

Cross-National Variations in Divorce: Effects of Women's Power, Prestige and Dependence*

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Despite the widespread interest in the causes and consequences of divorce, relatively few studies have examined marital disruption across societies. This lack of research is especially surprising given the fact that many of the factors studied intensively at the individual level – women's labor force participation, religious affiliation, age at marriage – could also be profitably studied when the unit of analysis is a society or nation. While on the one hand we have to be concerned when examining macro-level phenomena that we do not become guilty of the ecological fallacy, we must take advantage of all opportunities to examine the variation in social events cross-culturally. The extent to which there is similarity and difference in the rate of divorce based upon other social factors (such as the demographic composition and the cartography of the economy) has not been examined since large-scale changes occurred in the former Soviet Union and in Eastern Europe. We cannot assume that previously noted relationships at the societal level (Clark 1990; Fu 1992; Trent and South 1989) are the same after such significant change has occurred globally.

The primary purpose of this research is to analyze divorce rate data provided by a recent (1995-1998) sample of 71 nations worldwide and to focus on the effects of women's power and prestige and women's economic dependence on national divorce rates. We also hope to inform the literature by examining several other questions, including the effects of religion, development, and laws regarding divorce on national divorce rates.

Specifically, we are building upon previous cross-national analyses of the determinants of a country's divorce rate (Clark 1990; Fu 1992; Trent and South 1989) by first replicating the previous studies with more recent data. We also expand upon previous findings by adding a measure of the relative ease of obtaining a divorce within a country and control for other demographic and nation-state characteristics.

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WOMEN'S AUTONOMY AND DEPENDENCE

Several writers (Hendrix and Pearson 1995; Pearson and Hendrix 1979; Seccombe and Lee 1987) have examined the effects of women's power, status and economic dependence using qualitative cross-cultural data. While these studies have examined these issues in the context of nonindustrialized societies, the conceptual issues raised in them have direct relevance to research on contemporary societies.

Examining a sample of 48 societies drawn from the Standard Cross-Cultural Sample (SCCS; Murdock and White 1969), Pearson and Hendrix (1979) concluded that "female status is an important cause of divorce in tribal societies" (p. 383) although their operationalization of "female status" combines elements both of women's status or prestige with some aspects of autonomy or dependence.

Seccombe and Lee (1987) argue that it is wives' independence or autonomy from husbands — not women's status per se — that is the key factor affecting divorce. Indeed, they find that a number of indicators of wives' independence from husbands are associated with increased levels of divorce.

Hendrix and Pearson (1995) return to the autonomy issue, finding that two indicators are related to frequency of divorce in their analysis of 85 nonindustrialized societies. The transfer of wealth or property at the time of marriage is negatively related to divorce frequency (that is, divorce is more likely in cultures that do not institutionalize a "bride price"), and cultures that have relatively high levels of father-infant interaction tend to have lower frequencies of divorce. Interestingly, neither their measure of female power nor the proportion of the food supply produced by women (which can be thought of as a crude indicator of female labor force participation) were associated with divorce frequency at the bivariate level. More relevant to the current research on industrialized societies, female power (as indicated by a six-item scale of women's achieved economic and political power and authority) was found to be associated with divorce frequency in the more technologically-advanced societies in the SCCS (but not in the less-technologically-advanced societies).

The findings of these three papers suggest that there are two related but conceptually-distinct issues — female status, prestige, or power on the one hand, and female autonomy or independence, on the other — at work in affecting the frequency of divorce in non-industrialized societies. How these factors might affect divorce rates in modern, industrialized societies is an issue that these authors speculate about but cannot answer. The current research, though, uses a recent sample of 71 nations and several measures of women's power, prestige and status as well as one indicator of women's autonomy or economic dependence: wives' labor force participation.

At the individual level there are several ways in which wives' paid employment affects marital stability that are presented in the literature. One school of thought — the so-called "absence" effect — holds that there is something inherent in the employment of married women that serves to destabilize the marriage, for example by upsetting traditional marriage norms or by decreasing the husband's marital satisfaction. Another line of reasoning — the

“independence” effect — argues that the employment of married women and the expectation of continuing employment outside of marriage serves to make divorce more attractive. This viewpoint posits the employment of wives as a facilitating factor in divorce, not actually producing marital conflict but making divorce more likely for those couples where conflict already exists.

The “absence effect” argues that employment outside the home takes the wife away from traditional homemaking responsibilities, with possible effects of increasing stress and conflict within the marriage. Whether this explanation is correct or not, the effect of hours worked outside the home on the likelihood of marital instability is well-documented in the empirical literature examining American marriages. Mott and Moore (1979) found a positive relationship between number of hours of paid employment and probability of divorce for white women (women who were employed 35 hours per week or more had a 60% greater risk of marital disruption over a five-year period), but not for black women. Huber and Spitze (1980) found that wife’s work history is positively related to thoughts of divorce. Greene and Quester (1982) observed that women in high divorce-risk groups are more likely to be in the labor-force, more likely to have higher wages, and more likely to work more hours, than women in low divorce-risk groups.

Spitze and South (1985) found that number of hours of paid employment is significantly related to probability of divorce for women who worked at least 35 hours per week (not controlling for income), while South and Spitze (1986) observed that being in the labor-force and number of hours employed were related to divorce. Greenstein (1990) found that women who were employed more than 35 hours per week have more than twice the risk of marital disruption of women who were employed 20-35 hours per week, net of income, relative earnings ratio, and other factors. Greenstein also noted that the negative effect of hours employed on marital stability is partially offset by the positive effects of wives’ income, although South (2001) has argued that the effects of wives’ employment on divorce rates in the U.S. has become increasingly positive over time.

At the aggregate level, Trent and South (1989) found a curvilinear relationship between women’s labor force participation and the divorce rate, such that when women’s labor force participation is low, there is a negative effect of women’s labor force participation on the divorce rate. When forty percent or more of a country’s women were in the labor force this effect was reversed; as female labor force participation increased, national divorce rates tended to increase. Later research was unable to replicate or clarify this finding (Clark 1990).

