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Determinants of Marital Quality
in an Arranged Marriage Society

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ABSTRACT

Drawing on a uniquely large number of items on marital quality, this study explores the determinants of marital quality in Chitwan Valley, Nepal. Marital quality is measured with five dimensions identified through exploratory factor analysis, comprising satisfaction, communication, togetherness, problems, and disagreements. Gender, education, spouse choice, and marital duration emerge as the most important determinants of these dimensions of marital quality. Specifically, men, those with more schooling, those who participated in the choice of their spouse, and those who have been married longer have higher levels of marital quality. By contrast, caste, occupation, age at marriage, and number of children have little to no association with marital quality. However, while we identify key determinants of marital quality in this context, the majority of variation in marital quality remains unexplained.

1. INTRODUCTION

Marital quality is an important aspect of family life that shapes people's health and well-being. Greater marital quality is associated with less depression (Williams, 2003), better self-rated health (Umberson, et al., 2006), less physical illness (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, including differences in the experience of marital quality by ethnicity and gender (Amato, et al., 2003, Bulanda and Brown, 2007, Rogers and Amato, 2000).

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. There is not a single, standardized measure of marital quality used across all studies (Bradbury, et al., 2000). Instead, there are a handful of indices that are commonly used – including 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 (Johnson, et al., 1986).

The vast majority of this literature on marital quality focuses on Western contexts, especially the United States. 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 others. 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. The concept of marital quality can vary across time and place with some aspects of marital quality applying 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 Shek and Cheung (2008) suggest that kissing is not a sign of marital satisfaction in China. 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. These contextual differences raise the challenge of developing measures of marital quality that are relevant to a particular context, while also allowing for comparison across contexts.

At the same time, the expansion into non-Western contexts 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, a study from Cameroon examines how polygyny shapes marital satisfaction (Gwanfoghbe, et al., 1997). Similarly, studies from China 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, 1990). Second, the expansion into non-Western contexts provides the opportunity to examine how universal the determinants of marital quality are and how determinants of marital quality play out differently or similarly in other contexts.

This paper contributes to this expansion of research on marital quality into non-Western contexts by exploring the determinants of marital quality in Nepal. The Nepalese context provides two contributions to the literature. First, Nepal has a history of arranged marriages, which provides a rare opportunity to examine how marital quality is shaped by spouse choice. Thus, we examine whether those who participated in the choosing their spouse have greater marital quality. Second, Nepal presents a context that is substantially different from the United States and other Western countries. Thus, we also examine whether well-known determinants of marital quality from Western contexts, such as education and gender, have similar effects on marital quality in this non-Western context.

This paper is not the first to examine the determinants of marital quality in Nepal. Hoelter, Axinn, and Ghimire (2004) previously explored the effect of nonfamily experiences, as well as other factors, on marital quality in Nepal. This new study builds on the earlier work by employing a more rigorous measurement of marital quality. Hoelter and colleagues (2004) used six items on marital quality with an analysis of 3,724 individuals surveyed in the 1996 Chitwan Valley Family Survey. Their six items were converted into four measures of marital quality, comprising expressions of love towards the spouse, frequency of criticism and disagreements, discussion of childbearing, and whether the respondent had ever been beaten by their spouse.

This study draws on a much larger number of items and uses exploratory factor analysis to identify dimensions of marital quality.

2. BACKGROUND AND SETTING

Nepal is home to over a hundred religio-ethnic/caste groups, which vary in their marriage patterns, customs, rituals, values, norms, and behaviors (Bista, 1972, Macfarlane, 1976, Subedi, 1998). Historically, Hinduism has provided a unifying cultural force and Hindu values and norms provide prescriptions for family life for many Nepalese. Over the centuries, many members of ethnic groups that historically followed other religions have adopted Hinduism to varying degrees. Further, high caste Hindus have a history of power and privilege and even non-Hindu groups aspire to high caste status by imitating high caste Hindu family patterns, customs, rituals, and behaviors, a process known as Sanskritization (Banerjee, 1984, Berreman, 1972, Dastider, 1995, Guneratne, 2001, Gurung, 1988, Hofer, 1979, Majupuria and Majupuria, 1978, Maskey, 1996, Sharma, 1977).

According to Hinduism, marriage is obligatory and sacramental, more than just a simple bond between two individuals. Marriage is a bond between families and a promise of continuity in patriarchal family lines with deep religious, social, and institutional significance (Banerjee, 1984, Bennett, 1983, Berreman, 1972, Bista, 1972, Mace and Mace, 1960, Majupuria and Majupuria, 1978, 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 marriages arranged by parents (*ibid*). Other aspects of Hinduism prohibit divorce, inter-caste marriage, and widow remarriage and condone polygyny (Pothen, 1989).

