Was the Grass Really Greener on the Other Side of the Fence?

Divorce and Subjective Well-being

Lance D. Erickson

Brigham Young University

Abstract

Presumably, the prevalence of divorce is a result of the widespread expectation that it brings with it the opportunity for renewed happiness. Yet research on this topic is mixed. This study presents a causal estimate of the relationship between divorce and SWB using a matching estimator. The counterfactual model of causal inference suggests that when there is selection on the treatment (i.e., people decide to divorce based on its expected effect) an unbiased causal effect can only be estimated for those who receive the treatment (i.e., divorce). I replicate a recent study to establish a baseline estimate of the effect of divorce on SWB and then report a matching estimator of the relationship. I also report a sensitivity analysis to examine the robustness of the matching estimator. Results suggest that there is a significant relationship between divorce and SWB but that it is highly sensitive to missing variable bias.

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Consistent with the idiom, "the grass is always greener on the other side of the fence," one could say that the prevalence of divorce in Western, individualized societies is so high because couples in "bad" marriages think that the grass will be greener on the other side of divorce. When evaluations of marital success depend on levels of personal fulfillment (Cherlin 2004; Clarke-Stewart and Brentano 2006), this seems a logical conclusion. But is the grass really greener? Is there a positive (or negative or no) relationship between divorce and subjective well-being?

Past ideological approaches to this question and their accompanying empirical efforts do not suggest a clear answer. The marital decline perspective (Amato, Booth, Johnson, and Rogers 2007) begins with the premise that society is currently experiencing a broad shift away from valuing marriage and family, which are the optimal arrangements for individual well-being. Consequently, divorce represents a movement away from these arrangements and an accompanying decrease in individual well-being. Past studies substantiate this conclusion (e.g., Waite, Luo, and Lewin 2009).

On the other hand, the marital resilience perspective (Amato, Booth, Johnson, and Rogers 2007) suggests that the institution of marriage is changing but "decline" does not adequately describe what is happening. In particular, the increased legitimization of divorce and prevalence of alternative family forms are not necessarily problematic but are evidence that marital and family relationships remain important components of individuals' lives. The problem is that social conditions are now less conducive to stable family relationships than in the past. Consequently, observed changes in family behavior actually represent resilience—divorce can serve as an escape route to improved individual, interpersonal, and family well-being. Studies show that divorce does open new opportunities for well-being among those in poor marriages (e.g., Amato and Hohmann-Marriott 2007).

But researchers have been hampered in the effort to produce unbiased *causal* estimates of the relationship between divorce and subjective well-being. They have been careful to control for a variety of alternative causes of well-being among divorced individuals (Amato and Hohmann-Marriott 2007; Waite, Luo, and Lewin 2009) or factors that select some into divorce and others away from it (Bumpass and Sweet 1989; Mastekaasa 1992; Rindfuss and VandenHeuvel 1990). But, these studies have missed one important selection issue. Individuals are also likely to base decisions to divorce on their expectation about its effects. In other words, people who divorce are more likely to think the grass will be greener on the other side than those who stay married. There are good reasons to suspect this is a case. For example, those who divorce are less committed to the

institution of marriage and have lower expectations of negative sanctions from members of their social networks if they were to divorce (Waite, Luo, and Lewin 2009).

Relatively recent advances in the counterfactual tradition of causal inference suggest that unbiased average causal effects (the estimate of interest in past studies on this topic) cannot be estimated when individuals select into a state (e.g., divorce) based on their expectation of its effect (Morgan and Winship 2007). Instead, under certain conditions, it is possible to identify a causal effect of divorce among those who actually divorce.

Following the counterfactual model, this study provides an estimate of the relationship between divorce and subjective well-being among divorced individuals. I do this using propensity score matching. Simply put, this method is designed to create the kind of covariate balance in observational data that are the goal of randomization in experimental designs (Morgan and Winship 2007). An individual's propensity score can be thought of as the predicted probability calculated from a logistic (or probit) regression, in the present case with divorce as the dependent variable. Once scores for the propensity to divorce are estimated, the divorced are matched with non-divorced individuals. The difference in SWB between these matched individuals is then considered to represent the causal effect of divorce for those who divorce.

