death of a husband, this measure only pertains to husbands. Models also include a variable indicating a respondent's attitude toward divorce as a potential option for an unhappy marriage.<sup>22 23</sup>

*Other important factors.* Models include various forms of capital – physical, social, and human - previously documented in the literature to influence both migration and/or marriage.

Again, these measures were assessed prior to the husbands' migration. First, I include two dichotomous measures of previous possession of physical capital in 2008, which can either

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<sup>22</sup> Because analyses consist of married couples that are married at both times, in 2008 and 2014, they thus exclude those couples who divorced at any point during this time period. As analyses are estimating the effects of male migration on marital quality, dissolution is an important indicator of marital quality that is not included in these analyses. While divorce remains a very rare event in this setting, it is increasing and has been linked to reports of marital discord (Jennings 2014). Additional analyses (see Appendix A.3.2) using the full CVFS panel study data show that male migration does not significantly predict marital dissolution. While it does not completely parse out potential bias due to divorce, I include a 2008 attitude measure indirectly assessing an individual's attitude toward divorce in general. The item asks, "If a husband and wife cannot get along, they should get divorced". The item is assessed on a 1-4 scale with 4 indicating strong disagreement to the statement.

<sup>23</sup> Marriage duration is an additional marital characteristic that has been documented to influence marital quality (VanLaningham, Johnson, and Amato 2001). This is highly correlated with both respondents' age and age at marriage, however, and inclusion of this measure in models led to biased estimates due to multicollinearity.

mitigate the costs of migrating, but also decrease the need to do so: ever owned a home business and ever owned an outside business (Bohra and Massey 2009; Massey and Espinosa 1997). Second, I include three measures of social capital assessed in the 2008 individual interview. Migrants transmit information about the process and experience, thereby helping to alleviate concerns associated with moving abroad and increasing the probability of doing so (Donato 1993; Massey and Espinosa 1997; Massey et al. 1998). Key sources of information are family (Massey et al. 2010; Regmi 1999), friends, and neighbors (Bohra and Massey 2009:632). Models include separate dichotomous measures indicating whether any family or friends have traveled outside Nepal and India, and neighborhood percent of individuals who ever traveled outside Nepal and India.

Last, human capital largely influences an individual's income opportunities and expected earnings, thereby affecting one's motivation to seek work abroad (Harris and Todaro 1970; Stark and Bloom 1985), as well as the timing and characteristics of marriage. Education is a key source of human capital, and I include a continuous measure indicating an individual's educational attainment in 2008 (Donato 1993; Hoelter et al. 2004; Massey et al. 2010). I also include enrolment in 2008, which has been found to decrease the risk of migration for men (Williams 2009) and to delay marriage (Blossfeld and Huinink 1991; Yabiku 2005). Two dichotomous measures indicate prior military (for husbands only), salary, and wage employment experience, which might influence migration due to unique skill acquisition and experience moving (Bohra and Massey 2009). I also include migration history prior to 2008, with "1" indicating any experience migrating outside Nepal and India before 2008.

*Demographic characteristics.* Age is closely related to important life experiences, including education, labor force experience, and marriage. For men, migration tends to increase

sharply with age, peaking in their 20s and 30s, then slowly decline with age and human capital accumulation. For analyses, I measure birth cohort with respondent age in 2008. As significant ethnic/caste differences have been evidenced to influence social life in Nepal (Ghimire et al. 2006), I also include a set of dichotomous measures corresponding to five broad ethnicity/caste categories reflecting meaningful distinctions in Nepalese society: Bhramin/Chhetri (reference), Dalit, Newars, Terai Janajati, and Hill Janajati. Descriptive statistics for marital circumstances, other important factors, and demographic characteristics are presented in Appendix A.3.1.

### *Analysis*

Using a linear regression technique, I test the effects of husbands' international migration on 2014 dimensions of husbands' and wives' marital quality, *controlling for the same 2008 dimensions*, as well as marital circumstances, various forms of capital known to influence migration and marriage, and demographic characteristics. I cluster the errors by neighborhood to account for the clustering of the CVFS sampling design at the neighborhood level. This lagged outcome model allows for estimation of the effects of husbands' migration on the change in spouses' marital quality between 2008 and 2014, given that the earlier dimensions are held constant, and can be represented as follows:

$$Y_t = \beta_0 + x\beta_1 + Y_{t-11}\beta_2 + \varepsilon$$

where  $Y_{t-11}$  is the dimension of marital quality in 2008,  $x$  is an explanatory factor, and  $\varepsilon$  is the error term. Tables present estimates for  $\beta_1$ , which represent the mean change in 2014 marital quality for one unit of change in  $x$  while holding all other factors constant, including the same dimensions of marital quality measured exactly the same way in 2008.

## **Results**

### *Descriptive statistics*

Table 3.1 displays descriptive statistics for the key predictor measures used in the models, stratified by gender, then further by husbands' migration status at the couple-level: statistics for the entire sample (N=560) are in the left most columns; statistics for wives (N=280) are in the middle columns, with non-migrants' wives' (N=150) to the left of migrants' wives' (N=130); and statistics for husbands (N=280) are in the right most columns, again with non-migrant husbands' (N=150) to the left of migrant husbands' (N=130). Marital quality measures for time 1 (2008) are presented in the top most rows and those assessed in time 2 (2014) are below these. Again, larger numbers represent more positive relations between spouses, or higher marital quality. Overall, respondents report high marital quality, with most means measuring above 3 on a 1-4 scale, and this remains stable over time. A combined summary measure of the three dimensions only slightly improves between time points: 3.28 at time 1 and 3.29 at time 2. Looking at specific dimensions at time 1, respondents report the least criticism (3.41), followed by more love (3.31), and few disagreements (3.12). Reported dimensions were similar at time 2, marital quality being the highest with regards to criticism and love (both 3.39), followed by few disagreements (3.10). Between the two time points, respondents report improvements in both criticism (3.39) and love for spouse (3.39), and declines in disagreements (disagreements become slightly more frequent).

