Dimensions and Determinants of Marital Quality in Nepal

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Abstract

Drawing on a uniquely large number of items on marital quality, this study explores the dimensions and determinants of marital quality in Chitwan Valley, Nepal. Five dimensions of marital quality are identified using factor analysis. Three positive dimensions comprise satisfaction, communication, and togetherness, while two other dimensions – problems and disagreements – are negative in nature. Gender, education, and spouse choice emerge as the most important determinants of these five dimensions of marital quality. Men, those with more schooling, and people who participated in the choice of their spouse have higher levels of marital quality. By contrast, caste, occupation, age at marriage, and marital duration have little to no association with marital quality. While gender, education, and spouse choice emerge as key determinants of marital quality in this context, the majority of variation in marital quality remains unexplained by these factors.

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Introduction

Marital quality is an important aspect of family life that shapes people's health and well-being. A large literature shows that greater marital quality is associated with less depression (e.g. Williams 2003), better self-rated health (e.g. Umberson et al. 2006), less physical illness (e.g. Wickrama et al. 1997), and other positive outcomes (Ross et al. 1990). Given the importance of marital quality, there is also a large literature that explores its determinants (e.g. Johnson and Booth 1998; Rogers and Amato 2000), including differences in the experience of marital quality by ethnicity and gender (e.g. Bulanda and Brown 2007; Kurdek 2005).

Underlying this research on marital quality is the challenge of operationalizing and measuring marital quality. There is widespread agreement that marital quality is shorthand for the presence of "good" aspects of a marriage and the accompanying absence of "bad" aspects. However, there is less agreement on which aspects of a marriage are relevant exemplars of good and bad aspects (Bradbury et al. 2000). There is not a single, standardized measure of marital quality used across all studies. Instead, there are a handful of indices that are commonly used – comprising the Quality of Marriage Index (QMI) (Norton 1983), Marital Adjustment Test (MAT) (Locke and Wallace 1959), and Dyadic Adjustment Scale (DAS) (Spanier 1976) – as well as a variety of other measures that are unique to particular surveys (e.g. Johnson et al. 1986).

The vast majority of the literature on marital quality focuses on Western contexts, primarily the United States and Europe. In recent years, however, there is a growing interest in marital quality and its determinants and consequences for well-being in non-Western contexts.

There are now studies that examine marital quality in Cameroon (Gwanfogbe et al. 1997), Turkey (Fisiloglu and Demir 2000), Bolivia (Orgill and Heaton 2005) and China (Pimentel 2000), among other countries. This expansion of research on marital quality into non-Western contexts raises both new challenges and opportunities for research on marital quality.

First, this expansion into non-Western contexts further complicates the challenge of measuring marital quality. It is likely that there will be at least some variation in the concept of marital quality across contexts. Some aspects of marital quality will apply to some places or groups, but not to others. For example, the Dyadic Adjustment Scale developed in reference to an American sample poses the frequency of kissing as an aspect of marital quality, but kissing is not a sign of marital satisfaction in China (Shek and Cheung 2008). Similarly, Lee and Ono (2008) suggest that a good marriage in Japan is commonly understood as one in which the husband works and the wife does not, while the husband's ability to support his wife is not as important in the conception of a good marriage in the United States. Thus, these contextual differences raise the challenge of developing measures of marital quality that are relevant to a particular context, while also being able to compare results across contexts.

At the same time, this expansion into non-Western contexts also provides new opportunities. First, it presents an opportunity to examine how aspects of social life that are not common in Western contexts influence marital quality. For example, the study from Cameroon is able to examine how polygyny shapes marital satisfaction (Gawnfogbe et al. 1997). Similarly, studies from China are able to examine how participation in the choice of one's spouse and parent's approval of spouses shapes the experience of marital quality (Pimentel 2000; Xu and Whyte 2000). Second, this expansion into non-Western contexts provides the

opportunity to examine how determinants that are relevant to Western contexts, such as differences by gender, play out differently or similarly in other contexts.

This paper contributes to this new expansion of research on marital quality into non-Western contexts. Using uniquely detailed survey data from Nepal, we draw on a large number of items on marital quality to measure and identify the dimensions of marital quality in this context. We then examine the determinants of marital quality using these newly developed measures, examining differences in marital quality by education, gender, spouse choice, and other characteristics. This study thus provides two main contributions to the literature on marital quality. First, it provides one of the first comprehensive examinations of the measurement of marital quality in a non-Western context using a large number of items on marital quality. Second, the context of Nepal, which has a history of arranged marriages, further provides a rare opportunity to examine how the experience of marital quality is shaped by spouse choice.

Background

As we mentioned above, the meaning of marital quality can vary by cultural context. Thus, before to jumping to a discussion of the conceptualization of dimensions marital quality we briefly describe the cultural context of our study setting. Even with a relatively small population, Nepal is home to over a hundred religio-ethnic/caste groups. Historically, Nepali society greatly varies in their marriage patterns, customs, rituals, values, norms, and behaviors (Bista 1972; Macfarlane 1976; Subedi 1998). However, given Hinduism's long-term reign as the official state religion, Hindu marriage values and norms have provided, for centuries, very strict religious prescriptions for family life.

According to Hinduism, marriage is obligatory and sacramental, more than just a simple bond between two individuals. Rather, marriage is a bond between families and a promise of continuity in patriarchal family lines. Therefore, marriage has a history of deep religious, social, and institutional significance (Banerjee 1984; Bennett 1983; Berreman 1972; Bista 1972; Mace and Mace 1960; Majupuria and Majupuria 1989; Pothen 1989; Stone 1978). Hindu doctrine prohibits youth participation in spouse selection and considers the virginity of a bride-to-be the most essential qualification for marriage, thus encouraging early marriage arranged by parents (ibid). In addition, other aspects of Hinduism prohibit divorce, inter-caste marriage, and widow marriage, particularly by women, and condone polygyny.