The “independence” effect suggests that women’s labor force participation — especially in industrialized nations and even more so in nations with strong social welfare policies — may lead to women’s greater economic independence and a reduced dependence on marriage for financial stability. Chafetz and Hagan (1996) theorize that as nations develop and more women enter the paid labor force, women are confronted with new sets of goals. On the one hand, they are charged with being successful in the public sphere. On the other hand, they are still primarily responsible for maintaining successful families and relationships. Chafetz and Hagan suggest that some of these women may use divorce as a way of alleviating the seemingly contradictory goals through changing their values as a result of changed

opportunities. Thus divorce becomes an alternative as women see they can support themselves financially (with increased economic and educational opportunities, particularly in comparison to previous generations of women). With the prevalence of the second shift, the women may become angered in that there is not an equal social exchange in the relationship and may perceive that their ability to have a successful household will increase (in that their domestic work load will decrease) if they are no longer married. This argument places the individual-level "absence effect" into context, suggesting that this kind of effect may be more prevalent in highly developed nations relying heavily on women's labor force participation. Performing aggregate level research controlling for level of development will allow us to determine if this is the case.

WOMEN'S STATUS, POWER, AND PRESTIGE

We consider two different measures of women's status, power and prestige in society in this research: involvement in the political process and enrollment in higher (postsecondary) education. Women's overall educational attainment as compared to men's provides additional evidence for the positive effect of women's increased power and prestige on a country's divorce rate. At the individual level, most studies show a generally negative effect of wife's educational attainment on likelihood of divorce (see, for example, South 2001). This individual-level phenomenon has been found in developed nations where women have access on average to higher education. Cross-nationally, women do not consistently have high levels of access to education. This is a function, to some extent, of economic development. In general, the greater the educational level of a country's women, the higher that country's divorce rate (Clark 1990; Fu 1992). Further, increased educational attainment suggests an increase in women's status in the public sphere where they have more opportunities to be economically and ideologically independent (Clark 1990; Fu 1992).

Women's representation in elected government positions would seem to be *prima facie* evidence for women's power and prestige within a nation, as can be evidenced in the findings of the Women and Politics Project (Nelson and Chowdhury 1994). Chowdhury and colleagues (1994) argue that women's representation and participation in formal politics within a nation depends on their having been able to gain individual rights and transformed the power structure within civil society. As such, greater formal representation by women in the political system especially as an elected representative could be seen as evidence of women's power as an organized group in a nation.

Other Predictors of Divorce

Religion. Religion can be described as the mechanism through which access to divorce has been regulated. Until relatively recently, many Roman Catholic nations banned divorce altogether, while Islamic nations have typically granted men (although not usually women) great latitude in divorce. In comparison, Protestant nations have been less restrictive in allowing divorce. At the individual level, most sociological research on divorce that has included a measure of religious affiliation has suggested that there are noticeable differences in propensity to divorce by religious affiliation. For example, Glenn and Supancic (1984) found in their analysis of U.S. data from the 1970s and 1980 that the highest propensities to

divorce were among those who were not affiliated with any religion. Of the major religious groups, Jews had the lowest propensity, followed by Catholics and then Protestants.

Trent and South (1989) found that a country's majority religion had no effect on the aggregate divorce rate, while Clark (1990) and Fu (1992) found otherwise. Percentage of Christians (Catholics in Clark's research) in a country had no effect on the divorce rate, while a higher percentage of Muslims in a country led to a higher divorce rate (Clark 1990; Fu 1992). However, Fu and Heaton (1995) found that Muslim nations have higher marriage/lower divorce than nations with a majority of Christians. We argue that the majority religion of a country will have a direct effect on divorce rates via people's adherence to religious customs, specifically that Protestant nations will have higher divorce rates than Muslim or Catholic nations.

Development. Many writers (especially Goode 1993) have written about the effects of development on marital disruption. Nearly all conclude that divorce rates are highest in the most developed nations. Trent and South (1989) argued that the effect of development is nonlinear; that is, the effect of development on divorce is negative at low levels of development, but strongly positive at higher levels. Fu (1992) determined that the majority of the effect of economic development on divorce rates occurs indirectly through the country's fertility rate, women's educational level (as measured by percentage of women with college education or higher), and the percentage of women in the labor force. Later research concluded that level of economic development may be more critical at earlier stages of development, but that religious culture continues to be important in samples with more developed nations (Fu and Heaton 1995).

Sex ratio. Guttentag and Secord (1983) have suggested that imbalanced sex ratios contribute to higher rates of divorce. An undersupply of women or men should act to discourage divorce, because the range of potential mates following a possible divorce would be relatively small. Several researchers argued that specifically when fewer women are available in the marriage market, men will tolerate the status quo of their marriage rather than divorce their wives and risk not getting married again (Clark 1990; Trent and South 1989). Fu (1992) challenged this assumption and found that sex ratio (logged) had no effect on the divorce rate. One basis for this challenge is that "this explanation ignores women's perspectives in a marriage, as if there are fewer women and men are reluctant to divorce, there must be more men in the market to provide alternatives to women, making it more likely for women to want to divorce" (Fu 1992: 141). Following Fu's argument, we believe that unbalanced sex ratios will contribute to higher divorce rates, regardless of the sex for which there is an undersupply. That is, we anticipate a curvilinear (U-shaped) relationship between the sex ratio and the crude divorce rate.