[Table 3.1 about here]

Among women (the middle columns), migrants' wives report more positive marital quality than non-migrants' wives overall. They have significantly more higher marital quality in time 1 ( $p < .05$ , noted with a superscript "a" in the table), and this is driven largely by their reports of fewer disagreements. While migrants' wives' reports slightly decline between the two time

points overall (as shown in the summary measure), and those of non-migrants' wives' slightly improve, migrants' wives still report higher marital quality than non-migrants' wives on all three measures in time 2. However, no dimension of marital quality – disagreements, criticism, or love - significantly differs between the two groups at this later time.

Among men (the right-most columns), migrants also report more positive marital relations than non-migrants, with higher means for all three measures in both time 1 and time 2. These differences between migrant and non-migrant men are significant for all three marital dimensions in time 2 (noted with a superscript “b”). Migrant men experience the largest absolute change in marital quality between the two time points: their reports improve .07, compared to .02 improvement for non-migrants' wives, .02 decline for migrants' wives, and .01 decline for non-migrant husbands. Overall, however, migrant husbands and their wives report the highest quality marriages in time 2 (3.37 and 3.36, respectively) compared to non-migrant husbands (3.20) and their wives (3.26).

In sum, migrant husbands and, to a lesser extent, their wives report more positive relations with their spouses than non-migrants do: they report less frequent disagreements, being criticized by their spouse less often, and more love for their spouse. These differences between migrants and non-migrants are particularly strong for husbands at time 2.

### *Models*

#### *Wives*

Table 3.2 displays results from lagged dependent variable models for wives. Model 1 presents results for the effects of husbands' migration on a summary measure of wives' reports of three dimensions of marital quality: frequency of disagreements, frequency of criticism, and how much they love their spouse, holding constant the same summary measure assessed 6 years

prior, marital circumstances, and baseline factors. Results from Model 1 show that the summary measure assessed in 2008 (Time 1) is a key predictor of the same measure in 2014 (Time 2). This is expected: wives with high marital quality in 2008 have high marital quality in 2014 as well. As far as migration effects, husbands' migration does not significantly influence their wives' marital quality. Migrants' wives' marital quality is higher than that of non-migrants' wives' when controlling for marital quality assessed six years earlier: women whose husbands are living and working abroad report .06 higher marital quality than women whose husbands are living and working in Chitwan, although this effect is not significantly different from zero.

[Table 3.2 about here]

Models 2-4 tease this summary measure of marital quality apart and present results for each dimension of wives' marital quality separately. Again, wives' 2008 (time 1) reports of disagreement and criticism positively predict these same reports in 2014 (time 2). Wives' love for spouse in time 1 also positively affects love in time 2, although this is not statistically significant (Model 4). Moreover, similar to the summary measure, migrants' wives report higher marital quality than non-migrants' wives' on all three dimensions in 2014 (time 2): 0.01 for disagreements (Model 2); 0.07 for criticism (Model 3); and 0.11 for love (Model 4). Again, however, these differences are not significantly higher than non-migrants' wives' for any of the three dimensions of marital quality.

Overall, Models 1-4 show that, in general, other factors previously identified in the literature to influence migration and/or marital quality do not significantly predict marital quality in Time 2 when Time 1 marital quality measures are controlled for. However, some covariates are influential. Wage work decreases marital quality across a number of dimensions: it leads to more frequent disagreements and less love for their spouse. Participation in spouse choice

improves marital quality, although this is only significant for the frequency of criticism from a spouse. Owning a home business decreases the frequency of disagreements and migration experience decreases the frequency of criticism.

### *Husbands*

Table 3.3 present results from models similar to those discussed above in Table 3.2, although for husbands. Similar to wives, the previous assessments of the dimensions of marital quality (2008, Time 1), as well as a summary measure of them, significantly predict the same measures in 2014 (Time 2). Specifically, husbands who report higher quality marriages in 2008 experience higher marital quality marriages in 2014 as well – this is not very surprising. This trend is true at the summary level (Model 11  $p < .05$ ), as well as for all three specific dimensions of marital quality (Models 2-4).

[Table 3.3 about here]

Unlike those for wives, however, results also show that husbands' migration does significantly affect their own reports of marital quality. Model 1 shows this difference between migrants' and non-migrant husbands' marital quality, as assessed in one summary measure: husbands living and working away from their family household report .13 higher marital quality than husbands living and working at home (Model 1;  $p < .01$ ). And this effect is significant, even when controlling for the same summary measure assessed 6 years prior. The significant difference is consistent with the reasoning presented above: that migrant husbands' newfound ability to send money home enables them to successfully fulfill gendered expectations of the male provider/breadwinner role. Moreover, that receiving countries' extremely restrictive migrant monitoring systems greatly limits their opportunities to interact with locals suggests this provider role is particularly central to their identity while abroad.

Models 2-4 tease this summary measure apart and estimate the effects of husbands' migration on husbands' reports of frequency of disagreement (Model 2), frequency of criticism (Model 3), and love for their spouses (Model 4) separately. Again, these models show that husbands' previous reports of each dimension of marital quality assessed in 2008 (Time 1) are significant predictors of each respective dimension in 2014 (time 2). That these effects are so powerful likely explain why many key covariates included in models are not statistically significant. Again, results show that migrant husbands report significantly higher marital quality than their non-migrant peers, net of their own reports in 2008, and this is true for multiple dimensions of marital quality. Specifically, on a scale of 1-4, migrants report .14 less criticism from their spouses than non-migrant husbands (Model 3;  $p < .05$ ). That migrants report less criticism from their spouses might be due to the fact that remittances greatly ease financial stress and thus marital conflict, which is likely greatly exacerbated if wives and husbands spend most of their time in close quarters close to home. Migrants also report .15 more love for their spouses (Model 4;  $p < .05$ ) compared to non-migrant husbands. Marital satisfaction is positively related to less conflict, so this is not surprising, although indicates an entirely different dimension of the marital relationship. Migrant husbands also report fewer disagreements than non-migrant husbands (.11; Model 2), although this difference is not statistically significant.