Hinduism is by no means the only religion in Nepal, and marriage patterns, customs, rituals, values, norms, and behaviors do vary by religio-ethnic identity (Bista 1972; Macfarlane 1976; Majupuria and Majupuria 1989). Customarily, many non-Hindus married at older ages than Hindus, did not stress premarital abstinence, practiced cross-cousin or polyandrous marriage, and allowed youth more say in the choice of a spouse (Goldstein 1975; Macfarlane 1976; Shrestha and Singh 1987; Smith 1973). Some groups also had no social sanctions on divorce, remarriage, or widow marriage (Bista 1972; Blaikie et al. 1980; Macfarlane 1976; Shrestha and Singh 1987). For these reasons, there is religio-ethnic variation in marriage practices in Nepal. On the other hand, in parts of Nepal, such as the Chitwan Valley where different religio-ethnic groups constantly interact, and High Caste Hindus—the highest caste in Nepal—have a history of power and privilege, many non-Hindu groups aspire to high caste status by imitating high-caste Hindu family patterns, customs, rituals, culture, and behaviors

(Banerjee 1984; Berreman 1972; Dastider 1995; Hofer 1979; Guneratne 2001; Gurung 1988; Majupuria and Majupuria 1989; Maskey 1996; Sharma 1977).

Although Hinduism, both as an ideology and normative force, has had important influences on both the attitudes about marriage and marriage, Nepali marriage patterns, customs, rituals, values, norms, and behaviors have changed rapidly in recent years within all ethnic-castes. Individual choices in marriage behavior, especially with regards to participation in spouse choice, inter-caste marriage, late marriage, and divorce, are occurring more commonly than before (Acharya 1998; Ahearn 2001; Dahal and Fricke 1998; Dahal et al. 1996; Ghimire et al. 2006; Gray 1991; NDHS 2002; Niraula 1994; Niraula and Lawoti 1998; Niraula and Morgan 1996; Rijal 2003; Suwal 2001). For example, in Nepal, where child marriage was common until the early 1950s, the proportion of women never married by ages 15 – 19 increased from 25.7 in 1961 to 59.7 in 2001, a 136 percent increase (NDHS 2002). Similarly, the average age at first marriage in Chitwan has increased from 16 years for those who married between 1956 and 1965 to 21 years for those who married between 1996 and 2005 (Ghimire 2003; Yabiku 2005). The proportion of individuals who participated in the choice of their spouse rose from being very low at the middle of the 20th century virtually zero at the turn of the century to approximately 50 percent in the 1986-95 marriage cohort (Ghimire et al. 2006).

Both the deep rooted Hindu based ideologies and norms and new individual choice based marriage ideals are likely to have important implications on the conceptualization and operationalization of marital quality in present day Nepal.

Setting

Nepal is currently ranked as one of the poorest countries in the world. Over 85 percent of the population still lives in rural areas, and more than half of the population is illiterate. Nepal has historically been a society with a family system in general, and a marriage system, in particular, that generations of social scientists have characterized as "traditional" with young and universal marriage (even child marriage); arranged marriage; endogamous (intra-caste) marriage; polygamy; and restrictions on divorce and widow remarriage (Macfarlane 1976; Maskey 1996; Rijal 2003; Stone 1978; Vaidya et al. 1993). Our research was conducted in one region of Nepal, the Chitwan Valley, which lies in the south central part of Nepal.

Until the 1970s, the Chitwan Valley was very isolated from the rest of the country, but since the late 1970s, the valley has undergone rapid changes in terms of both physical and socioeconomic conditions (Shivakoti et al. 1997). The valley has become connected to the rest of the country by all-weather roads making it one of the business hubs of the country. Most people who travel to the capital city, Kathmandu, from India pass through this valley. Furthermore, there has been a massive expansion of schools, health services, markets, bus services, cooperatives, and employment centers in Chitwan (Axinn and Yabiku 2001). This transformation, from an isolated valley to a busy business center, has had a tremendous impact on the daily social life of communities and individuals.

At the individual level, the massive expansion of services such as schools, health services, bus services, market, employment centers, cinema halls and communication facilities, resulted in more young people going to school, working outside the family, and interacting with

mass media. Previous work in Chitwan shows that there has been a sharp increase in school enrollment, visits to health clinics, employment outside of the home, and exposure to different sources of mass media (Axinn and Barber 2001; Axinn and Yabiku 2001; Ghimire et al. 2006).

Methods

In order to understand the dimension and determinants of marital quality in Nepal, we collected both qualitative and quantitative data in Chitwan Valley in 2004. This study is an extension of a large scale ongoing longitudinal study of the impact of macro-level social change on individual level family formation behavior. Although the data for this study come from a different, much smaller sample, this study utilizes the wealth of the local knowledge and insights from previous phases of the larger study, known as the Chitwan Valley Family Study. The main aim of this study was to enhance understanding of marital quality, constructing an instrument to measure various aspects of marital quality as well as attitudes and behaviors surrounding relationship formation.

We employ a mixed-method approach to achieve our study goal. We first conducted a set of focus groups and individual semi-structured interviews to gain insight into the various dimensions of marital quality and ascertain the local interpretation of those dimensions. One of the coauthors of this paper, who is also a Nepalese citizen and a long time resident of Chitwan, is highly experienced in semi-structured interviewing in this setting, spent several weeks in the study area conducting ten group interviews and twelve individual loosely structured interviews that focused on ideas about marriage, and marriage quality. The interviews were designed to elicit general discussions about what makes a good or bad

marriage and the insights gained were crucial in guiding our survey data collection. Further, the input and assistance from a dozen local research staff people representing all the major ethnicities residing in the valley were invaluable in shaping our study.