Hinduism shapes the ideal nature of marital relationships. Hindu doctrine emphasizes strong hierarchical relations based on gender (men's supremacy over women), and seniority (seniors over juniors) (Banerjee, 1984, Bennett, 1983, Berreman, 1972, Gray, 1991). The Hindu doctrine of *pativrata* further asserts that once a woman marries a man she is married for life—a very high level of devotion that is strongly supported by the Hindu concept of predestination. Once married, a woman is supposed to devote her life to her husband's service and taking care of his children.

During British colonization of the Indian sub-continent, Hindus began to interact with people who had vastly different beliefs – people who believed in independence and personal

freedom, equality between men and women, and selecting spouses based on love (Cain, et al., 1979, Macfarlane, 1976, Tilly and Scott, 1978). Nepal was never colonized and, thus, had little exposure to these views until the 1950s. At that time, the Nepalese King opened the country to foreigners and Nepal started receiving a large portion of its budget from foreign aid. Since that time, and especially since the mid-1970s, Nepal has experienced dramatic social and economic change, including a dramatic increase in formal education, wage work, government services, mass media, and transportation and communication infrastructure. Exposure to the outside world was also accelerated by Nepalese interactions with Western tourists and development workers who traveled to Nepal, as well as Nepalese travelling to Western countries.

Scholars have documented the dramatic impact of these social changes on the family. Individual choices in marriage behavior, especially with regards to participation in spouse choice, inter-caste marriage, late marriage, and divorce, have all become more common (Acharya, 1988, Ahearn, 2001, Fricke, et al., 1998, Ghimire, et al., 2006, Niraula, 1994). For example, child marriage was common until the early 1950s and then began to decline, with the proportion of women never married at ages 15 to 19 increasing from 25.7 in 1961 to 59.7 in 2001 (Ministry of Health [Nepal], et al., 2002). Similarly, the average age at first marriage in Chitwan Valley has increased from 16 years for those who married between 1956 and 1965 to 21 years for those who married between 1996 and 2005 (Yabiku, 2005). At the start of the 20th century, virtually no one participated in choosing their own spouse (Ghimire, et al., 2006). By the middle of the century, just under one-fifth of the marriage cohort of 1956-65 participated in choosing their own spouse. Thirty years later, about half of the 1986-95 marriage cohort participated in choosing their own spouse. Today, both the deep rooted Hindu based ideologies and norms and new individual based marriage ideals are likely to have important influences on marital quality in Nepal.

3. DETERMINANTS OF MARITAL QUALITY

As noted above, the Nepalese context provides a rare opportunity to examine the impact of spouse choice on marital quality. We have no opinion on whether arranged marriages are inherently better than self-choice marriages or vice versa. We do hypothesize, however, that spouse choice influences marital quality. Customarily in arranged marriages, spouses are chosen by family members on the basis of caste, economic status of the spouse's family, and, for brides, their virginity and reputation. Further, the bride and groom are usually not acquainted before

they are engaged and meet each other only a handful of times before they are married. By contrast, when individuals choose their own spouse the choice is often based on affection and personal compatibility. Often the couple meets before they are engaged at school or other places outside the home and have established a relationship before they are married. The existence of a pre-existing relationship and emphasis on personal compatibility in marriages in which individuals choose their own spouses suggests that those who participate in the choice of their own spouse will have greater marital quality than those whose spouses were chosen by their families. However, marriages in which spouses were chosen by their families may benefit more from the approval and support of family members (Applbaum, 1995, Chowdhry, 2007). In turn, this family support may improve marital quality. Thus, there are also reasons for those with arranged marriages to have greater marital quality.

Only a handful of studies have examined the link between spouse choice and marital quality. Two Chinese studies do find a positive effect of choosing one's own spouse on marital quality. 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 between spouses in Beijing. Similarly, Xu and Whyte (1990) find that women in Chengdu who chose their own spouse are more satisfied with their marriages compared to women in arranged marriages.