Similar to models estimating effects on wives' marital quality, many controls identified in the literature do not significantly predict Time 2 dimensions of marital quality when the same dimensions from Time 1 are accounted for. However, participation in spouse choice operates in the opposite direction here: it decreases husbands' marital quality. School enrolment also improves marital quality overall, and leads to less frequent disagreements specifically.

*Supplemental analyses*

*Couple-level.* I utilize the CVFS's relationship grids – measures allowing models to analytically link husbands' data to their wives' - to estimate additional models and test whether male international labor migration influences spouses' marital quality at the couple-level. Two noteworthy results emerge. One, the discord/disconnect between husbands' and their wives' reports does not significantly differ by husbands' migration status; in other words, migrant couples' reports are not more or less similar than those of non-migrant couples. Two, migrant spouses' average marital quality is significantly higher than non-migrant spouses' at time 2: they report less criticism and more love for their spouses. While certainly important components of the association of interest, these estimates simply mirror the effects shown in Tables 3.2 and 3.3, although modeled slightly differently. As such, I focus this study's analyses and results on the strong gendered effects at the individual-level and present couple-level results in the Appendix.

*Destination.* Nepali migrants often live and work abroad for extended periods of time due to the nature of foreign labor contracts and the upfront investment of international travel. Thus, migrant destinations' culture and socio-political contexts may also influence migrants' experiences while separated from their spouses. I estimate additional models among husbands and test whether the effects of male labor migration vary by migrant destination. Results show that the main effects presented in Table 3.3 are driven by husbands living and working in GCC member states - the most common destination for Nepali migrants: men in this region report significantly less criticism and more love for their spouses than non-migrants, whereas husbands in other destinations, largely Malaysia, report significantly fewer disagreements. Additional consideration should be given to a laborer's expected earnings, which reflect a migrant's motivation to provide instrumental support for his family. That migration to the Gulf remains a top destination, despite its significant challenges, underscores its lucrateness. Compared to East

Asia, migration channels to GCC member states are more formal, meaning that employment is more predictable and wages higher (Seddon et al. 2002). Thus social isolation, coupled with the motivation and ability to remit more money home, may cause migrant husbands in GCC countries to regard their marriage more highly as they are able to more successfully provide for their families. I present these findings in the Appendix.

### **Discussion**

Scholars have long been interested in marital processes, particularly in how and why the marital relationship changes over time. Much research has identified the centrality of productive work, with studies investigating an increasingly common circumstance – labor migration – and its implications for the marital relationship. This work finds that migration is a threat to marital quality and a risk to marital dissolution overall, due in large part to new social networks that exert less social control and expose migrants to new potential partners, and declines in emotional support between spouses. While these results are not surprising, they are limited in their generalizability given their assumptions of the marital relationship and the nature of migration.

This study makes two important contributions to the literature. Theoretically, I critique existing literature on migration and marriage. I draw on literatures of social support and historical norms and expectations to develop a framework to understand this association. I then apply this framework to a setting in which these conditions vary greatly from those previously examined in Western settings - rural South Asia – and identify three conditions shaping this association. Empirically, I leverage unique panel data to produce more precise estimates: complete work, travel, and family histories and extensive assessment socio-economic factors, assessed *prior to migration events*; repeated assessment of marital quality *among the same*

*married individuals*, 6 years apart; and analytic links between husbands' and wives' reports of marital quality and those of their spouses. Given the highly selective nature of both migration and marriage, these tools allow for more precise estimation of the effects of husbands' temporary international migration on *changes in spouses' marital quality* net of potential confounders.

Applying this framework to the rural agricultural setting of South Asia not only highlights limitations in existing marriage and migration literature, it also provides an important opportunity to study this association of interest. Like many low-income settings, men are increasingly seeking more lucrative employment opportunities. Moreover, marriage remains largely universal and divorce rare, which is in stark contrast to Western settings, where high divorce rates have led to considerable bias in estimates of couples' marital quality (Cohen 2014; Kennedy and Ruggles 2014). Nepal's dramatic increase in migration and the centrality of marriage to social life present a rare opportunity to study the effects of migration on marital quality, among a sample in which the majority of individuals become and remain married.

The study identifies three conditions under which previous findings are not expected to hold: 1) patriarchal and family-oriented marriage norms remain; 2) significantly higher wages abroad; and 3) receiving countries' strict migrant monitoring systems. I then test key setting-specific hypotheses regarding the association between the reorganization of work – from local toward more international markets – and marital processes. Results from lagged dependent variable models show a number of key patterns. First, I show that husbands' migration does not always negatively affect spouses' marital quality. In fact, in rural agricultural settings, temporary labor migration may actually *improve* it. Second, I show that these benefits for marital quality are not shared equally between husbands and wives: migrants' wives do not report significantly

higher marital quality than their non-migrants' wife peers, whereas migrant husbands do, net of these same measures assessed 6 years prior.

What do these results tell us? A central finding is that husbands' labor migration does not *negatively impact spouses' marital quality* in this setting. Regarding migrants' wives, they do not report significantly different marital quality than non-migrants' wives – a result highlighting the complex reality for those “left behind” in migrant-sending households in low-income regions (Rigg 2007; Toyota et al. 2007; Xiang 2007). This finding helps identify *the first of the three scope* conditions: enduring patriarchal and family-oriented marriage norms. As women in this context historically enjoy little autonomy - they marry early and devote much of their time caring for family, rather than pursuing non-family activities such as education and work - scholars often identify remittances from a migrant husband as a potential pathway through which women may enjoy new financial and social opportunities (e.g., Lu 2012; Yabiku et al., 2010). But studies also note limitations to these benefits, which may net the positives out. For example, any realized gains for women in these domains must be balanced with the loss of an able-bodied adult who can no longer help in daily household management. Further, the nature of temporary labor migration means that any changes in autonomy may not be permanent, but only last as long as a husband is away.