Next, we used the insights gained from the semi-structured interviews and focus groups to construct individual questionnaire items concerning marital quality. Using these insights from the qualitative data collection and review of existing measures of marital quality, we constructed a module on marital quality with over 50 questions on different aspects of marital quality. Following two pretests, face-to-face interviews were conducted with 527 people aged 17 and above living in the Western Chitwan Valley. Respondents were chosen using two different methods. First, the study area was divided into three distinct strata and a sample of 2 to 5 neighborhoods, each consisting of between 4 and 25 households, was selected from each stratum. Once a neighborhood was selected, all the individuals age 17 and above residing in those neighborhoods were interviewed. This sampling procedure resulted in slightly more than 150 individuals being selected from each of the three strata, bringing the total number of respondents to 527 with a response rate of 97%. Demographic characteristics of the sample population can be found in Table 1.

[table 1 about here]

In examining the determinants of marital quality, we focused on two types, which can be loosely categorized as individual characteristics and marriage characteristics. These characteristics and their distributions appear in table 1. Individual characteristics include gender, caste/ethnicity, education, and occupational status. Due to high rates of out migration

among men in the area, almost two-thirds of respondents are women and just over a third are men (table 1). Caste/ethnicity includes four categories: 1) Chetri or Bahun, 2) indigenous hill group, 3) Dalit, and 4) indigenous *Terai* group. Indigenous hill group includes members of ethnic groups that are indigenous to the Himalayan foothills, including Tamang, Magar, and others. Similarly, the indigenous *Terai* group includes Tharus and members of other groups that are indigenous to the *Terai* – a narrow band of flat land that runs along the southern border of Nepal. Education is divided into three categories: no schooling, one to nine years of schooling, and ten or more years of schooling. In Nepal, students obtain a School Leaving Certificate after ten years of schooling, which is equivalent to a high school degree in the United States. Occupation status refers to whether the respondent worked for pay and, if so, whether they are paid a salary or daily wage. Two-thirds of respondents do not work for pay and are engaged in agriculture and other household work (table 1).

Marriage characteristics include age at marriage, spouse choice, and marital duration. Age at marriage is measured as an ordinal variable with three categories: 1) less than 18 years; 2) 18-20 years; and 3) 21 years or more. This categorization is used because age at marriage is clustered around 19 years of age. Spouse choice refers to who chose the respondent's spouse. The options for who chose the respondent's spouse include the respondent themselves, their family, and the respondent and their family jointly. Marital duration is measured as another three category ordinal variable. Marital duration includes the categories of 1) less than five years; 2) five to nine years; and 3) ten years or more.

There are two commonly addressed determinants of marital quality that are not presented in our analysis: age at the time of survey and whether the marriage is a first or higher

order marriage. Age at the time of survey is not presented because it is highly correlated with marital duration. As noted above, there is very little variation in the age at marriage. This clustering in the age of marriage results in a correlation of 0.89 between age at the time of survey and marital duration. Thus, we present marital duration, rather than age, but it is important to note that the two characteristics cannot be distinguished from each other with this sample. Marriage order is not included in the analysis because higher order marriages are too rare in this area. Only seven respondents are in a second marriage and none are in a third or higher order marriage.

Our analytic strategy consists of addressing our two main goals in order. First, we explore the dimensions of marital quality using factor analysis. We inductively identify dimensions of marital quality using exploratory factor analysis. We then examine whether the results of the exploratory factor analysis adequately fit our data using confirmatory factor analysis. Second, we examine the determinants of marital quality using the dimensions of marital quality developed in the factor analysis. Using linear regression models, we explore the correlations between the dimensions of marital quality and the individual and marriage characteristics described above.

Results and Discussion

Dimensions of Marital Quality

We began our exploration of the dimensions of marital quality using exploratory factor analysis. To our knowledge there are no other studies of marital quality in this context, nor of any other South Asian contexts, that use such a voluminous and varied array of marital quality items. Therefore, given the exploratory nature of the work, we began with an exploratory

factor analysis. Beginning with an exploratory factor analysis allowed us to inductively identify latent marital quality variables without assuming the number of latent variables or the weighting of the items. Since the marital quality items are dichotomous or ordinal, we used a polychoric correlation matrix (Kolenikov and Angeles 2009). Given the large number of marital quality items we were not able to analyze all the items simultaneously. So, we experimented with several different groupings of items.

In the end, the items appeared to fall onto five main factors, or dimensions, of marital quality. These five dimensions include satisfaction, communication, togetherness, instability, and disagreements. Three of these are positive in nature, comprising satisfaction, communication, and togetherness, while the other two dimensions – instability and disagreements – are negative in nature. There are also a handful of marital quality items that are not included in the construction of the final factors because they do not load satisfactorily on any of the factors. The items and factor loadings for each of these five marital quality dimensions are presented in table 2.

[table 2 about here]

The satisfaction dimension refers to the respondent's satisfaction or happiness with their marriage overall and specific aspects of the marriage, as well as the amount of love in the marriage. Satisfaction items include whether the respondent is happy with their marriage, whether they are happy with the amount of agreement in the marriage, and whether they love their spouse very much (table 2). All of these items loaded very well onto the satisfaction factor with loadings generally well above 0.5. Overall, this satisfaction factor explained 57% of the shared variance in the 13 items that were used to create it.