Access to divorce. Access to divorce or ease of divorce as prescribed by national law may affect the rate at which the population divorces. The intersection of judicial and religious jurisdiction over families, particularly marriages and divorces, has wide variation across the globe. This complex relationship between a country's legal and religious control over divorce is based out of that country's historical relationship between the dominant religion and legal codes, as well as its colonial status and history (Castles and Flood 1991). It stands to reason

that the accessibility of divorce has a separate and distinct effect above and beyond predominant religion in a country, for while religious doctrine may have heavily influenced civil laws within the country, globalization and interdependence may have led to the relaxation of divorce regulations (e.g., UN regulations on discrimination against women). Both Trent and South (1989) and Clark (1990) noted that the divorce rate would be affected by the legal structures regarding the opportunity to obtain a divorce, but did not include a direct measure of these structures. We hypothesize that nations where divorce by mutual consent is an option instead of divorce only by determination of fault will have higher rates of divorce.

Social welfare. The expenditure of a country on social welfare, particularly social security can be argued as measuring “the commitment of the society to the public provision of income support and social services” (Huber and Stephens 2001). Therefore, it is possible that nations with a well-developed welfare system will have higher divorce rates, as divorce may not be considered as financially disruptive when there is considerable governmental social support. Thus, there may be an unintended consequence of welfare systems on the divorce rate by providing adequate living standards for non-marital families. To control for this possibility, we have included a measure of the extent of the welfare state within each country in our analyses.

Social integration. The extent to which a country has high levels of social integration may also affect the divorce rate. Glenn and Shelton (1985) have argued that contexts where there are high levels of social integration should have lower divorce rates, in that higher levels of social integration eases the enforcement of norms surrounding marriage. Therefore, contexts with lower levels of social integration would have a greater likelihood of divergent norms on marriage and thus be at a greater risk for higher divorce rates. As an indicator of homogeneity of the population, high levels of ethno-linguistic fractionalization (a measure of racial/ethnic and linguistic diversity within a country) would suggest the lack of consensus on norms about marriage and would indicate the need for social control and integration mechanisms, such as laws and educational systems (Collins 1971; Meyer, Ramirez, and Soysal 1992). Previous research has found that high levels of ethno-linguistic fractionalization are related to other fractures in a country’s normative structure, such as lack of economic growth and reduction in governmental effectiveness (Easterly and Levine 1997; LaPorta et al. 1999; Mauro 1995). High levels of ethno-linguistic fractionalization in a country would be expected to be associated with higher divorce rates.

Age at marriage. One of the best-known empirical generalizations in the divorce literature is the association of age at marriage with likelihood of divorce. Castro Martin and Bumpass (1989) suggest that age at marriage is the strongest predictor of divorce in the first five years of marriage. We would expect to find that countries that have relatively young ages at marriage would have higher rates of divorce. This effect must be tempered, however, with the realization that early marriages in cultures that provide normative support for such marriages are probably less susceptible than early marriages without such support.

To summarize our predictions: we expect to find *higher* crude rates of divorce for Christian (non-Roman Catholic) nations, for nations that offer no-fault divorce, for nations with higher levels of development, with higher women’s economic activity levels, unbalanced sex ratios,

with extensive social security programs, with greater linguistic and ethnic heterogeneity, and with higher proportion of seats held by women in the national parliament. We expect to find *lower* crude rates of divorce for Muslim nations and for nations with older ages at marriage.

METHODS

Data

The units of analysis for this study are the 71 nations for which complete data on all of the variables of interest were available within a recent time frame (1995 or later). Most of our independent variables (level of economic development, political prestige of women, economic activity rates) are typically conceptualized and measured at the country level. More importantly, divorce laws, norms and customs are typically created and enforced at the national level.

The sample includes nations from all six inhabited continents, although less-developed nations — especially those from sub-Saharan Africa and from Asia — are under-represented. This is primarily because vital statistics collection and reporting tend to be a feature of more industrialized societies. Table 1 lists the 71 nations in the sample, the year of data collection for the crude divorce rate, and the value of the crude divorce rate itself.

Dependent variable

The dependent variable here is the crude divorce rate, or the number of divorces per 1,000 population in a given year. The year of collection of these data ranges from 1995 to 1998, and the values range from a low of 0.42 (Georgia) to a high of 4.63 (Belarus). The mean crude divorce rate is 1.72, with a standard deviation of 1.03.

One could argue that the refined divorce rate — that is, the number of divorces per 1,000 married couples — is a more meaningful divorce statistic for cross-national comparisons. Indeed, when the proportion of the population that is currently married varies across observational units — which it almost certainly does when examining cross-national data — the refined divorce rate is the preferred measure (Fu 1992). However, relatively few nations (mostly Western, industrialized nations) report refined divorce rates, and the necessary information on the number of married couples is often either not available in a timely fashion or not available at all. Because of these problems, most research on cross-national variations in divorce rates (Clark 1990; Cole and Powers 1973; Pampel and Tanaka 1986; Semyonov 1980; Trent and South 1989) has used the crude divorce rate as the dependent measure.

Independent variables

There are ten primary independent variables in these analyses. Following Trent and South, we began by creating a development index as a linear composite of four indicators: gross national domestic product per capita (logged), infant mortality rate, women's life expectancy at birth, and percentage of the population that is urban. Preliminary factor analyses suggested that all four of these indicators load strongly on a single factor. The standardized Cronbach's

Table 1

CRUDE DIVORCE RATES AND YEAR OF DATA COLLECTION*(N = 71)*

Nation	Year	Crude Divorce Rate
Armenia	1997	0.64
Australia	1996	2.87
Austria	1998	2.21
Azerbaijan	1998	0.74
Bahamas	1996	1.37
Barbados	1995	1.49
Belarus	1997	4.63
Belgium	1998	2.59
Brazil	1995	0.63
Bulgaria	1998	1.26
Canada	1996	2.41
Chile	1997	0.43
Costa Rica	1997	1.33
Croatia	1997	0.85
Cuba	1997	3.72
Cyprus	1998	1.14
Czech Republic	1998	3.14
Denmark	1998	2.48
Dominican Republic	1998	0.96
Ecuador	1997	0.72
Egypt	1997	1.14
El Salvador	1998	0.49
Estonia	1997	3.65
Finland	1998	2.67
France	1996	2.01
Georgia	1996	0.42
Germany	1997	2.29
Greece	1998	0.90
Hungary	1998	2.55
Iceland	1998	1.72
Iran	1996	0.62
Israel	1996	1.51
Italy	1995	0.47
Jamaica	1996	0.55
Japan	1998	1.92
Jordan	1997	1.07
Kazakhstan	1998	2.36
Korea (South)	1996	1.58