However, some of the previous studies on spouse choice do not find a significant association between choosing one's spouse and marital quality. Walsh and Taylor (1982) found that Japanese couples in love matches had higher marital quality, but the difference was not statistically significant. Similarly, the previous study on Nepal did not find a significant effect. Hoelter and colleagues (2004) found that an arranged marriage was not significantly associated with expressions of love for the spouse, frequency of criticisms and disagreements, or discussion of childbearing. There was one exception to this pattern, however. Men, but not women, with arranged marriages were more likely to report having ever been beaten by their wife, although only 3% of men reported ever being beaten.

Next, we turn to determinants of marital quality that are commonly found in both the Western and non-Western literature. We begin with education and other determinants that may operate differently in the Nepalese context. Western studies suggest that education is associated with greater marital quality because education is associated with less depression, higher incomes,

and better communication skills (Amato, et al., 2003). However, the empirical results are mixed and many American studies do not find significant differences in marital quality by education (Amato, et al., 2003, Umberson, et al., 2005, VanLaningham, et al., 2001). It is likely that such connections between education and marital quality also apply in Nepal. However, education may also play an additional role in determining marital quality in Nepal. In non-Western contexts, education exposes young people to Western values and provides them greater independence outside the family unit (Ghimire, et al., 2006, Hoelter, et al., 2004, Thornton, 2005). The curriculum and textbooks used in schooling can promote Western ideals about marriage, including individualism and strong bonds between spouses. Further, the skills and credentials that education provides, such as English language abilities, provide the means for even greater contact with Western values through travel, employment, and the mass media. In keeping with these pathways, the previous study on marital quality in Nepal found that education was significantly associated with greater expressions of love and discussion of childbearing issues and less reporting of being beaten by their spouse (Hoelter, et al., 2004). We too expect to find a strong positive affect of education on marital quality.

Another determinant of marital quality that may differ by context is the presence of children. Western studies consistently find that children are associated with lower marital quality (Belsky and Rovine, 1990, Bradbury, et al., 2000). Children may upset the intimacy of the couple, which in turn lowers their marital quality. For example, couples may spend less time focused on each other, communicate less, and may experience greater conflict while adjusting to parenting responsibilities. Some of these negative pathways may apply in Nepal as well. The presence of children may well diminish couples' intimacy in any context. However, in Nepal, having children is highly valued and viewed as an essential part of marriage (Bennett, 1983, Fricke, 1994, Stone, 1978). Thus, the presence of children may also increase people's satisfaction with their marriage and make them more likely to view the marriage as a success. Further, childcare in Nepal is often not solely the responsibility of a couple. Young couples often live in the same household as other family members or near other family members. These family members are often very involved in child care. This help from family members may diminish the disruption that couple's experience when children are born. Thus, the presence of children in Nepal may present less of a disruption to a marriage than they do in Western contexts. Given

these conflicting pathways, we cannot predict whether the presence of children should be associated with higher or lower marital quality in Nepal.

Like the presence of children, the impact of marital duration on marital quality may also operate in different directions. Western studies generally find that marital quality declines over time, possibly because couples become less compatible or bored with each other over time (Umberson and Liu, 2005, VanLaningham, et al., 2001). The presence of both arranged marriages and self-selected marriages complicates the pathway between marital duration and quality in Nepal. Drawing on a Japanese context, Blood (1967) found that that the effect of marital duration was moderated by spouse selection. Love matches, or self-selected marriages resembled Western marriages, by starting with high levels of marital quality and then declining in quality over time. However, arranged marriages presented the opposite pattern – they started out at a low level of marital quality, but then increased in quality over time. More recently, Xu and Whyte (1990) re-examined Blood's findings and did not find this pattern in China. Instead, they found that marital quality fluctuates in an irregular manner over time with love matches having higher marital quality at every duration. The role of family support, discussed above, may further complicate these links. Arranged marriages may start out low in some dimensions – for example couples may not speak to each other as much and feel affection. However, they may start out high on others. Specifically, strong family support may make those in arranged marriages feel very happy and satisfied with their marriages from the beginning. Conversely, self-selected marriages may start out with high levels of love and interaction, but tensions over a lack of family support may reduce satisfaction and increase conflict over time. Thus, we cannot predict how marital duration will affect marital quality overall.