The remaining two positive dimensions of marital quality – communication and togetherness – refer to the quality of spouses' interactions with each other. The communication factor draws on five items on the frequency with which spouses discuss different things, such as difficulties or household matters (table 2). These five communication items had loadings ranging from 0.60 to 0.66 and the resulting factor accounts for 39% of the shared variance in these communication items. The togetherness factor draws on six items on the frequency with which spouses engage in activities together, including visiting a temple or eating. The togetherness factor accounts for 30% of the shared variance in these items with loadings ranging from 0.38 to 0.61.

The two items with loadings below 0.5 on the togetherness factor – works around the house with spouse and sees movie occasionally with spouse – may have comparatively poor loadings due to the context (table 2). In a qualitative study on the meaning of marital quality in a Nepali community in India, respondents believed that working together in a general way to run a household was an aspect of marital quality, yet they also believed that men and women had separate roles in the day to day activities of running a household (Allendorf 2009). This item does not clearly distinguish between spouses working together in a general way versus sharing an activity at the same time, such as cooking a family meal together. Further, in Chitwan viewing a movie is a relatively expensive activity that only wealthier families who live near movie theatres are able to engage in. So, seeing a movie may be more strongly influenced by wealth and where people live, rather than marital quality.

The two negative dimensions of marital quality are instability and disagreements. The instability dimension draws on four items on whether the respondent or their spouse believes

that the marriage is in trouble and talked to others about problems in the marriage (table 2). These four items have loadings of 0.5 to 0.8 and the resulting instability factor accounts for 47% of their shared variance. The disagreements dimension draws on several items on the frequency with which spouses disagree on various topics, as well as two items on whether the respondent is bothered by their spouse. These items loaded onto the disagreements factor with loadings ranging from 0.46 to 0.81. 38% of the shared variance in these items is explained by the disagreements factor.

[table 3 about here]

The five marital quality factors identified in the exploratory factor analysis are not highly correlated with each other (table 3). The highest correlation is between communication and togetherness, which have a Pearson correlation of 0.47. The next highest correlations are in the range of 0.3. Satisfaction has correlations of 0.34 with communication, 0.35 with togetherness, and -0.35 with disagreements. Interestingly, some of the factors have correlations of nearly zero. These include the correlations of instability with both communication and togetherness, as well as the correlation between disagreements and communication. The remaining correlations are in the range of 0.2.

These low correlations reinforce that these dimensions of marital quality are largely independent of each other. For example, there are many couples who may be quite happy with their marriage and yet not interact with their spouse very frequently. The especially low correlations between instability and the other dimensions may further reflect the lack of acceptability of divorce or separation in this context. Even when spouses have very little

interactions, are very unsatisfied with their marriages, and often have disagreements they do not believe that their marriage is troubled and do not discuss these troubles with others.

To test whether these five factors fit our data well we used confirmatory factor analysis (results not shown). We compared the fit of one and two factor models to the five factor model developed in the exploratory analysis. A one factor model was chosen to represent a unidimensional measure of marital quality. We further chose a two factor model – with one positive factor and one negative factor – for comparison because some previous studies found that a two factor model is the best fitting model (e.g. Johnson et al. 1986; Pimentel 2000; Umberson et al. 2005). Compared to the one and two factor models, the five factor model has the best fit with both the lowest chi-square and root mean square error of approximation (RMSEA). The RMSEA is 0.112 for the one factor model, 0.074 for the two factor model, and 0.054 for the five factor model. Similarly, the chi-square is 718.1 for the one factor model, 406.5 for the two factor model, and 281.6 for the five factor model. These results suggest that our identification of five marital quality dimensions fit our data well. Of course, future studies are needed to confirm the reliability of these results.

The results described above both reinforce and extend the findings on the dimensions and determinants of marital quality across contexts. First, in keeping with previous research in other contexts, we also find that marital quality is a multidimensional concept. In their review of a decade of research on marital quality, largely in the United States, Bradbury et al. (2000) conclude that it is now well established that marital quality is a multi-dimensional concept, including both positive and negative dimensions. In keeping with their conclusion, we too find that marital quality consists of five relatively independent dimensions that include both positive

and negative dimensions. Specifically, these five dimensions include the positive dimensions of satisfaction, communication, and togetherness, as well as two negative dimensions of problems and disagreements. These five dimensions are very similar, although not identical, to dimensions of marital quality identified in studies on marital quality in the United States (e.g. Bulanda and Brown 2007; Johnson and Booth 1998; Rogers and Amato 2000; Skinner et al. 2002). For example, in an American study, Amato and Booth (1995) also identify five dimensions of marital quality, including happiness, interactions, disagreements, problems, and divorce proneness. Unlike other studies, however, we do not find support for a two dimensional concept of marital quality, including one negative dimension and one positive dimension (e.g. Johnson et al. 1986; Pimentel 2000; Umberson et al. 2005).

This identification of five dimensions of marital quality also reinforces and extends previous work on marital quality in the same context of Chitwan Valley, Nepal. Using the Chitwan Valley Family Survey, Hoelter and colleagues (2004) examined how premarital nonfamily experiences shaped marital dynamics. Drawing on only six items on marital dynamics, they use four measures of marital quality: amount of love, conflict, communication about family planning, and physical violence. Using a much larger number of items, this study similarly finds that love, disagreements, and communication comprise largely independent dimensions of marital quality in Chitwan Valley. The analysis of a much larger number of items on marital quality further allowed us to identify togetherness as an additional dimension of marital quality. It also allowed us to examine the communication dimension of marital quality that is not limited to discussions of family planning and children. Unlike Hoelter et al. (2004), however, we do not examine the placement of physical violence within these dimensions.