At the same time, that male migration does not significantly affect wives' marital quality sheds light on women's expectations of and experiences with marriage in this setting. Much research has documented the importance of emotional support for wives' marital quality in Western settings (see Acitelli 1996 for review; McGonagle, Kessler, and Schilling 1992; Mickelson, Claffey, and Williams 2006). But given marriage norms in rural Nepal, women may emphasize instrumental support from their husbands and, as studies have also documented, seek

emotional support from other sources, such as family or neighbors. In this case, husbands' absence does not greatly affect wives' marital quality from an emotional standpoint – a finding consistent with a recent study of women in Mexico (Nobles, Rubalcava, and Teruel 2015). This is not to say that women do not enjoy married life – they report higher marital quality than men at both time points. But their perceptions of marital quality may be shaped more by the practical realities of an absent husband than, say, missing a confidante. And that many married couples remain in or near the husband's parents' household, this reality may simply shift major household decisions to a woman's in-laws in her husband's absence, rather than to her.

While male labor migration does not significantly affect wives' marital quality, it does for husbands. Results show that living and working away from home *improves* husbands' marital quality. Further, this improvement occurs in two fundamentally different dimensions of the marital relationship: migrant husbands report less marital conflict (less criticism from their spouses) and more marital satisfaction (more love for their spouses) than non-migrant husbands. This important finding challenges existing work on migration and marriage, which finds an increased risk of marital discord and/or dissolution due to the introduction of new networks and potential partners and weakened social controls. Rather, results are consistent with the gender, work, and marriage literature, which emphasize husbands' employment as a key factor in marital satisfaction (e.g., Killewald 2016; Qian and Qian 2015). This effect may be particularly strong given the economic hardship experienced back home in rural Nepal, as reflected in the significantly lower local wages relative to those abroad – *the second scope condition identified in this study*. That migrant men are able to fulfill the gendered expectation of breadwinner by remitting money home may far outweigh the possibility of exploring new romantic relationships.

Additional analyses presented in the Appendix are consistent with this finding: the effects of migration are stronger for migrants in regions in which wages are higher.

At the same time, that husbands' marital quality also improves in destinations with strict migrant monitoring systems highlights *the third scope identified in this study*: the possibility (or lack thereof) to socially integrate while away from home. Destination-specific effects highlight the importance of both the sending and receiving destinations' socio-political contexts and the need for further investigation. Previous work has examined the intimate lives of Nepalis in India, largely in the broader context of HIV/AIDs (e.g., Poudel et al. 2003; Poudel et al. 2004). However, little has been done to understand men's relationships in other destinations, and these are likely to vary significantly in places like the Gulf region. In all, the positive effect of migration on husbands' marital quality underscores the importance of instrumental, rather than emotional, support in this setting, which is contrast to the nature of marriage in Western settings.

Supplemental analyses at the couple-level further support the centrality of instrumental support, rather than emotional, for spouses. The first set of results suggests that male migration positively affects spouses' marital quality. Of course, this effect is driven largely by improvements in husbands' marital quality, and not in wives'. But coupled with the second set of results - that the discord between migrant and non-migrant couples is not significantly different – these results are telling. Specifically, migrant spouses' perceptions of marital quality are no more or less in sync (similar) than non-migrants', suggesting that emotional support is not necessarily driving this effect. In other words, the prolonged absence of a working husband does not bring spouses closer together or push them further apart as far as how they perceive the quality of their marriage. This is not entirely surprising given marriage norms in this setting. As marriage is historically seen as a bond between families, with parents arranging unions for their children in

early adulthood, an emotional connection between spouses is not necessarily central to a marriage. So an absent husband may not change their provision (and reception) of emotional support. Rather, like much of the world, poverty remains pervasive in Nepal, with many households still dependent on small-scale farming. As marriage remains largely universal and at a household's core, it is not surprising that economic concerns fall heavy on spouses. Financial strain has been well documented to negatively affect marital quality (e.g., Amato et al., 2003; Conger et al., 1990, 1999). So it is likely these economic concerns characterize spousal dynamics more so than emotional support in this setting. While beyond the scope of this study, couple-level analyses warrant future attention.

This study documents gender differences in the positive effects of migration on marriage. This effect is consistent, to some extent, with work exploring other circumstances of marital separation due to work obligations. Spouses in commuter marriages - those living in different locations during the workweek or for longer periods of time to accommodate dual careers – in Western settings face significant challenges as they navigate new work and family arrangements (Bergen and McBride 2007; Gerstel 1978; Gerstel and Gross 1984; Kirschner and Walum 1978). Scholars identify wives in these marriages as particularly burdened, shouldering work demands as well as family responsibilities (Glotzer and Federlein 2007) – consistent with the challenges women face as they enter the workforce themselves (e.g., Hochschild 1989). These adjustments that wives must make to changes in household work arrangements reflect larger social norms and institutions. When these remain based on the breadwinner model, it comes as no surprise that women's adjustments to these changes tend to be more difficult than the adjustments men must make - what gender scholars refer to as a “stalled revolution”. This is the case in rural Nepal as well, where migrant husbands' marital quality actually improves while they are away from the

family household, whereas, despite economic benefits from remittances, migrants' wives' marital quality does not. Rather, husbands' ability to fulfill gendered expectations as the provider leads to higher quality marriages – for husbands.

In sum, this study analyzes how husbands' temporary labor migration influences spouses' marital quality. It critiques current understandings of migration and marriage and shows that previous findings are not universal. I consider a vastly different context in which historical gender norms remain, whereas the landscape of employment opportunities has shifted away from home toward international markets. I thus identify three specific conditions under which migration is not expected to threaten the marital relationship, but rather improve. Moreover, I leverage panel data uniquely designed for this analysis - broad array of background factors assessed *prior to marriage and migration*; multiple dimensions of marital quality *among the same married individuals*, 6 years apart; and husbands' and wives' separate reports of marital quality – to produce more precise estimation of the effects of husbands' temporary international migration on changes in spouses' marital quality, net of potential confounders.