We expect two other determinants of marital quality to operate in similar ways to Western contexts. First, we expect gender to affect marital quality in Nepal as it does in Western countries and elsewhere. Most studies from Western countries find that women report lower marital quality than men (Amato, et al., 2003, Rogers and Amato, 2000, 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 from non-Western countries also find that women generally report lower marital quality than men (Ng et al. 2008; Pimentel 2000; Xu and Lai 2004). In explaining this gender difference, both Western and non-

Western studies highlight gendered expectations within marriage (Ng, et al., 2009, Umberson and Williams, 2005, Wilcox and Nock, 2006, Xu and Lai, 2004). Wives are often expected to support their husbands and do more to maintain the marriage, while husbands do not owe the same responsibility to their wives. In turn, wives' burden of both the emotional and practical work of the marriage reduces their own marital quality, while promoting that of their husbands. As described above, such gendered expectations are very much a part of Nepalese marriages. Therefore, we hypothesize that women will have lower marital quality than men. It should be noted, however, that this hypothesis was not supported by the previous study on Nepal. In the previous study, women reported more disagreements and less love and discussion of childbearing than men, but the differences were not significant (Hoelter, et al., 2004).

The second potential determinant of marital quality that we expect to operate in similar ways is age at marriage. Western studies find that those married at young ages have lower marital quality and a greater risk of divorce and separation (Glenn, et al., 2010, Lee, 1977). This pattern may be due to young people being emotionally and psychologically immature and unprepared for marriage. However, these associations are generally weak and are limited to young people in their teens and early twenties (Glenn, et al., 2010). In Nepal, marriage in the teen years and early twenties is common. Thus, young age at marriage has more relevance in Nepal. We expect, however, that while marrying young is more common in Nepal, it still has the same effect on marital quality. Like their Western counterparts, Nepalese who marry at young ages would lack the emotional and psychological maturity that comes with greater age and may have lower quality marriages.

4. METHODS

4.1. Data

This study draws on a survey of 527 respondents age 17 and above living in Western Chitwan Valley, Nepal. Sample selection began by dividing the study area into three strata, according to proximity to the urban center in Chitwan Valley. The first stratum was located closest to the urban center, the third stratum the farthest away, and the second stratum in the middle. Two to five neighborhoods, each consisting of between 4 and 25 households, were randomly selected from each stratum. All individuals age 17 and above residing in selected neighborhoods were interviewed with a response rate of 97%.

The analytical sample is limited to the 329 respondents that were currently married at the time of the survey. It should also be noted that the sample has a skewed gender distribution. Almost two-thirds of the respondents are women and just over a third are men (Table 1). This distribution is due to high rates of out migration among men in the area. Many men migrate outside Chitwan Valley to cities in Nepal and India and to the Gulf and other areas to find work.

4.2. Measures

Independent variables. We focus on the six potential determinants of marital quality described above and add two other variables as socio-demographic controls, giving us: gender, education, spouse choice, age at marriage, marital duration, and number of children. Spouse choice refers to the amount of choice the respondent exercised versus that of their family when their spouse was chosen. This variable has three categories: 1) family only; 2) both the family and the respondent together; and 3) the respondent only. Education, age at marriage, marital duration, and number of children are all measured as continuous variables. It should be further noted that, with the exception of four respondents, everyone who had children was living with at least one child in their household at the time of the survey.

The variables added as additional socio-economic controls are caste/ethnicity and occupation. Caste/ethnicity is a categorical variable referring to the main caste/ethnic groups in the area including 1) Chhetri or Bahun; 2) indigenous hill group; 3) Dalit; and 4) indigenous *Terai* group. Chhetri and Bahun are high caste groups, also referred to respectively as Kshatriya and Brahmin in the broader region. 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 other groups that are indigenous to the *Terai* – a narrow band of flat land that runs along the southern border of Nepal. The measure of occupation indicates if the respondents does not work or does not work for pay, works for a daily wage, or has a salaried position. In Nepal, many people, especially women, work in agriculture on their own land and, thus, are not paid for their work.

Two other commonly addressed determinants of marital quality – age at the time of the survey and marriage order – are not presented. Marriage order is not included because higher order marriages are too rare in this area. Only nineteen respondents are in a second marriage and none are in a third or higher order marriage. Age at the time of survey is not presented because it is highly correlated with marital duration. There is very little variation in the age at marriage

with a tight clustering in the late teens and early twenties. This clustering in the age of marriage results in a correlation of 0.86 between age at the time of survey and marital duration. We present marital duration, rather than age, but the two characteristics cannot be distinguished from each other with this sample.