Determinants of Marital Quality

Using the five dimensions of marital quality identified in the factor analysis we examine the determinants of marital quality using linear regression. We present a series of models with each of the five dimensions of marital quality as a dependent variable. The models for the positive dimensions of marital quality are presented in table 4, while the results for the negative dimensions appear in table 5. For each of the five dimensions we first present bivariate models, which show the unadjusted relationships between individual and marriage characteristics and marital quality. Then we present a full model in which all the individual and marriage characteristics are put together in a single multivariate model. To ensure the comparability of the results across the five dimensions, we standardized the dimensions of marital quality obtained in the factor analysis. Thus, for example, a coefficient of 0.5 indicates that a characteristic is associated with an increase of one half of a standard deviation in marital quality.

[tables 4 and 5 about here]

The results suggest that the three most important determinants of marital quality in this context are gender, education, and spouse choice. Gender has a strong and consistent relationship across the dimensions of marital quality, indicating that women have lower marital quality than men. Compared to men, women score a third of a standard deviation lower in satisfaction and almost half a standard deviation lower in togetherness (table 4). The coefficient for women on communication is -0.17, indicating that women also score almost a fifth of a standard deviation less in communication, but the result is not statistically significant. Similarly, women score higher on the two negative dimensions of marital quality, although

neither of the two coefficients is significant (table 5). The point estimates indicate though that women score a quarter of a standard deviation higher in disagreements and 0.15 of a standard deviation higher in instability. It is likely that with a larger sample size these coefficients would be statistically significant.

It may be the gendered nature of marriage in Nepal that leads to the consistently lower marital satisfaction among women. Customarily, women are expected to defer to their husbands who have greater power and status in the family hierarchy. Thus, men may very well shape the terms of a marriage in a way that suits their preferences, but not necessarily their wife's preferences. Similarly, women may feel more constrained to please their husbands and make sure that their husbands are happy with the relationship. Thus, women may also act to secure their husband's marital satisfaction, which may not secure their own marital satisfaction.

This gender differential is consistent with previous research in Western contexts. A discussion of gender and marital quality inevitably turns to Bernard's (1982) famous suggestion that there are "his" and "her" marriages, referring to the different experience of the same marriage between husbands and wives. Several recent American studies also find that wives report lower marital quality than husbands (e.g. Amato et al. 2003; Umberson et al. 2005; VanLaningham et al. 2001). However, Kurdek (2005) cautions that gender differences in marital quality in the United States are small and further finds that men do not consistently report greater marital quality across all dimensions of marital quality.

Studies of marital quality in non-Western contexts also find that wives have lower marital quality than husbands (e.g. Ng et al. 2008; Pimentel 2000; Xu and Lai 2004). In the previous study on marital quality in Chitwan Valley, Hoelter et al. (2004) find that women

reported more disagreements and less love and discussion of childbearing, although the differences were not significant. It appears that using more rigorous measures of marital quality with multiple items allowed for the identification of a strong gender difference in the experience of marital quality in Chitwan Valley.

Education also has a relatively strong and consistent association with marital quality, indicating that highly educated respondents have greater marital quality. Compared to those with no education, respondents with ten or more years of education score roughly one half of a standard deviation higher on both communication and togetherness (table 4). Highly educated respondents also score approximately one fifth of a standard deviation higher on the satisfaction dimension, although the result is not significant. Highly educated respondents also score about a third of a standard deviation lower on the disagreements dimension, although this result too is not significant (table 5).

There is an exception to the positive relationship between education and marital quality however. Educated respondents score higher on the instability dimension, indicating that they are more likely to experience instability in their marriages (table 5). In fact, while other characteristics have little to no association with instability, education has the largest effect with a coefficient of 0.39 that is significant at the 0.10 level. This result may be due to differences in attitudes towards divorce in this context. In Chitwan Valley, divorce is strongly looked down upon. Highly educated people who have more exposure to outside influences are likely to be more tolerant of divorce and separation. In turn, these more permissive attitudes may allow more educated people to believe that their marriage is in trouble and to discuss those problems with others.

The positive affect of education on marital quality, especially on togetherness and communication, may be due in part to its role in changing peoples' beliefs of what constitute a good marriage. The joint family system – in which young couple reside with the husband's family – and traditional Hindu beliefs categorize the marital couple as only a part of a larger family unit (Das Gupta 1999). Thus, customary conceptions of married life in Nepal, and among Hindus more broadly, emphasize the danger of a husband loving his wife, which can serve to break up a joint family, and instead emphasize the importance of husbands and wives maintaining a distance (Bennett 1983; Derne 1995). By contrast, Western ideals of marriage promote strong closeness and interactions among husbands and wives. As Hoelter et al. (2004) point out, high levels of education itself, as well as the English skills it instills, expose Nepalis to these more Western notions of marriage. This may explain why high levels of education are strongly associated with husbands and wives communicating more and spending more time with each other in this context.

Unlike gender, previous research has not found a consistent education differential in marital quality. Similar to our results, the previous study of marital quality in Nepal (Hoelter et al. 2004) and a study on the effect of women's education and employment on marital adjustment in India (Singh et al. 2006) find that education has a strong positive effect on marital quality. However, several studies from the United States (Amato et al. 2003; Umberson et al. 2005; VanLaningham et al. 2001) and a study from China (Pimentel 2000) find no differences in marital quality by education. This discrepancy may be due to the Westernizing role that education may play as discussed above. If education acts primarily though the pathway of spreading Western conceptions of marriage, than education should not have an effect in

Western contexts where Western conceptions of marriage are already widespread. While the Chinese study does not come from a Western context, the sample was drawn from relatively highly educated Chinese living in Beijing. Thus, it is possible that there may have been little difference in the level of Westernization between the respondents of different education levels in the Chinese study. These differences in the effect of education on marital quality may also be due to other contextual differences.