Kuwait	1997	1.58
Kyrgyzstan	1997	1.41
Latvia	1998	2.53
Lithuania	1998	3.17
Luxembourg	1997	2.38
Macedonia	1997	0.51
Mexico	1997	0.43
Moldova	1997	2.78
Netherlands	1997	2.16
New Zealand	1997	2.59
Norway	1997	2.26
Panama	1997	0.65
Poland	1998	1.16
Portugal	1997	1.42
Rumania	1998	1.78
Russia	1998	3.42
Singapore	1998	1.39
Slovakia	1998	1.73
Slovenia	1996	1.01
South Africa	1995	0.80
Spain	1997	0.87
Sweden	1997	2.37
Switzerland	1996	2.29
Thailand	1995	0.90
Trinidad-Tobago	1996	1.15
Tunisia	1996	1.02
Turkey	1997	0.52
Turkmenistan	1998	1.10
Ukraine	1998	3.56
United Arab Emirates	1996	0.87
United Kingdom	1996	2.91
United States	1997	4.34
Uruguay	1997	2.56
Venezuela	1996	0.79
Source: United Nations (2001).		

α for this indicator is .88. These scores were standardized to a mean of zero and ranged from -4.86 (Thailand) to 6.19 (Norway).

We treat the ratio of women's economic activity to men's economic activity (United Nations 2001) as an indicator of women's economic dependence. This measure ranges from 0 (no women are economically active) through 100 (women's economic activity rate is the same as men's). There were no nations in which the economic activity rate for women was higher

than that for men. As noted in Table 2, the value for this variable ranged from 32.4% (Jordan) to 88.8% (Sweden), with a mean of about 68%, suggesting that the economic activity rates for women are about 2/3 of that for men across nations.

One indicator of women's power and prestige is the percentage of seats in the national parliament held by women (United Nations 2001). This variable ranged from zero (Kuwait, United Arab Emirates) to 42.7% (Sweden) with a mean of 15.1%.

Another indicator of women's power and prestige is the ratio of women to men enrolled in postsecondary educational institutions (United Nations 2001), which conceptually ranges from 0 (no women enrolled in post-secondary education) through 100 (women's enrollment in post-secondary education is the same as men's) and above. For the 71 nations studied here, the mean for this measure was about 120 (indicating that women on average were about 20% more likely to be enrolled in postsecondary educational programs) with a range of from 44 (Luxembourg) to 608 (United Arab Emirates). Because of the extreme skewness of the distribution, we logged this variable prior to inclusion in our analyses.

We included a measure of women's mean age at first marriage (United Nations 2001) because much sociological research on divorce at the individual level has suggested a strong negative effect of age at marriage on probability of divorce. The nation with the lowest mean age at marriage was Cuba (19.8 years); Jamaica was the highest (33.1 years) while the overall mean was 24.8 years.

We included a measure of the sex-ratio in our analyses that ranged from 58 (United Arab Emirates) to 120 (Latvia) with a mean of 102.8. To capture the curvilinear effect of the sex ratio on the crude divorce rate, we also included a squared term in our models.

To tap the effects of ethnic and linguistic diversity within a nation, we used Roeder's (2001) computations of ethnolinguistic fractionalization. This index of ethno-linguistic fractionalization is calculated as the probability that two randomly drawn individuals from the nation's population belong to two different ethnic/racial/linguistic groups. The theoretical maximum is reached (at the value of one) when each person belongs to a different group. The values range from a low of .003 (Republic of Korea) to a high of .886 (South Africa) with a mean value of .35. These figures are based on 1985 data but they are the most recent available to us. Alesina and his colleagues (Alesina et al. 2003) present an excellent discussion of ethno-linguistic fractionalization measures and general findings.

One commonly-used indicator of social welfare or support is the Esping-Andersen (1990) typology, which is limited to describing advanced capitalist democracies. As only a few of the nations in our sample fit this description, we have chosen to use the percentage of a country's GDP spent on social security transfers for our measure of social support. Social security expenditures are frequently used as a measure of the nature of the welfare state in previous research (Huber, Ragin, and Stephens 1993; Huber and Stephens 2000, 2001; Judge, Mulligan, and Benzeval 1998; Ouweneel 2002; Rudra 2002). We used the International Labour Organization (2001) measure of social security benefits expressed as a percentage of GDP. The values range from a low of .12% (Thailand) to a high of 32.27% (Finland) with a mean of 9.5%.

We included a measure of liberality of divorce law. Instead of subjectively determining whether divorce was accessible relative to other nations, we coded each country's divorce law in a fashion similar to that found in Castles and Flood (1991) and Wardle (1995). In most cases, we examined the actual law as it is written; however, for some nations, we had to rely on secondary data for an interpretation of the law. In our coding, we made the distinction as to whether or not the country's divorce law offered a no fault (mutual consent) provision.

To delve into the subtleties of the laws and pit them against one another for relative accessibility would have introduced a host of subjectivities that would have made replication arduous at best for future researchers. For example, Belgium, Iceland and Thailand all have no fault divorce provisions. However, the laws differ in subtle and not-so-subtle ways. In Belgium, the couple must have been married at least two years. They must agree on the friendly settlement of assets and custody of children. They must both appear three times before the president of the civil tribunal at intervals of six months. After one year, the case is placed on the calendar for a hearing. The court then grants the divorce if all legal requirements have been met. Icelandic couples must first file for separation. Between six months and one year after the separation was granted, they can file for divorce with no additional provisions to be met. In Thailand, a petition for divorce by mutual consent must be made in writing to the court and certified by the signatures of at least two witnesses with no marital duration requirement.