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Table 3.1 Descriptive Statistics of Marital Quality for the Full Sample and Stratified by Gender and Husbands' Migration Status, 2008 (Time 1) and 2014 (Time 2)

	Full (N=560)		Women				Men			
	mean	sd	Non-migrant (N=150)		Migrant (N=130)		Non-migrant (N=150)		Migrant (N=130)	
Marital quality, time 1 (2008)										
Summary quality <sup>a, b</sup>	3.28	0.45	3.24	0.48	3.38	0.47	3.21	0.41	3.31	0.42
Disagree <sup>a</sup>	3.12	0.65	2.99	0.70	3.18	0.62	3.15	0.54	3.17	0.69
Spouse criticize	3.41	0.68	3.40	0.72	3.51	0.71	3.29	0.65	3.47	0.64
Love spouse <sup>b</sup>	3.31	0.66	3.33	0.67	3.44	0.67	3.18	0.69	3.30	0.58
Marital quality, time 2 (2014)										
Summary quality <sup>b</sup>	3.29	0.41	3.26	0.40	3.36	0.44	3.20	0.35	3.37	0.41
Disagree <sup>b</sup>	3.10	0.58	3.07	0.56	3.10	0.63	3.05	0.57	3.21	0.57
Spouse criticize <sup>b</sup>	3.39	0.61	3.36	0.58	3.48	0.60	3.26	0.70	3.47	0.53
Love spouse <sup>b</sup>	3.39	0.57	3.36	0.66	3.50	0.55	3.27	0.53	3.45	0.51

Note: superscripts next to measures included in analyses represent a t-test, <0.05: <sup>a</sup>between women with migrant husbands and women with non-migrant husbands; <sup>b</sup>between migrant and non-migrant men  
 Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much

Table 3.2 Effects of Husbands' International Labor Migration on the Change in Wives' Marital Quality, 2008-2014

	Wives' reports of marital quality			
	1 (sum)	2 (disagree)	3 (criticize)	4 (love)
Has a migrant husband	0.06	0.01	0.07	0.11
	0.06	0.09	0.08	0.08
Marital quality, time 1 (2008)				
Summary of quality	0.13 *			
	0.06			
How often disagree		0.17 **		
		0.07		
How often spouse criticize			0.12 **	
			0.04	
How much love spouse				0.11 *
				0.06
Marital characteristics				
Participation in choosing spouse				
Full choice	0.01	-0.04	-0.06	0.13
	0.05	0.07	0.08	0.08
Any choice	0.11	0.00	0.17 *	0.14
	0.06	0.08	0.09	0.11
Age at first marriage	0.00	0.02	-0.02	-0.01
	0.01	0.02	0.02	0.02
Any children	-0.02	0.00	0.01	-0.06
	0.04	0.05	0.05	0.06
Attitude: Divorce OK if unhappy	-0.04	-0.01	-0.16 **	0.07
	0.05	0.07	0.06	0.08
Other important factors				
Physical capital				
Own a home business	0.09	0.21 *	0.01	0.05
	0.08	0.09	0.10	0.11
Own an outside business	-0.02	-0.03	-0.20	0.18
	0.13	0.17	0.18	0.14
Social capital				
Family outside Nepal/India	0.07	-0.01	0.13	0.08
	0.06	0.09	0.08	0.10
Friends outside Nepal/India	-0.06	-0.07	-0.07	-0.03
	0.05	0.07	0.07	0.08
NBH travel outside Nepal	0.01	-0.33	0.49	-0.15
	0.39	0.50	0.55	0.53
Human capital				
Educational attainment	0.01	0.00	0.01	0.02
	0.01	0.01	0.02	0.02
Enrolled in school	0.07	-0.10	0.14	0.17
	0.09	0.21	0.15	0.13
Salary work	0.02	0.04	0.04	-0.01
	0.06	0.09	0.10	0.12

Wage work	-0.15 **	-0.21 *	-0.10	-0.14 *
	0.06	0.09	0.08	0.08
Military work	.	.	.	.
Migration-specific				
Ever to KTM/abroad	0.02	-0.20	0.23 *	0.02
	0.07	0.16	0.11	0.14
Demographic characteristics				
Caste/ethnicity				
Dalit	0.09	-0.05	0.20 *	0.11
	0.09	0.13	0.11	0.13
Newar	0.01	0.02	0.06	-0.03
	0.08	0.09	0.11	0.13
Terai Janajati	0.00	0.09	-0.02	-0.06
	0.14	0.16	0.13	0.29
Hill Janajati	0.07	-0.09	0.06	0.23 *
	0.09	0.10	0.12	0.14
Age at baseline	0.00	0.00	0.01	0.00
	0.01	0.01	0.01	0.01
Constant	2.75 ***	2.56 ***	2.68 ***	2.98 ***
	0.33	0.42	0.38	0.41
F-statistic	1.82	1.56	4.08	2.26
p	0.02	0.07	0.00	0.00
N	280.00	280.00	280.00	280.00

Note: Columns show results from linear regression models; standard errors below. \* p<.05, \*\* p<.01, \*\*\* p<.001; two-tailed tests.

Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much

Table 3.3 Effects of Husbands' International Labor Migration on the Change in Husbands' Marital Quality, 2008-2014