Spouse choice is the third and last of the important determinants of marital quality. Respondents who exercised more choice in the selection of their spouse report higher marital quality, although this pattern is not consistent across all five dimensions. Compared to those whose families chose their spouses, respondents who chose their own spouses score roughly two-fifths of a standard deviation higher on both the satisfaction and togetherness dimensions (table 4). In keeping with this pattern of spouse choice being associated with greater quality, those who chose their own spouses score a third of one standard deviation lower on the negative, disagreements dimension (table 5). However, spouse choice does not have a significant effect on either communication or instability (tables 4 & 5). Further, the point estimates of 0.06 and 0.04 for these coefficients are close to zero, suggesting that the lack of significance is due to the lack of an effect of spouse choice, rather than the small sample size.

Relatively few studies have examined the effects of choosing one's own spouse on marital quality. However, our results are largely consistent with the existing studies that do examine it. Two Chinese studies also find a positive effect of choosing one's own spouse on marital quality (Pimentel 2000; Xu and Whyte 2000). Pimentel (2000) finds that an index of spouse choice, which includes whether women chose their own spouse, as well as their ability

to date and other measures, is significantly correlated with both greater closeness and less disharmony among spouses living in Beijing. Similarly, Xu and Whyte (2000) find that women in Chengdu who chose their own spouse are more satisfied with their marriages compared to women in arranged marriages. In Japan, Walsh and Taylor (1982) find that couples in "love matches" did score higher on their measure of marital quality, but the difference was not statistically significant. Their measure includes many items on discussing things together. We found that there was not a significant difference in the communication by spouse choice. Thus, their lack of significance may reflect a similar lack of correlation between communication and spouse choice.

By contrast, the previous study on marital quality in the same site of Chitwan Valley, Nepal did not find higher levels of marital quality among those who chose their own spouse (Hoelter et al. 2004). In Hoelter and colleagues' study, there was not a significant difference in reporting of love for the spouse or in frequency of disagreements between those with arranged versus those who had at least some involvement in choosing their spouse. Two potential explanations for this discrepancy between their results and ours are differences in the modeling and measurement approaches and changes over time in the effect of spouse choice. It may be that the discrepancy is due to the more rigorous measurement of marital quality in this study. As noted above, Hoelter et al. (2004) had only a single item available as their measure of love and only two items available for their measure of disagreements. However, when we limit our dependent variable to the single item on love for the spouse we still find a significant effect of spouse choice (results not shown). Thus, a more likely explanation may be that the discrepancy is due to changes over time in the effect of spouse choice. The data for this study were

collected in 2004 and the oldest respondents are 44 years old. The data for the Hoelter et al. (2004) study were collected in 1996 and included respondents up to age 55. Thus, a larger proportion of the marriages captured in the Hoelter et al. study took place earlier in time. As noted above, the proportion of marriages in which the spouses participated in choosing their spouse rose from just under 20% for the marriage cohort from 1956-65 to just over half of the marriage cohort of 1986-95 (Ghimire 2003). Among the respondents from this survey, just under two thirds of them participated in choosing their own spouse. It is possible that as choosing one's spouse became more common and accepted, the quality of self-selection marriages rose, while the quality of arranged marriages fell. In turn, this could result in a larger difference in the quality of the two types of marriages later in time.

The other four individual characteristics we examined as potential determinants – caste, occupational status, age at marriage, and marital duration – have little to no association with marital quality. The remaining marriage characteristics – age at marriage and marital duration – also appear to have no effect on marital quality. None of the coefficients for age at marriage and marital duration are significant for any of the five dimensions of marital quality (tables 4 & 5). Further, the point estimates of the coefficients for these two marriage characteristics are generally small, ranging from just over zero to 0.2. This lack of significance may be due, at least in some cases, to the small sample size. However, the small size of the point estimates suggest that even in a larger sample, the size of their effect would be small in comparison to the importance of gender, education, and spouse choice. It should also be noted that in the bivariate models, age at marriage often has a large and significant effect on marital quality.

This result is due to a correlation with gender – women marry at a younger age then men. Thus, in the full model when gender is controlled, age at marriage no longer has an effect.

Caste and occupation also have little to no effect on marital quality. None of the coefficients for occupation are significant for any of the five dimensions of marital quality (tables 4 & 5). The directions of the point estimates for occupation further suggest that the direction of the relationship is not consistent. The coefficients for satisfaction, communication, and disagreements suggest that those who work for pay have greater marital quality than those who do not work for pay. However, the coefficients for instability suggest that there is no correlation and the coefficients for togetherness suggest a negative correlation. The result for togetherness is consistent with the local economic context. People who work for pay are more likely to work away from home, have less flexibility and, thus, spend less time with their spouses. Unlike occupation, caste does have two significant coefficients. Respondents who are members of the indigenous *Terai* group score significantly lower on togetherness and significantly higher on disagreements. The other coefficients for caste, however, are not significant and generally small in size.

While gender, education, and spouse choice emerge as the most important determinants of marital quality, most of the variation in marital quality remains unexplained. The r-square values from the multivariate models show that, all together, these seven individual and marriage characteristics account for five to seventeen percent of the variation in the dimensions of marital quality (tables 4 & 5). Instability stands out as an outlier, with the lowest R-square of 0.05. This result is consistent with the lack of significant coefficients across characteristics in the instability model, which are described above. The R-squares for the other

four dimensions cluster closer together at 0.15, 0.11, 0.16, and 0.17 respectively for satisfaction, communication, togetherness, and disagreements.