Table 1. Means and standard deviations of independent variables (n=329)

<i>Variable</i>	<i>Mean</i>	<i>SD</i>
Gender		
Male	0.36	
Female	0.64	
Years of education	5.3	4.3
Who chose spouse		
Family	0.40	
Both family and respondent	0.32	
Respondent	0.28	
Age at marriage	18.9	3.7
Marital duration	10.5	7.6
Number of children	2.4	1.6
Caste/ethnicity		
Chetri or Bahun	0.39	
Indigenous hill group	0.18	
Dalit	0.13	
Indigenous <i>Terai</i> group	0.30	
Occupational status		
Does not work for pay	0.67	
Daily wage	0.14	
Salaried position	0.19	

Marital duration can also not be distinguished from marriage cohort in this analysis. Since our data are cross-sectional, marriage cohort and marital duration are identical. Thus, any apparent effects of marital duration, may actually be due to membership in a certain marriage cohort. As noted above, age at survey is also highly correlated with marital duration. Thus, overall, a limitation of our analysis is that the effects of marital duration, marriage cohort, and age at the time of survey cannot be separated.

Another limitation of our analysis is the potential for selection bias. Since we are using cross-sectional data with only currently married respondents, marriages that ended in divorce or death before the time of survey are not included in the analytical sample. Overall, 6.5% of the marriages experienced by respondents in this sample ended in divorce (or separation) before the time of the survey. In particular, this potential selection bias could bias the results for spouse choice. Self-choice marriages may have been more likely than arranged marriages to end in divorce, resulting in a sample of self-choice marriages that are biased towards higher levels of marital quality. There is evidence that the divorce rate does differ by spouse choice. 7.5% of the marriages in which family members chose the spouse ended in divorce, 10.6% of marriages in which respondents alone chose their spouse ended in divorce, and 1.9% of marriage in which families and the respondent together chose the spouse ended in divorce. However, since the percent of marriages ending in divorce is small, this type of selection bias should not substantially bias the results.

There is another way in which selection bias could be influencing our results however. It is possible that there are unmeasured characteristics associated with spouse choice (and other independent variables in our analysis) that are also associated with marital quality. For example, those with strong Hindu beliefs may be more likely to have their parents arrange their marriages and less likely to spend time engaging in activities with their spouse after marriage. Further, especially talkative and friendly individuals may be more likely to attract a member of the opposite sex and, thus, choose their own spouse, while also being more likely to communicate with their spouse after marriage. Thus, some of the apparent effects of spouse choice in our analysis may not be due to the causal effects of spouse choice itself, but due to other unmeasured characteristics associated with both spouse choice and marital quality.

Dependent variables. The data include 74 unique items on marital quality. To our knowledge, there are no other studies of marital quality in this context, nor any other South Asian contexts, that use such a voluminous and varied array of marital quality items. We identified our dependent variables with exploratory factor analysis using a polychoric correlation matrix (Kolenikov and Angeles, 2009). This approach allowed us to inductively identify latent marital quality variables without assuming the number of latent variables or the weighting of the items. In the analysis, missing responses to the marital quality items were imputed using the modal response. Our imputation strategy should not affect the results since only 0.8% of the data from the marital quality items are missing.

The exploratory factor analysis identified five marital quality factors, including satisfaction, communication, togetherness, problems, and disagreements. The items that loaded satisfactorily on the five factors and their loadings are presented in Table 2. The factors explain a substantial amount of the variance in each set of items and have Chronbach alphas ranging from 0.51 to 0.86. Problems is the only factor with a Chronbach's alpha below the typically acceptable range of 0.7 and above. The problems factor's alpha of 0.51 indicates that it is not as internally consistent as the others.

Given the large number of marital quality items, we were not able to analyze all of the items simultaneously. Instead, our preliminary analyses included several exploratory factor analyses. Some of these analyses put items together that appeared potentially similar in nature, while others put together both items that appeared similar and dissimilar. For example, after determining that some items loaded together on a satisfaction factor and others on a communication factor, we analyzed the satisfaction and communication items together to see if they loaded onto two separate factors. In the end, 40 items consistently fell onto five factors with loadings at or above 0.5. Screeplot tests for these five final exploratory factor analyses strongly indicated that only the first factor should be retained. The items that did not load satisfactorily on any of the factors were not retained. A complete list of all of the marital quality items used in the analysis, along with their response categories, is available upon request.

Three of the factors are positive in nature, comprising satisfaction, communication, and togetherness, while the other two factors – problems and disagreements – are negative in nature (Table 2). The satisfaction dimension refers to the respondent's internal satisfaction and happiness with their marriage overall and specific aspects of the marriage, as well as the amount of love in the marriage. The other two positive dimensions of marital quality 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. The togetherness factor draws on six items on the frequency with which spouses engage in activities together, including visiting a temple or eating. The negative factors refer to the respondent's perceptions of whether there are serious problems in the marriage and how much they disagree with their spouse. The problems factor 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. 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.