Finally, we included a measure of religion. This categorical variable represented the dominant religion in the country of interest: Muslim, Roman Catholic, Christian (non-Roman Catholic), or other (or no dominant religion). Data for this variable came from the CIA *Factbook* (2000). Approximately 14% of the 71 nations were predominantly Muslim nations; about 41% were Roman Catholic, and about 35% were predominantly Christian (non-Roman Catholic). The remaining nations either had no dominant religion or some religion other than the three mentioned specifically above.

ANALYSES

Descriptive statistics and intercorrelations for key variables in the analyses are reported in Table 2.

Given the continuous nature of the dependent variable, the analytic technique of choice here is OLS regression. Because Trent and South (1989) failed to find an effect of religion, we began investigating the bivariate effects of religion on crude divorce rates (see Model 1 in Table 3). Like Trent and South, we saw no statistically significant differences between Muslim and Roman Catholic nations and nations in the "other or no dominant religion" category. However, the Christian (non-Roman Catholic) nations had significantly higher crude divorce rates. Ignoring all other possible factors that might affect divorce rates, religion accounts for about 13% of the variation in crude divorce rates.

Our second concern was with the nonlinear effect of development observed by Trent and South. Model 2 in Table 3 shows that there is virtually no effect of the second-order component of the development index, suggesting that the effect of development on crude

Table 2

INTERCORRELATIONS AND DESCRIPTIVE STATISTICS FOR VARIABLES IN MODELS (N=71)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) Development Index	1.000										
(2) Female-To-Male Economic Activity	.084	1.000									
(3) Seats In Parliament (%)	.474	.272	1.000								
(4) Women's postsecondary enrollment ratio (logged)	.037	-.019	-.102	1.000							
(5) Mean Age At Marriage	.536	.307	.543	-.148	1.000						
(6) Sex Ratio	.008	-.128	-.248	.547	-.145	1.000					
(7) No-fault divorce available	-.089	.334	.148	-.259	.043	-.218	1.000				
(8) Ethnolinguistic fractionalization	-.080	-.204	-.080	.108	-.256	-.033	-.341	1.000			
(9) Christian, non-Catholic	.102	.523	.388	.073	.409	.005	-.182	.261	1.000		
(10) Social security as a percentage of GDP	.108	.320	.276	-.131	.100	.029	.132	-.043	.155	1.000	
(11) Crude Divorce Rate	.279	.483	.315	-.010	.040	.259	.044	.179	.379	.367	1.000
Mean	0.11	67.86	15.14%	4.68	24.78	102.81	.68	.35	.35	9.53%	1.73
Standard deviation	2.62	14.97	10.12	.39	2.78	7.29	—	.23	—	6.16	1.03
Minimum	-4.86	32.40	0%	3.78	19.80	58	0	.003	0	0.12%	0.42
Maximum	6.19	88.80	42.7%	6.41	33.10	120	1	.89	1	32.27%	4.63

All data from 1995-2000 except for the Ethnolinguistic fractionalization measure, which is from 1985. Table entries in the upper panel are Pearson's *r* values.

Table 3
OLS REGRESSION MODELS PREDICTING CRUDE DIVORCE RATE IN 71 NATIONS

	Model 1 Religion	Model 2 Development	Model 3 Laws and social support	Model 4 Population character- istics	Model 5 Indicators of women's power	Model 6 Population and power	Model 7 Population, Power, and Laws
Adjusted Model R ²	.128*	.052	.156*	.413*	.238*	.458*	.463*
Intercept	1.334	1.685	.650	9.523*	-.811	14.850*	13.669*
Muslim	-.201						
Roman Catholic	.244						
Christian (non-Catholic)	.922*			.620*		.381	.451
Development Index		.103*		.209*		.177*	.179*
(Development Index) ²		.005					
No-fault available			.629*				.485
Social security as a percentage of GDP			.057*				.012
Sex ratio				-.186*		-.246*	-.228*
(Sex ratio) ²				.001*		.001*	.001*
Ethnolinguistic fractionalization				.078		.340	.555
Mean age at marriage				-.120*		-.159*	-.153*
Female-to-male economic activity rate					.030*	.021*	.018*
Seats in parliament held by women					.020*	.019	.015
Women's postsecondary enrollment (logged)					.049	-.326	-.254

N=71 nations. * $p < .05$.

divorce rates is linear. Taken independent of the other factors under study, development accounts for about 5% of the variation in divorce rates.

In Model 3, we examine the effects of differing legal structures regarding divorce and social welfare across the 71 nations. This analysis suggests that nations with no-fault divorce grounds available have higher crude divorce rates. The model predicts that nations with no-fault divorce available will have .63 more divorces per 1,000 population than nations that do not offer no-fault divorce. The model also predicts that nations with broader social safety nets will have higher divorce rates. Ignoring all other possible factors affecting the crude divorce rate, differences in the legal and welfare structures account for about 16% of the variation in crude divorce rates.

On the basis of the results from Models 1, 2 and 3, we made several decisions concerning the inclusion of measures of religion, development, and divorce laws into our more complex regression models. For religion, we found that only the indicator for Christian (non-Roman Catholic) nations was statistically-significant, so the indicators for Muslim and Roman Catholic religions are not included in the multivariate models. Similarly, we found no evidence (at least in the bivariate case) to suggest a nonlinear effect of development on crude divorce rates, so our multivariate models do not include the second-order term. Our indicators of availability of no-fault divorce and government support are included in our final multivariate model.

In Model 4 we look at the effects of population characteristics on the divorce rate. Here we find the indicators for Christian (non-Roman Catholic) religion and development have statistically significant positive effects on the crude divorce rate, while mean age at marriage has a statistically significant negative effect. Both the first- and second-order terms for the sex ratio have statistically-significant effects. However, there is no statistically-significant effect of ethnolinguistic fractionalization. Combined, these six variables account for about 41% of the variation in divorce rate.