	Husbands' reports of marital quality			
	1 (sum)	2 (disagree)	3 (criticize)	4 (love)
Is a migrant	0.13 **	0.11	0.14 *	0.15 *
	0.05	0.07	0.08	0.08
Marital quality, time 1 (2008)				
Summary of quality	0.30 ***			
	0.05			
How often disagree		0.26 ***		
		0.06		
How often spouse criticize			0.33 ***	
			0.06	
How much love spouse				0.09 *
				0.05
Marital characteristics				
Participation in choosing spouse				
Full choice	-0.05	-0.19 *	0.07	-0.01
	0.06	0.08	0.10	0.09
Any choice	-0.17 **	-0.33 ***	-0.03	-0.12
	0.06	0.08	0.10	0.09
Age at first marriage	0.01	0.03	0.00	0.01
	0.01	0.02	0.01	0.01
Married more than once	0.15 *	0.11	0.09	0.17
	0.09	0.15	0.15	0.14
Any children	0.01	0.04	-0.01	0.00
	0.03	0.04	0.04	0.03
Attitude: Divorce OK if unhappy	-0.06	-0.08	-0.06	-0.06
	0.05	0.07	0.08	0.07
Other important factors				
Physical capital				
Own a home business	-0.02	-0.05	-0.01	0.02
	0.07	0.11	0.10	0.09
Own an outside business	-0.08	0.06	-0.10	-0.22 **
	0.07	0.14	0.12	0.08
Social capital				
Family outside Nepal/India	-0.01	0.00	0.06	-0.07
	0.05	0.09	0.09	0.08
Friends outside Nepal/India	0.02	0.29 **	-0.15	-0.07
	0.07	0.11	0.11	0.10
NBH travel outside Nepal	-0.13	0.01	-0.30	-0.17
	0.39	0.60	0.63	0.41
Human capital				
Educational attainment	0.00	-0.01	0.01	0.01
	0.01	0.01	0.02	0.01
Enrolled in school	0.28 *	0.39 *	0.07	0.28
	0.14	0.20	0.17	0.25

Salary work	0.07	0.14	0.05	0.01
	0.07	0.11	0.11	0.10
Wage work	0.00	-0.06	0.02	0.00
	0.05	0.08	0.09	0.07
Military work	0.04	0.07	-0.06	0.11
	0.09	0.13	0.13	0.14
Migration-specific				
Ever to KTM/abroad	0.06	0.05	0.09	0.02
	0.05	0.07	0.08	0.08
Demographic characteristics				
Caste/ethnicity				
Dalit	0.02	0.02	0.08	-0.06
	0.07	0.10	0.14	0.12
Newar	0.00	0.04	0.10	-0.16 *
	0.06	0.09	0.10	0.08
Terai Janajati	-0.08	-0.03	-0.10	-0.12
	0.14	0.18	0.26	0.13
Hill Janajati	-0.05	0.01	-0.06	-0.14
	0.08	0.14	0.13	0.10
Age at baseline	-0.01	-0.01	0.00	-0.01
	0.01	0.01	0.01	0.01
Constant	2.24 ***	2.03 ***	2.08 ***	3.43 ***
	0.32	0.41	0.58	0.37
F-statistic	4.85	4.30	4.47	2.32
p	0.00	0.00	0.00	0.00
N	280.00	280.00	280.00	280.00

Note: Columns show results from linear regression models; standard errors below. \* p<.05, \*\* p<.01, \*\*\* p<.001; two-tailed tests.

Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much

## Appendix

Table A.3.1 Descriptive Statistics for Additional Baseline Measures Included in Analyses

	Full (N=560)		Men				Women			
	Mean	SD	Non-migrant		Migrant		Non-migrant husband		Migrant husband	
			Mean	SD	Mean	SD	Mean	SD	Mean	SD
<b>Marital circumstances</b>										
Full choice in recent spouse	0.42	0.49	0.53	0.5	0.49	0.5	0.35	0.48	0.28	0.45
Both chose recent spouse	0.22	0.41	0.28	0.45	0.27	0.45	0.18	0.39	0.14	0.35
No choice in spouse	0.37	0.48	0.19	0.4	0.24	0.43	0.47	0.5	0.58	0.58
Age at first marriage	20.39	3.93	23.17	4.08	21.68	3.37	18.54	2.91	18.04	2.52
Married more than once			0.1	0.3	0.05	0.21				
Number of children	1.78	1.2	2.03	1.4	1.61	1.14	1.89	1.07	1.54	1.08
Divorce over unhappy marriage	0.6	0.49	0.65	0.48	0.63	0.48	0.59	0.49	0.53	0.5
<b>Other important factors</b>										
<b>Physical capital</b>										
Own home business	0.16	0.37	0.28	0.45	0.08	0.28	0.17	0.38	0.1	0.3
Own outside business	0.09	0.29	0.15	0.36	0.09	0.29	0.08	0.27	0.05	0.21
<b>Social capital</b>										
Family travel experience	0.75	0.43	0.71	0.45	0.82	0.39	0.65	0.48	0.86	0.35
Friend travel experience	0.61	0.49	0.83	0.38	0.89	0.31	0.33	0.47	0.39	0.49
NBH's travel: outside Nepal	0.2	0.07	0.2	0.08	0.19	0.07	0.2	0.08	0.19	0.07
<b>Human capital</b>										
Educational attainment	7.34	3.79	8.13	4.34	7.72	3.12	6.81	3.86	6.65	3.43
Enrolled in school	0.03	0.18	0.03	0.18	0.01	0.09	0.04	0.2	0.05	0.21
Military work	0.04	0.2	0.09	0.29	0.08	0.27				
Salary work	0.48	0.5	0.75	0.44	0.92	0.27	0.12	0.33	0.14	0.35
Wage work	0.43	0.49	0.43	0.5	0.39	0.49	0.47	0.5	0.41	0.49
<b>Migration-specific</b>										
Travel outside Nepal	0.19	0.39	0.33	0.47	0.28	0.45	0.05	0.21	0.08	0.27
<b>Caste/ethnicity</b>										
Brahmin/Chhetri	0.44	0.5	0.44	0.5	0.45	0.5	0.43	0.5	0.45	0.5
Dalit	0.12	0.32	0.1	0.3	0.15	0.35	0.09	0.28	0.15	0.35
Newar	0.04	0.21	0.06	0.24	0.02	0.15	0.07	0.25	0.02	0.15
Terai Janajati	0.19	0.39	0.21	0.41	0.16	0.37	0.22	0.42	0.16	0.37
Hill Janajati	0.21	0.41	0.19	0.4	0.22	0.42	0.19	0.4	0.22	0.42
Age at baseline	34.25	5.82	38.12	6.5	34.58	5.05	32.87	4.34	31.05	4.56