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

<i>Positive Factors</i>	<i>Loading</i>	<i>Negative Factors</i>	<i>Loading</i>
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			
Spends free time with spouse	0.59		
Eats with spouse	0.58		
Visits temple or other religious site with spouse	0.56		
Visits family and friends with spouse	0.54		
Works around the house with spouse	0.48		
Eigenvalue = 2.11			
Variance explained = 30%			
Cronbach's α = 0.67			

Using these factors independently is further supported by the low correlations among the five factors (Table 3). The highest correlation is between communication and togetherness, which have a Pearson correlation of 0.48. The next highest correlations are in the range of 0.3. Satisfaction has correlations of 0.34 with communication, 0.36 with togetherness, and -0.35 with disagreements. Some of the factors have correlations of nearly zero and the remaining correlations are in the range of 0.2. It is likely that the especially low correlations between problems and the other dimensions reflect the lack of acceptability of divorce and 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.

Table 3. Pearson correlation matrix for marital quality factors

	Satisfaction	Communication	Togetherness	Problems	Disagreements
Satisfaction	1.00				
Communication	0.34	1.00			
Togetherness	0.36	0.48	1.00		
Problems	-0.17	0.02	-0.02	1.00	
Disagreements	-0.35	-0.08	-0.26	0.26	1.00

4.3. Analysis

We examined the determinants of marital quality using linear regression models for each of the five measures of marital quality. Our analysis includes both unadjusted and adjusted models. For each factor we first present bivariate models, which show the unadjusted relationships between each of the potential determinants and the five measures of marital quality. Then we examine whether these bivariate relationships persist when adjusting for the other determinants by presenting full models that include all of the independent variables.

To ease interpretation of the results, the raw factors were multiplied by ten and standardized. Multiplying the raw score by ten provides coefficients without leading zeros, while standardization enhances comparison of results across the five measures. For example, a coefficient of 0.5 indicates that a characteristic is associated with an increase of one half of a standard deviation in any of the measures of marital quality.

5. RESULTS AND DISCUSSION

The four most influential determinants of marital quality are gender, education, spouse choice, and marital duration. In terms of gender, women report lower marital quality than men. Although once other characteristics are included in the model, there is only a significant effect of gender for two of the five marital quality dimensions. Compared to men, women score almost a third of a standard deviation lower in satisfaction and just over two-fifths of a standard deviation lower in togetherness (Table 4). The coefficients for communication, problems, and disagreements also suggest that women report lower marital quality, but they are not statistically significant (Tables 4 and 5).

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)	-0.29 [†]	(.17)	-0.48**	(.11)	-0.21	(.17)	-0.55**	(.11)	-0.44**	(.16)
Years of education	0.06**	(.01)	0.03*	(.02)	0.07**	(.01)	0.06**	(.02)	0.08**	(.01)	0.05**	(.02)
Who chose spouse												
Family (ref)	0		0		0		0		0		0	
Both family and respondent	0.46**	(.13)	0.32*	(.14)	0.18	(.13)	0.05	(.14)	0.36**	(.13)	0.21	(.13)
Respondent	0.40**	(.13)	0.34*	(.14)	0.01	(.14)	-0.01	(.14)	0.38**	(.13)	0.38**	(.14)
Age at marriage	0.06**	(.01)	0.01	(.02)	0.04**	(.01)	0.00	(.02)	0.05**	(.01)	0.00	(.02)
Marital duration	0.00	(.01)	0.02 [†]	(.01)	0.01	(.01)	0.02	(.01)	-0.00	(.01)	0.02	(.01)
Number of children	-0.05	(.03)	-0.04	(.05)	-0.03	(.03)	-0.03	(.05)	-0.09**	(.03)	-0.06	(.05)
Caste/ethnicity												
Chetri or Bahun (ref)	0		0		0		0		0		0	
Indigenous hill group	-0.05	(.16)	0.02	(.15)	-0.20	(.16)	-0.04	(.15)	-0.11	(.15)	-0.03	(.15)
Dalit	-0.37*	(.17)	-0.14	(.18)	-0.50**	(.17)	-0.16	(.19)	-0.38*	(.17)	-0.15	(.18)
Indigenous Terai group	-0.13	(.13)	0.07	(.16)	-0.37**	(.13)	0.01	(.16)	-0.46**	(.13)	-0.27 [†]	(.16)
Occupational status												
Does not work for pay (ref)	0		0		0		0		0		0	
Daily wage	0.63**	(.16)	0.23	(.19)	0.45**	(.16)	0.12	(.19)	0.36*	(.16)	-0.20	(.19)
Salaried position	0.53**	(.14)	0.07	(.18)	0.54**	(.14)	0.11	(.18)	0.42**	(.14)	-0.22	(.18)
Constant	various		-0.56	(.47)	various		-0.33	(.47)	various		-0.02	(.46)
F-value	various		4.62**		various		4.15**		various		5.53**	
R ²	various		0.15		various		0.14		various		0.17	