Model 5 regresses crude divorce rate on our three aggregate-level indicators of women's power and prestige. Female-to-male economic activity rate has a statistically-significant positive effect on the crude divorce rate; the effects of women's postsecondary educational enrollment and seats in parliament held by women is non-significant (although the effect of seats in parliament barely misses the conventional .05 level of statistical-significance). These three measures account for about 24% of the variation in crude divorce rate.

In Model 6, we combine the population measures from Model 5 with the power and prestige measures from Model 6 to predict crude divorce rate. This model accounts for about 46% of the variation in the crude divorce rate and shows significant positive effects of development and female-to-male economic activity rate. Age at first marriage has a negative effect, and sex ratio has a statistically-significant curvilinear effect.

Finally, in Model 7 we add our measures of availability of no-fault divorce and governmental support to the population measures and measures of women's power and prestige. Neither the availability of no-fault divorce or government support has a statistically-significant

effect on the crude divorce rate (although the no-fault effect is suggestive at the .10 level). The effects of women's postsecondary educational enrollment are also non-significant in Model 7. The other effects are substantially similar to those in Model 6 (the effect of Christian [non-Roman Catholic] religion does not meet the conventional .05 level of statistical-significance but is suggestive at $p=.09$). The variables in Model 7 account for about 46% of the variation in the crude divorce rate across the 71 nations.

DISCUSSION

This study analyzed the effects of development, religion, demographic characteristics (sex-ratio, age at marriage, ethnolinguistic fractionalization), available grounds for divorce, and women's power and prestige (female-to-male economic activity rate, percentage of seats in national parliament held by women, and women's enrollment in postsecondary educational institutions) on crude divorce rates in 71 nations.

There are four major findings from these analyses. First, unlike Trent and South (1989), but similar to Clark (1990) and Fu (1992), we generally find significant effects of religion on crude divorce rates. Christian (non-Roman Catholic) nations tend to have higher crude divorce rates than other nations. We suggest this relationship, independent of accessibility of divorce, may be a function of the underlying beliefs in the Protestant faith system. Protestants believe individual choice through free will is part and parcel of the human experience. Specifically, the decision to enter into and out of contracts is an individual one and should not be impinged by a higher authority. Therefore, the individual ability to make decisions takes primacy above and beyond religious doctrine. Nations where Christianity (Protestantism) is the dominant religion may have built into the laws this notion of individual free will in making decisions.

Second, and again unlike Trent and South, we find that the effect of development on crude divorce rates is linear. The reason for this is unclear, but it is worth noting that our data are typically fifteen years more recent than Trent and South's. One possibility is that the effect was nonlinear for Trent and South's data (gathered primarily in the late 1970s and early 1980s) but, with the passage of time, has become linear. Trent and South suggest that their finding of a curvilinear relationship may have uncovered the effects of the infusion of Western culture and values on previously undeveloped nations through development. Previously undeveloped nations may experience a drop in divorce rates as industrialization arrives, or at least hold steady as a result of Western beliefs undermining "traditional patriarchal customs conducive to high divorce rates" (Trent and South 1989: 401). It is possible that as Western norms and customs have become more widespread via mass media and technology, particularly in last two decades, that the customs and norms in the nations included in our analyses differ very little from one another. We may be modeling the true effect of development with this measure and capturing the patriarchal norms and customs with other measures, noted below. However, we do concede that many nations with very low levels of development are not included in our analyses.

Third, we do not find effects of the availability of no-fault divorce. Access to divorce or ease of divorce within a nation is not associated with increased rates of divorce within that nation.

Whether this lack of an effect is due to the interconnected nature of religion and family law, the influence of globalization on the structure of laws, or both, is unclear. Alternatively, because of the great variation between nations in the actual requirements of a no-fault divorce, getting a no-fault divorce may be as challenging as meeting the requirements of a fault-based divorce. As such, we would not see a statistical difference in whether or not a nation had a no-fault divorce option in the effects on the divorce rate. What is clear from these findings is that by not having no-fault divorce laws nations are not preventing divorces.

Finally, we find effects of women's economic dependence. Female-to-male economic activity rate is a significant predictor of crude divorce rate; nations in which women have high participation in economic activity (relative to men) have higher crude divorce rates. This finding suggests that nations where women gain access to economic resources have higher crude divorce rates than nations where women have less access to these resources. This finding is consistent with those of Seccombe and Lee (1987) in that increased economic activity is one avenue through which women can be independent from their husbands. Unlike Hendrix and Pearson (1995) we find relatively little effect of female status, power or prestige on the divorce rate. The expectation of this effect was predicated on the belief that countries where women had higher status would have higher divorce rates, as the culture within the high status nations would be conducive to women's equality in all situations, both in civil and private society. Indeed there seems to be no relationship between the measures of cultural acceptance of women's equality and divorce — only the effect of women's labor force participation.

This finding leads us to speculate whether the cultural differences will matter as long as they are so interconnected with the economics of equality. It is possible that the cultural acceptance of gender equality is overshadowed by the material experience of economic inequality. Women's economic activity does seem to be related to divorce as it provides opportunity for autonomy. The underlying belief in equality that measures of women's power and prestige are attempting to measure via proportion in parliament and enrollment in higher education is certainly connected with whether women believe they can/should be autonomous. The effects of other measures of equality are not present because the effects of material reality are of primary importance. In their summary of the findings of women's political participation in 43 countries, Chowdhury and colleagues (1994) note that women may see they can be treated as equals in their country's political process but are unwilling to engage until there is more equality in the productive (and reproductive) activities of their daily lives. The changing of the cultural norms where women are encouraged and supported to participate in all parts of civil society would necessitate equal opportunities economically, as Chafetz (1990) describes.

There are two major limitations of this study. First, as discussed earlier, our dependent variable (crude divorce rate) is not the ideal measure for comparing divorce across nations. It is sensitive to variations in the age, sex and marital status distributions of nations. Even if the actual probability of a marriage dissolving is the same across nations, nations with larger proportions of individuals who are currently married will have higher crude divorce rates than nations with smaller proportions of currently-married persons. A better measure would be the refined divorce rate, but unfortunately such data are not available for most of the nations in our sample.