Conclusion

In this study, we explored both the dimensions and determinants of marital quality using a sample from Chitwan Valley, Nepal. Drawing on a large number of items on marital quality, we first identify five main dimensions of marital quality, which are largely independent of each other. Three positive dimensions comprise satisfaction, communication, and togetherness. The other two dimensions – problems and disagreements – are negative in nature. We then examined the determinants of each of these five dimensions of marital quality. We found that gender, education, and spouse choice are the most important determinants of marital quality. Men, those with more schooling, and those who participated in the choice of their spouse have higher levels of marital quality. Although, there are exceptions – this pattern does not hold among all three of these characteristics for each of the five dimensions. By contrast, caste, occupation, age at marriage, and marital duration had little to no association with marital quality. Further, while gender, education, and spouse choice emerge as key determinants of marital quality in this context, we also find that the majority of variation in marital quality is not explained by these factors.

This study is one of only a handful of studies to provide a rigorous and thorough measurement and examination of marital quality in a non-Western setting. As such, it contributes to the literature on marital quality by extending the multi-dimensional nature of marital quality, as well as the commonly found association between gender and marital quality,

to this context. It also provides a rare reflection on the connection between spouse choice and marital quality – an issue of special relevance to Asia.

Further research is needed to extend the findings of this study. In particular, the small sample size of the survey limits the analysis. Future surveys with larger sample sizes can be used to examine interactions between determinants. For example, Hoelter et al. (2004) emphasize the importance of interactions by gender, suggesting that there are important differences in the determinants of marital quality between women and men. However, our small sample size, and in particular the small sample of men, preclude such an analysis. Such a gendered analysis would also allow for an exploration of the potential dimension of balance. In an examination of people's conceptions of marital quality in Darjeeling District, India, Allendorf (2009) found that respondents identified men equally balancing their wives with their parents as a dimension of marital quality, while women were supposed to place their husbands above their own families. Thus, unlike the other dimensions of marital quality, what is defined as "good" for the dimension of balance differs fundamentally by gender. Future research should also examine how these different dimensions of marital quality are tied to well-being and health outcomes in this context.

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Table 1. Distribution of individual and marriage characteristics (n=329).

Variable	*%*
Gender	
Men	36.5
Women	63.5
Caste/ethnicity	
Chetri or Bahun	38.9
Indigenous hill group	17.9
Dalit	13.4
Indigenous *Terai* group	29.8
Education	
0 years	28.6
1-9 years	49.9
10+ years	21.6
Occupational status	
Does not work for pay	66.6
Daily wage	14.0
Salaried position	19.5
Age at marriage	
<18	38.3
18-20	34.0
21+	27.7
Who chose spouse	
Family	39.8
Both family and respondent	32.2
Respondent	28.0
Marital duration	
<5 years	27.8
5-9 years	24.2
10+ years	48.0

Table 2. Results of the exploratory factor analysis for marital quality (n=329).

Positive Factors	*Loading*	*Negative Factors*	*Loading*
Satisfaction		**Problems**	
Happy with amount of love in marriage	0.88	Spouse talked to others about problems	0.80
Happy with understanding in marriage	0.87	Talked to others about problems	0.77
Spouse loves me very much	0.87	Spouse thinks marriage is in trouble	0.61
Happy with spouse's faithfulness	0.83	Marriage is in trouble	0.52
Happy with marriage	0.81	Eigenvalue = 1.88	
Happy with amount of agreement in marriage	0.81	Variance explained = 47%	
Satisfied with marriage	0.76	Cronbach's α = 0.51	
Happy with working together with spouse	0.72		
Happy with sexual relationship in marriage	0.69	**Disagreements**	
Happy with work that spouse does in the house	0.66	Disagree about spouse's earnings	0.81
Own marriage is better than neighbor's marriage	0.63	Disagree about own parents	0.73
Love spouse very much	0.61	Disagree about spending time together	0.69
Both spouses are committed to marriage	0.58	Disagree about children	0.66
Eigenvalue = 7.40		Disagree about earning money	0.65
Variance explained = 57%		Bothered by way spouse spends money	0.63
Cronbach's α = 0.86		Disagree about family finances	0.62
		Disagree about spouse's parents	0.56
Communication		Disagree about personal habits	0.56
Discusses difficulties with spouse	0.66	Disagree about extramarital affair	0.55
Discusses things with spouse	0.64	Spouse's demands bother me	0.52
Discusses day to day activities with spouse	0.64	Disagree about chores	0.52
Discusses household matters with spouse	0.60	Disagree in general	0.46
Discusses personal problems with spouse	0.60	Eigenvalue = 4.97	
Eigenvalue = 1.97		Variance explained = 38%	
Variance explained = 39%		Cronbach's α = 0.82	
Cronbach's α = 0.71			
Togetherness			
Visits temple or other religious site with spouse	0.61		
Spends free time with spouse	0.57		
Eats with spouse	0.55		
Visits family and friends with spouse	0.54		
Works around the house with spouse	0.46		
Sees movie occasionally with spouse	0.38		
Eigenvalue = 2.11			
Variance explained = 30%			
Cronbach's α = 0.67			

Table 3. Pearson correlation matrix for marital quality factors.

	Satisfaction	Communication	Togetherness	Problems	Disagreements
Satisfaction	1.00				
Communication	0.34	1.00			
Togetherness	0.35	0.47	1.00		
Problems	-0.17	0.02	-0.01	1.00	
Disagreements	-0.35	-0.08	-0.24	0.26	1.00

Table 4. Bivariate and multivariate linear regression models of the standardized, positive dimensions of marital quality, comprising satisfaction, communication, and togetherness (n=329).