[†]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)	0.07	(.18)	0.51**	(.11)	0.20	(.16)
Years of education	0.02 [†]	(.01)	0.03	(.02)	-0.06**	(.01)	-0.03 [†]	(.02)
Who chose spouse								
Family (ref)	0		0		0		0	
Both family and respondent	0.14	(.13)	0.10	(.14)	-0.14	(.13)	-0.06	(.13)
Respondent	0.05	(.14)	0.06	(.15)	-0.30*	(.14)	-0.38**	(.14)
Age at marriage	0.00	(.01)	-0.01	(.02)	-0.06**	(.01)	-0.03	(.02)
Marital duration	-0.01	(.01)	-0.02*	(.01)	-0.01	(.01)	-0.02*	(.01)
Number of children	-0.01	(.03)	0.09 [†]	(.05)	0.04	(.03)	0.03	(.05)
Caste/ethnicity								
Chetri or Bahun (ref)	0		0		0		0	
Indigenous hill group	-0.07	(.16)	-0.04	(.16)	0.03	(.15)	-0.00	(.15)
Dalit	-0.13	(.16)	-0.08	(.20)	0.16	(.17)	-0.05	(.18)
Indigenous <i>Terai</i> group	-0.13	(.13)	-0.15	(.17)	0.53**	(.13)	0.37*	(.16)
Occupational status								
Does not work for pay (ref)	0		0		0		0	
Daily wage	-0.03	(.16)	-0.05	(.20)	-0.52**	(.16)	-0.16	(.19)
Salaried position	0.04	(.14)	0.04	(.19)	-0.55**	(.14)	-0.12	(.18)
Constant	various		0.12	(.50)	various		0.72	(.46)
F-value	various		0.79		various		5.22**	
R ²	various		0.03		various		0.17	

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

It is likely that the gendered nature of marriage in Nepal contributes to lower marital quality among women. As described above, women are customarily below their husbands in the family hierarchy and are expected to devote themselves to caring for their husbands and the rest of the family. Thus, it is not surprising that women are less satisfied with their marriages than men, who do not carry the same responsibilities towards their wives. Interestingly, while these results are consistent with our hypothesis they are not consistent with the previous study of marital quality in Nepal. Hoelter and colleagues (2004) found that women reported more

disagreements and less love and discussion of childbearing, but the differences were not significant. It appears that measuring marital quality with multiple items allowed for the identification of a gender difference in the experience of marital quality.

Education has a strong and consistent association with marital quality, indicating that the greater the education the greater the marital quality. Education has a significant and positive association with satisfaction, communication, and togetherness (Table 4). Specifically, each additional year of schooling is associated respectively with increases of 0.03, 0.06, and 0.05 in the positive marital quality dimensions. Thus, for example, a person with 10 years of education scores half a standard deviation higher on the togetherness factor compared to a person with no education. In keeping with this pattern, education is also associated with a lower score on disagreements (Table 5). The only dimension of marital quality that education does not have a significant association with is problems (Table 5).

Respondents who participated in choosing their spouse also report higher marital quality. However, the pattern is not consistent – this finding applies to three of the five dimensions. Compared to those whose families chose their spouses, respondents who chose their own spouses score over a third of a standard deviation higher on both satisfaction and togetherness (Table 4). Further, those who chose their own spouses score more than a third of a standard deviation lower on disagreements (Table 5). However, spouse choice is not significantly associated with either communication or problems (Tables 4 & 5).

This result is consistent with our hypothesis, but not consistent with the previous study on marital quality in Chitwan Valley. Hoelter and colleagues (2004) did not find higher levels of marital quality among those who chose their own spouse. More specifically, in the earlier study there was not a significant difference in reporting of love for the spouse or in frequency of disagreements between those with arranged marriages versus those who had at least some involvement in choosing their spouse. This discrepancy could be due to the differences in the measurement of marital quality between the studies. As noted above, Hoelter and colleagues (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 same single item on love for the spouse we still find a significant effect of spouse choice (results not shown). Thus, the difference in measurement does not account for the different results.