A second limitation is the fairly narrow range of nations included in the sample. We are by necessity limited to studying those nations whose vital statistics bureaus are relatively efficient and this produces an over-representation of the more developed nations in our dataset. While we do control for economic development in our analyses this is an issue to be considered when interpreting our findings.

In summary, the general findings of this paper suggest that factors such as women's labor force participation that challenge the underlying structure of patriarchy tend to be associated with higher divorce rates. Whether this is because of discontinuities in the social fabric created by such factors or by differences in norms and customs awaits further research. We acknowledge that some nations' divorce rates may be a function of the level of social supports available for individuals and households through governmental assistance, although our analyses show these effects to be minimal.

Our findings, coupled with the research on individual-level predictors of marital disruption, begin to tell an interesting story. We found that nations where women's economic activity rate more closely mirrors men's are likely to have higher divorce rates. Previous research (for example, Greenstein 1990; South 2001; South and Spitze 1986; Spitze and South 1985) has suggested that women with higher levels of individual power and prestige are at greater risk of marital disruption.

What is missing is the bridge between these two types of analyses. Are there differences in individual-level effects based upon social context? That is, are the effects of individual-level power and prestige on the divorce rate the same in nations where women have relatively high levels of overall power and prestige as compared to nations where women have relatively low levels of overall power and prestige? A way of approaching this problem might be to employ a multilevel model (for example, Raudenbush and Bryk 2002) where the unit of analysis is the individual; the individual level (level-1) indicators in such an analysis would be individual characteristics such as age at marriage, education, and social class; and the level-2 indicators would be country-level indicators such as the structure of divorce laws. The primary obstacle to such an analysis is the lack of cross-national data containing individuals' marital histories. Future research should attempt to build this bridge between the individual- and structural-level analyses to complete the story.

Some researchers would suggest that, based upon our findings, women's increased economic activity — because it is associated with higher divorce rates — is disadvantageous for a country. We argue that these findings can be interpreted as an example of the effects of changes in a gendered social structure. On average, women's power and prestige in a country increases as gender stratification decreases. Reduced overall stratification or increased access to economic resources allows women to be successful and independent without being dependent upon men. Marriages in cultures that are less stratified with respect to gender can be based upon affective considerations rather than economic or life-chances (utilitarian) ones.

It seems likely that divorce rates will increase in the early stages of this reduction in stratification. However, we would expect that these rates will stabilize as the society adjusts

to lower levels of inequality. One way to test this would be to examine the effects of women's labor force participation in a nation on that country's divorce rate over time. Overall increases in women's power and prestige suggest not only that it is possible for women and men to share in these resources but that it may provide role models for both women and men to do so. Far from being disadvantageous, we think that this is a worthy goal for which to strive.

REFERENCES

- Alesina, Alberto, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg.
2003 "Fractionalization." *Journal of Economic Growth* 8(June): 155-194.
- Castles, Frances G., and Michael Flood.
1991 "Divorce, the law and social-context - families of nations and the legal dissolution of marriage." *Acta Sociologica* 34(December): 279-297.
- Castro Martin, Teresa, and Larry L. Bumpass.
1989 "Recent trends in marital disruption." *Demography* 26(February): 37-51.
- Central Intelligence Agency.
2000 *The World Factbook*. Washington, DC: Central Intelligence Agency, Superintendent of Documents, Government Printing Office.
- Chafetz, Janet Saltzman.
1990 *Gender Equity: An Integrated Theory of Stability and Change*. Newbury Park, CA: Sage Publications.
- Chafetz, Janet Saltzman, and Jacqueline Hagan.
1996 "The gender division of labor and family change in industrial societies: A theoretical accounting." *Journal of Comparative Family Studies* 27(Summer): 187-219.
- Chowdhury, N., B.J. Nelson, K.A. Carver, N.J. Johnson, and P.L. O'Loughlin.
1994 "Redefining politics: Patterns of women's political engagement from a global perspective." Pp. 3-24 in B.J. Nelson and N. Chowdhury (ed.), *Women and Politics Worldwide*. New Haven: Yale University Press.
- Clark, Roger.
1990 "Economic dependency and divorce: Implications for the private sphere." *International Journal of Sociology of the Family* 20(Spring): 47-65.
- Cole, Charles, and Edward A. Powers.
1973 "Industrialization and divorce: A cross-cultural analysis." *International Journal of Sociology of the Family* 3(March): 42-47.
- Collins, Randall.
1971 "Functional and conflict theories of educational stratification." *American Sociological Review* 36(December): 1002-1019.
- Easterly, William, and Ross Levine.
1997 "Africa's growth tragedy: Politics and ethnic division." *Quarterly Journal of Economics* 111(November): 1203-1250.
- Emory Law School.
2004 "Islamic family law." <http://www.law.emory.edu/ifl/>. Accessed August 24, 2004.
- Esping-Andersen, Gøsta.
1990 *The Three Worlds of Welfare Capitalism*. Princeton: Princeton University Press.

Fu, Xuanning.

1992 "A cross-national analysis of the world divorce rate." *Encyclia* 69(Spring): 125-144.

Fu, Xuanning, and Tim B. Heaton.

1995 "A cross-national analysis of family and household structure." *International Journal of Sociology of the Family* 25(September): 1-32.

Glenn, Norval D., and Beth Anne Shelton.

1985 "Regional differences in divorce in the United States." *Journal of Marriage and the Family* 47(August): 641-652.

Glenn, Norval D., and Michael Supancic.

1984 "The social and demographic correlates of divorce and separation in the united-states - an update and reconsideration." *Journal of Marriage and the Family* 46(August): 563-575.

Goode, William Josiah.

1993 *World Changes in Divorce Patterns*. New Haven: Yale University Press.