Table A.3.2 Results from Logistic Regression Models of the Effects of Husbands' International Migration on Couples' Risk of Marital Dissolution

	Model 1	Model 2	Model 3	Model 4
Migration status/experience (time-varying)				
Currently outside Nepal	1.36			
	0.81			
Ever outside Nepal (0/1)		0.84		
		0.48		
Number of trips outside Nepal			0.85	
			0.23	
Cumulative number of months outside Nepal				1.01
				0.01
Constant	0 ***	0 ***	0 ***	0 ***
	0	0	0	0
chi2	32.49	32.34	31.78	31.11
p	0.01	0.01	0.02	0.02
ll	-309.55	-309.62	-301.44	-301.46
N	180971	180971	180756	180709

Note: Columns show results from linear regression models. All models control for husbands' marital characteristics and important baseline factors (physical, social, and human capital, migration experience, caste/ethnicity, and age), which are not shown for parsimony; \* p<.05, \*\* p<.01, \*\*\* p<.001; one-tailed tests. Marital dissolution is coded as "1" for any month in which respondents' marital status is divorced/separated/widowed and "0" for currently married. Respondents are considered at risk in person-months in which they are currently married.

Table A.3.3 Effects of Husbands' International Migration on the Change in Spouses'

Discordance (Husband's – Wife's Report), 2008-2014

	1 (sum)	2 (disagree)	3 (criticize)	4 (love)
Husband is a migrant	0.12	0.12	0.11	0.01
	0.08	0.10	0.10	0.10
(Discord in) marital quality, time 1 (2008)	0.29 ***			
Summary of quality	0.06			
		0.16 **		
How often disagree		0.05		
			0.23 ***	
How often spouse criticize			0.06	
				0.11 **
How much love spouse				0.04
Marital characteristics				
Participation in choosing spouse				
Full choice	0.03	-0.09	0.16	-0.10
	0.10	0.12	0.13	0.13
Any choice	-0.06	-0.15	0.04	-0.11
	0.10	0.13	0.13	0.13
Age at first marriage	0.02	0.02	0.02	-0.03 *
	0.02	0.02	0.02	0.02
Married more than once	0.09	0.05	0.16	0.16
	0.16	0.22	0.17	0.23
Any children	0.08 *	0.08	0.08 *	0.06
	0.04	0.06	0.04	0.06
Attitude: Divorce OK if unhappy	-0.03	-0.04	0.01	-0.01
	0.08	0.09	0.10	0.09
Other important factors				
Physical capital				
Own a home business	-0.11	-0.17	-0.04	-0.20 *
	0.11	0.13	0.14	0.12
Own an outside business	0.06	0.06	0.06	-0.26 *
	0.12	0.14	0.17	0.14
Social capital				
Family outside Nepal/India	0.00	-0.14	0.09	-0.13
	0.10	0.10	0.14	0.12
Friends outside Nepal/India	0.10	0.25	-0.03	-0.06
	0.12	0.15	0.15	0.15
NBH travel outside Nepal	-0.48	0.21	-1.17	-0.10
	0.68	0.75	0.83	0.64
Human capital				
Educational attainment	0.00	-0.02	0.01	0.01
	0.01	0.02	0.02	0.01
Enrolled in school	0.21	0.26	0.10	-0.17
	0.21	0.31	0.24	0.29
Salary work	-0.06	-0.02	-0.12	-0.16

	0.12	0.13	0.15	0.12
Wage work	-0.06	-0.06	-0.05	0.08
	0.10	0.12	0.11	0.09
Military work	0.01	0.17	-0.13	-0.07
	0.11	0.13	0.17	0.15
Migration-specific				
Ever to KTM/abroad	0.11	0.02	0.17	0.11
	0.09	0.10	0.12	0.12
Demographic characteristics				
Caste/ethnicity				
Dalit	0.02	0.12	-0.07	-0.11
	0.16	0.19	0.20	0.16
Newar	-0.01	-0.06	0.03	-0.11
	0.11	0.12	0.16	0.11
Terai Janajati	-0.14	-0.01	-0.31	0.13
	0.23	0.30	0.25	0.22
Hill Janajati	0.02	0.05	-0.05	-0.35 **
	0.14	0.16	0.18	0.14
Age at baseline	-0.02	-0.02	-0.01	0.00
	0.01	0.01	0.01	0.01
Constant	-0.02	0.19	-0.13	0.87 *
	0.43	0.54	0.57	0.43
F-statistic	2.41	1.70	1.94	2.37
p	0.00	0.03	0.01	0.00
N	280.00	280.00	280.00	280.00

Note: Columns show results from linear regression models; standard errors below. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; two-tailed tests.

Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much

Table A.3.4 Effects of Husbands' International Migration on the Change in the Mean of Husband's and Wives' Reports of Marital Quality, 2008-2014

	1 (sum)	2 (disagree)	3 (criticize)	4 (love)
Has a migrant husband	0.07	0.04	0.11 *	0.14 *
	0.05	0.05	0.06	0.06
Marital dynamic, time 1 (2008)				
Summary of quality	0.26 ***			
	0.05			
How often disagree		0.26 ***		
		0.05		
How often spouse criticize			0.21 ***	
			0.05	
How much love spouse				0.13 *
				0.06
Marital characteristics				
Participation in choosing spouse				
Full choice	-0.07	-0.13 *	-0.01	0.04
	0.06	0.07	0.07	0.06
Any choice	-0.15 **	-0.25 ***	-0.06	-0.07
	0.05	0.07	0.07	0.08
Age at first marriage	0.00	0.02	-0.01	0.02 *
	0.01	0.01	0.01	0.01
Married more than once	0.06	0.09	0.03	0.10
	0.08	0.09	0.11	0.09
Any children	-0.02	0.01	-0.04	-0.03
	0.03	0.03	0.03	0.03
Attitude: Divorce OK if unhappy	-0.05	-0.05	-0.04	-0.05
	0.05	0.06	0.06	0.06
Other important factors				
Physical capital				
Own a home business	0.02	0.03	0.00	0.12 *
	0.06	0.08	0.07	0.07
Own an outside business	-0.05	0.03	-0.13	-0.09
	0.07	0.09	0.08	0.06
Social capital				
Family outside Nepal/India	0.03	0.06	-0.01	-0.01
	0.05	0.07	0.06	0.06
Friends outside Nepal/India	0.03	0.17 *	-0.11	-0.05
	0.07	0.09	0.08	0.08
NBH travel outside Nepal	0.10	-0.11	0.34	-0.11
	0.36	0.40	0.41	0.38
Human capital				
Educational attainment	0.00	-0.01	0.00	0.01
	0.01	0.01	0.01	0.01
Enrolled in school	0.13	0.23 *	0.04	0.38 **
	0.11	0.14	0.14	0.14
Salary work	0.13 *	0.15 *	0.11	0.09