Alternatively, the discrepancy may be due to changes over time in the effect of spouse choice. The data for this study were collected in 2004 and the oldest respondents were 44 years old. The data for Hoelter and colleagues' (2004) study were collected in 1996 and included respondents up to age 55. Thus, a larger proportion of the marriages captured in Hoelter and colleagues' study took place earlier in time. As noted above, the proportion of marriages in which the spouses participated in choosing their spouse has risen substantially over time (Ghimire, et al., 2006). 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 over time, the quality of self-selected marriages rose. Families may have become increasingly tolerant of love marriages and, thus, gave greater support to love marriages over time. Further, as love marriages became more acceptable, contact among unmarried men and women may have become easier and, thus, young people may have been better able to get to know potential spouses and make "better" choices. At the same time, as love marriages become more acceptable, the quality of arranged marriages may have fallen as those who contract arranged marriages derive less satisfaction from conforming to customary marriage practices. In turn, this could result in a larger difference in the quality of the two types of marriages later in time.

Of the remaining determinants of interest, marital duration has the strongest association with marital quality. Those who have been married longer have greater satisfaction and fewer problems and disagreements. Specifically, each additional year of marriage is significantly associated with scoring 0.02 higher on satisfaction and 0.02 lower on problems and disagreements (Tables 4 & 5). By contrast, marital duration does not have a significant effect on communication or togetherness. It should be remembered, however, that given the constraints of our data we are not able to distinguish between marital duration, marriage cohort, and age at the time of survey. Thus, these results may be due to marriage cohort or age, rather than marital duration.

The discussion of our hypotheses above further indicated that there may be an interaction between marital duration and spouse choice. Blood (1967) suggests that the effect of marital duration on marital quality differs between arranged and self-selected marriages. Namely, he suggests arranged marriages improve in quality over time, while self-selected marriages decline in quality. In additional analyses we tested this possibility with models that included interaction terms for marital duration and spouse choice (results not shown). Wald type tests indicated that

the interaction of marital duration and spouse choice is not significant for any of the five dimensions of marital quality. Thus, like Xu and Whyte (1990), we find that self-choice marriage are generally of higher quality overall, regardless of duration.

The other two determinants of interest – age at marriage and number of children – have little to no association with marital quality. The coefficients for number of children are not significant, with the exception of the coefficient in the problems model which is marginally significant. The coefficients for number of children are negative for the positive dimensions (Table 4) and positive for the negative dimensions (Table 5). This pattern suggests that, if anything, children reduce marital quality, but the results are generally not significant.

More consistently, none of the coefficients for age at marriage are significant for any of the five dimensions of marital quality in the fully adjusted models (Tables 4 & 5). Thus, the results indicate that age at marriage has no effect on marital quality. In the bivariate models, age at marriage has a large and significant effect on marital quality. However, this result is due to the correlation with gender – namely women marrying at a younger age than men. In models that include only gender and age at marriage, the coefficients for age at marriage are not significant (results not shown). Thus, in the full models where gender is also included, 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 in the adjusted models (Tables 4 & 5). 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.

While gender, education, spouse choice, and marital duration 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 characteristics account for fourteen to seventeen percent of the variation in the dimensions of marital quality (Tables 4 & 5). Thus, over 80% of the variation in marital quality remains unexplained. The problems dimension stands out as an outlier, with an extremely low r-square of 0.03. This result for the problems model may reflect the lower level of consistency in the problems factor discussed above in the methods section.

6. CONCLUSION

In this study, we explore the determinants of marital quality in Chitwan Valley, Nepal. We find that gender, education, spouse choice, and marital duration are the most important determinants of marital quality. Men, those with more schooling, those who participated in the choice of their spouse, and those who have been married longer have higher levels of marital quality. Although, there are exceptions – this pattern does not hold among all of these characteristics for each of the five dimensions. By contrast, caste, occupation, age at marriage, and number of children have little to no association with marital quality. Further, while we identify 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 few to examine marital quality in a non-Western setting. As such, it contributes to the literature on marital quality by extending the commonly found association between gender and marital quality, to this context. It also reinforces the importance of education to marriage and provides a rare reflection on the connection between spouse choice and marital quality – finding that those who participate in the choice of their spouse do indeed have greater marital quality than those who do not.

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 whether there are differences in the determinants of marital quality by gender. Hoelter and colleagues (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.

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