Greene, William H., and Aline O. Quester.

1982 "Divorce risk and wives' labor supply behavior." *Social Science Quarterly* 63(June): 17-27.

Greenstein, Theodore N.

1990 "Marital disruption and the employment of married women." *Journal of Marriage and the Family* 52(August): 657-676.

Guttentag, Marcia, and Paul F. Secord.

1983 *Too Many Women? The Sex Ratio Question*. Beverly Hills: Sage Publications.

Hendrix, Lewellyn, and Willie Pearson.

1995 "Spousal interdependence, female power and divorce: A cross-cultural examination." *Journal of Comparative Family Studies* 26(Summer): 217-232.

Huber, Evelyne, Charles Ragin, and John D. Stephens.

1993 "Social democracy, Christian democracy, constitutional structure, and the welfare state." *American Journal of Sociology* 99(November): 711-749.

Huber, Evelyne, and John D. Stephens.

2000 "Partisan governance, women's employment, and the social democratic service state." *American Sociological Review* 45(June): 323-342.

Huber, Evelyne, and John D. Stephens.

2001 *Development and the Crisis of the Welfare State: Parties And Policies In Global Markets*. Chicago: University of Chicago Press.

Huber, Joan, and Glenna D. Spitze.

1980 "Considering divorce: An expansion of becker's theory of marital instability." *American Journal of Sociology* 86(July): 75-89.

International Labor Organization

2001 "Cost of social security 1990-1996." <http://www.ilo.org/public/english/protection/socsec/about/socsec.htm>. Accessed July 8, 2003.

Judge, Ken, Jo-Ann Mulligan, and Michaela Benzeval.

1998 "Income inequality and population health." *Social Science and Medicine* 46(February-March): 567-579.

LaPorta, Rafael, Florencio Lopez-de-Silanes, Andrei Scheifer, and Robert Vishny.

1999 "The quality of government." *Journal of Law, Economics, and Organizations* 15(April): 222-279.

Martindale-Hubbell.

- 2002 Martindale-Hubbell International Law Digest, Vol. 132. New Providence, NJ: Martindale-Hubbell.

Mauro, Paulo.

- 1995 "Corruption and growth." *Quarterly Journal of Economics* 110(August): 681-712.

Meyer, John W., Francisco O. Ramirez, and Yasemin Nohoglu Soysal.

- 1992 "World expansion of mass education, 1870-1980." *Sociology of Education* 65(April): 128-149.

Mott, Frank L., and Sylvia F. Moore.

- 1979 "Causes of marital disruption among young American women: An interdisciplinary perspective." *Journal of Marriage and the Family* 41(May): 355-365.

Murdock, George P., and David R. White.

- 1969 "Standard cross-cultural sample." *Ethnology* 8(October): 329-369.

Nelson, B.J., and N. Chowdhury.

- 1994 *Women and Politics Worldwide*. New Haven: Yale University Press

Ouweneel, Piet.

- 2002 "Social security and well-being of the unemployed in 42 nations." *Journal of Happiness Studies* 3(June): 167-192.

Pampel, Fred C., and Kazuko Tanaka.

- 1986 "Economic development and female labor force participation: A reconsideration." *Social Forces* 64(March): 599-619.

Pearson, Willie, and Lewellyn Hendrix.

- 1979 "Divorce and the status of women." *Journal of Marriage and the Family* 41(May): 375-385.

Raudenbush, Stephen W., and Anthony S. Bryk.

- 2002 *Hierarchical Linear Models: Applications And Data Analysis Methods*. Thousand Oaks, CA: Sage Publications.

Roeder, Philip G.

- 2001 "Ethnolinguistic fractionalization (elf) indices, 1961 and 1985." <http://weber.ucsd.edu/~proeder/elf.htm>. Accessed July 8, 2003.

Rudra, Nita.

- 2002 "Globalization and the decline of the welfare state in less-developed countries." *International Organization* 56(Spring): 411-445.

Seccombe, Karen, and Gary R. Lee.

- 1987 "Female status, wives' autonomy and divorce: A cross-cultural study." *Family Perspectives* 20(4): 241-249.

Semyonov, Moshe.

- 1980 "The social context of women's labor force participation: A comparative analysis." *American Journal of Sociology* 86(November): 534-550.

South, Scott J.

- 2001 "Time-dependent effects of wives' employment on marital dissolution." *American Sociological Review* 66(April): 226-245.

South, Scott J., and Glenna Spitze.

- 1986 "Determinants of divorce over the marital life course." *American Sociological Review* 51(August): 583-590.

Spitze, Glenna, and Scott J. South.

1985 "Women's employment, time expenditure, and divorce." *Journal of Family Issues* 6(April): 307-329.

Trent, Katherine, and Scott J. South.

1989 "Structural determinants of the divorce rate - a cross-societal analysis." *Journal of Marriage and the Family* 51(May): 391-404.

United Nations.

2000 *The World's Women 2000: Trends and Statistics*. New York: United Nations.

United Nations.

2001 *Demographic Yearbook, 2001*. New York, NY: United Nations Publishing Service.

United Nations Development Program.

2000 *Human Development Report*. New York: Oxford University Press.

Wardle, Lynn D.

1995 "International marriage and divorce regulation and recognition: A survey." *Family Law Quarterly* 29(Fall): 497-517.

APPENDIX A

DATA SOURCES

Gross Domestic Product per capita, 1998; Seats in parliament held by women, Female economic activity rate as percentage of male economic activity rate: United Nations Development Program (2000)

Divorce laws: Martindale-Hubbell (Martindale-Hubbell 2002); Emory Law School (2004); Various national official webpages

Life expectancy at birth, infant mortality rate, sex ratio, % urban population, mean age at marriage: United Nations (2000)

Religion: Central Intelligence Agency (2000)

Ethnolinguistic fractionalization measure: Roeder (2001)

Social security as a percentage of GDP: International Labor Organization (2001)