	0.06	0.08	0.08	0.07
Wage work	0.01	-0.03	0.03	-0.03
	0.05	0.05	0.07	0.05
Military work	0.00	-0.01	0.01	0.15
	0.08	0.10	0.10	0.10
Migration-specific				
Ever to KTM/abroad	0.01	0.03	0.00	-0.04
	0.04	0.06	0.06	0.06
Demographic characteristics				
Caste/ethnicity				
Dalit	0.04	-0.03	0.10	0.00
	0.07	0.08	0.08	0.11
Newar	0.07	0.07	0.06	-0.10
	0.05	0.06	0.07	0.09
Terai Janajati	0.00	-0.03	0.04	-0.19
	0.12	0.13	0.15	0.15
Hill Janajati	-0.03	-0.03	-0.04	0.04
	0.07	0.09	0.09	0.09
Age at baseline	0.00	0.00	0.01	-0.01
	0.01	0.01	0.01	0.01
Constant	2.17 ***	1.96 ***	2.56 ***	2.89 ***
	0.27	0.28	0.35	0.33
F-statistic	3.72	3.47	2.15	3.59
p	0.00	0.00	0.00	0.00
N	280.00	280.00	280.00	280.00

Note: Columns show results from linear regression models; standard errors below. \* p<.05, \*\* p<.01, \*\*\* p<.001; two-tailed tests.

Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much

Table A.3.5 Effects of Husbands' International Migration on the Change in Husbands' Reports of Marital Quality 2008-2014, Stratified by Migration Location

	1 (sum)	2 (disagree)	3 (criticize)	4 (love)
Migration destination				
Is a non-GCC Migrant	0.17 **	0.18 *	0.14	0.17
	0.07	0.08	0.11	0.14
Is a GCC migrant	0.12 **	0.08	0.15 *	0.14 *
	0.05	0.08	0.09	0.08
Marital quality, time 1 (2008)				
Summary of quality	0.30 ***			
	0.05			
How often disagree		0.26 ***		
		0.06		
How often spouse criticize			0.33 ***	
			0.06	
How much love spouse				0.09 *
				0.05
Marital characteristics				
Participation in choosing spouse				
Full choice	-0.05	-0.19 *	0.07	-0.01
	0.06	0.08	0.10	0.09
Any choice	-0.17 **	-0.32 ***	-0.03	-0.12
	0.06	0.08	0.10	0.09
Age at first marriage	0.01	0.03	0.00	0.01
	0.01	0.02	0.01	0.01
Married more than once	0.15 *	0.12	0.09	0.17
	0.09	0.15	0.15	0.14
Any children	0.01	0.04	-0.01	0.00
	0.03	0.04	0.04	0.03
Attitude: Divorce OK if unhappy	-0.06	-0.08	-0.05	-0.06
	0.05	0.07	0.08	0.06
Other important factors				
Physical capital				
Own a home business	-0.01	-0.05	-0.01	0.02
	0.07	0.11	0.10	0.09
Own an outside business	-0.08	0.06	-0.10	-0.23 **
	0.07	0.13	0.12	0.08
Social capital				
Family outside Nepal/India	-0.01	0.00	0.06	-0.08
	0.05	0.09	0.09	0.08
Friends outside Nepal/India	0.02	0.29 **	-0.15	-0.07
	0.07	0.11	0.11	0.10
NBH travel outside Nepal	-0.13	0.01	-0.31	-0.17
	0.39	0.60	0.63	0.41
Human capital				
Educational attainment	0.00	-0.01	0.01	0.01

	0.01	0.01	0.02	0.01
Enrolled in school	0.27 *	0.38 *	0.07	0.28
	0.14	0.21	0.17	0.25
Salary work	0.07	0.15	0.05	0.02
	0.07	0.11	0.11	0.10
Wage work	0.00	-0.06	0.02	0.00
	0.05	0.08	0.09	0.07
Military work	0.05	0.08	-0.06	0.11
	0.09	0.13	0.13	0.14
Migration-specific				
Ever to KTM/abroad	0.06	0.04	0.09	0.01
	0.05	0.07	0.08	0.08
Demographic characteristics				
Caste/ethnicity				
Dalit	0.03	0.03	0.08	-0.06
	0.07	0.11	0.14	0.12
Newar	0.00	0.04	0.10	-0.16 *
	0.06	0.09	0.10	0.08
Terai Janajati	-0.07	-0.02	-0.10	-0.12
	0.14	0.18	0.26	0.14
Hill Janajati	-0.05	0.02	-0.06	-0.14
	0.08	0.14	0.13	0.11
Age at baseline	-0.01	-0.01	0.00	-0.01
	0.01	0.01	0.01	0.01
Constant	2.25 ***	2.03 ***	2.08 ***	3.43 ***
	0.32	0.41	0.58	0.38
F-statistic	4.77	4.34	4.29	2.29
p	0.00	0.00	0.00	0.00
N	280.00	280.00	280.00	280.00

Note: Columns show results from linear regression models; standard errors below. \* p<.05, \*\* p<.01, \*\*\* p<.001; two-tailed tests.

Marital quality measures are assessed on a scale from 1-4, with 4=higher marital quality: never disagree, spouse never criticize, love spouse very much