	Satisfaction				Communication				Togetherness			
	Bivariate Models		Full Model		Bivariate Models		Full Model		Bivariate Models		Full Model	
	β	(SE)	β	(SE)	β	(SE)	β	(SE)	β	(SE)	β	(SE)
Gender												
Male (ref)	0		0		0		0		0		0	
Female	-0.62**	(.11)	-0.34†	(.18)	-0.48**	(.11)	-0.17	(.18)	-0.53**	(.11)	-0.45*	(.18)
Caste/ethnicity												
Chetri or Bahun (ref)	0		0		0		0		0		0	
Indigenous hill group	-0.05	(.16)	-0.03	(.16)	-0.20	(.16)	-0.05	(.16)	-0.13	(.15)	-0.08	(.16)
Dalit	-0.37*	(.17)	-0.25	(.18)	-0.50**	(.17)	-0.20	(.19)	-0.38*	(.17)	-0.30	(.19)
Indigenous *Terai* group	-0.13	(.13)	-0.11	(.16)	-0.40**	(.13)	-0.06	(.17)	-0.47**	(.13)	-0.44**	(.16)
Education												
0 years (ref)	0		0		0		0		0		0	
1-9 years	0.13	(.13)	0.00	(.15)	0.32*	(.12)	0.24	(.15)	0.37**	(.12)	0.18	(.15)
10+ years	0.54**	(.15)	0.18	(.19)	0.81**	(.15)	0.52**	(.20)	0.80**	(.15)	0.44*	(.20)
Occupational status												
Does not work for pay (ref)	0		0		0		0		0		0	
Daily wage	0.63**	(.16)	0.27	(.19)	0.45**	(.16)	0.13	(.20)	0.35*	(.16)	-0.16	(.20)
Salaried position	0.53**	(.14)	0.11	(.18)	0.54**	(.14)	0.13	(.19)	0.40**	(.14)	-0.19	(.19)
Age at marriage												
<18 (ref)	0		0		0		0		0		0	
18-20	0.17	(.13)	-0.02	(.14)	0.10	(.13)	-0.01	(.14)	0.14	(.13)	-0.07	(.14)
21+	0.54**	(.13)	0.09	(.17)	0.46**	(.14)	0.10	(.17)	0.52**	(.13)	0.03	(.17)
Who chose spouse												
Family (ref)	0		0		0		0		0		0	
Both family and respondent	0.46**	(.13)	0.32*	(.14)	0.19	(.13)	0.06	(.14)	0.37**	(.13)	0.23	(.14)
Respondent	0.40**	(.13)	0.41**	(.15)	0.01	(.13)	0.06	(.16)	0.38**	(.13)	0.45**	(.15)
Marital duration												
<5 years (ref)	0		0		0		0		0		0	
5-9 years	0.00	(.16)	0.09	(.15)	-0.09	(.16)	-0.00	(.16)	-0.19	(.16)	-0.12	(.16)
10+ years	0.05	(.14)	0.16	(.15)	0.12	(.14)	0.17	(.16)	-0.07	(.14)	-0.00	(.15)
Constant	various		-0.14	(.31)	various		-0.24	(.32)	various		0.19	(.32)
F-value	various		3.70**		various		2.43**		various		3.94**	
R^2	various		0.15		various		0.11		various		0.16	

† p<0.10 *p<0.05 **p<0.01, two-tailed test

Table 5. Bivariate and multivariate linear regression models of the standardized, negative dimensions of marital quality, comprising problems and disagreements (n=329).

	Problems				Disagreements			
	Bivariate Models		Full Model		Bivariate Models		Full Model	
	β	(SE)	β	(SE)	β	(SE)	β	(SE)
Gender								
Male (ref)	0		0		0		0	
Female	0.01	(.11)	0.15	(.18)	0.51**	(.11)	0.25	(.17)
Caste/ethnicity								
Chetri or Bahun (ref)	0		0		0		0	
Indigenous hill group	-0.07	(.16)	-0.03	(.16)	0.03	(.15)	0.00	(.15)
Dalit	-0.13	(.18)	-0.03	(.19)	0.16	(.17)	-0.01	(.18)
Indigenous *Terai* group	-0.13	(.13)	-0.14	(.17)	0.53**	(.13)	0.35*	(.16)
Education								
0 years (ref)	0		0		0		0	
1-9 years	0.14	(.13)	0.10	(.15)	-0.18	(.13)	0.01	(.15)
10+ years	0.36*	(.16)	0.39†	(.20)	-0.72**	(.15)	-0.30	(.19)
Occupational status								
Does not work for pay (ref)	0		0		0		0	
Daily wage	-0.03	(.16)	0.01	(.20)	-0.53**	(.16)	-0.20	(.19)
Salaried position	0.04	(.14)	0.06	(.19)	-0.55**	(.14)	-0.13	(.18)
Age at marriage								
<18 (ref)	0		0		0		0	
18-20	0.02	(.13)	-0.07	(.14)	-0.20	(.13)	-0.08	(.14)
21+	-0.00	(.14)	-0.09	(.18)	-0.52**	(.13)	-0.15	(.17)
Who chose spouse								
Family (ref)	0		0		0		0	
Both family and respondent	0.14	(.13)	0.15	(.15)	-0.14	(.13)	0.02	(.14)
Respondent	0.05	(.14)	0.04	(.16)	-0.30*	(.14)	-0.32*	(.15)
Marital duration								
<5 years (ref)	0		0		0		0	
5-9 years	0.24	(.16)	0.27†	(.16)	0.27†	(.16)	0.22	(.15)
10+ years	-0.09	(.13)	-0.09	(.16)	-0.16	(.13)	-0.19	(.15)
Constant	various		-0.26	(.33)	various		0.02	(.31)
F-value	various		1.11		various		4.14**	
R^2	various		0.05		various		0.17	

†p<0.10 *p<0.05 **p<0.01, two-tailed test