Obtaining accurate estimates of the causal effect depend on the Conditional Independence Assumption (CIA). This assumption states that the estimate will only be unbiased if there are no unmeasured variables that influence selection into divorce. Unfortunately, the CIA can never be tested because a formal test would require variables that are unavailable. However, sensitivity analyses can be performed to identify the robustness of the estimate by examining how a series of simulated variables with different characteristics might change the estimated effect.

Data

This study is based on data from the National Survey of Families and Households (NSFH). The NSFH is a national, multi-stage area probability sample of adults 19 years old and older in the contiguous http://en.wikipedia.org/wiki/U.S._stateUS in 1987 – 1988 (Sweet, Bumpass, and Call 1988). Oversamples were included for minority groups identified by race/ethnicity and family structure. The data provide in-depth information on family relationships, process, and structure. The NSFH1 (first wave) included a total of 13,007 respondents. NSFH2 (second wave) introduced a longitudinal component to the NSFH by assessing the original respondents five years later in 1992-1994. Response rates for NSFH1, and NSFH2 were 74 and 82 percent, respectively. The analyses for this study include only respondents who were married at T1 and two were successfully followed up at T2.

Analysis

To identify a baseline estimate of the effect of divorce on SWB, I tried to replicate analyses from a recent paper published on the topic (Waite, Luo, and Lewin 2009). Waite et al. examined the relationship between a more precise categorization of marital status (continuously married, divorced, remarried, and separated) than I use here (I ignore differences between divorced, remarried, and separated individuals). Consequently, I report a series of models (presented in Table 1) that establish my data as congruent with that used by Waite et al.

The first two columns are the results reported by Waite et al. in Table 2 of their article. The third and fourth columns are an attempt to replicate their analysis using their more precise coding of marital status. I report results from multiple imputation analysis to deal with missing data, which was not used by Waite et al. The only substantive difference between their results and mine is a significant relationship between divorce and subjective well-being. Model 3 from the table establishes a baseline regression estimate of the relationship between divorce and subjective well-being using the more simplified measure of marital status. Divorced or separated individuals report significantly lower levels SWB compared to those who are continuously married.

To estimate the effect of divorce using a matching estimator, I used the same set of covariates included in the Waite et al study. The estimated propensity scores were then used in a regression as weights to estimate the effect of divorce on SWB. Similar in size to the multiple regression estimate, the matching estimator of the relationship between divorce and SWB is -.230 with a standard error of .095, suggesting a statistically significant negative effect. There is, however, a conceptual difference between these two estimates. The regression estimate is intended to be the average causal effect of divorce (i.e., including those who divorce and those who don't) or the Average Treatment Effect (ATE). The matching estimate is more focused -- it is an estimate of the causal effect of divorce for those who actually divorced or the Average Treatment Effect for the Treated (ATT). Consequently, they aren't directly comparable.

As mentioned earlier, the matching estimator can only be considered an unbiased causal estimate if the Conditional Independence Assumption is satisfied. To satisfy this assumption, all variables that influence selection into divorce must be included in the propensity score equation. Without a direct test of the CIA, sensitivity analyses are performed to test how robust the estimate is at differing levels of departure from the CIA. Table 2 reports results of the Wilcoxon Signed-Rank Statistic. The • (Gamma) represents departures from the CIA. For example, if • (Gamma) were 1, the study would be free of hidden bias. If • (Gamma) were 2, then one member of a matched pair (i.e., divorced and non-divorced individual with similar propensity to divorce) would be twice as likely as the other to divorce. The Signed-Rank statistic suggests the matching estimator is sensitive at • (Gamma) = 1.02. This is a very small number suggesting the matching estimator is highly sensitive to hidden bias.

Based on these preliminary analyses, the answer to the question, "Was the grass greener on the other side of divorce?" is no. However, this finding is not robust to even the slightest departures from the CIA, or unmeasured bias. Consequently, it can also be said that the grass is not less green. Although I haven't included a discussion about the SWB literature here, I plan to in a full draft. Studies of divorce and SWB have largely been uninformed by the more general SWB literature. There are a variety of reasons that this literature is important to qualify the answer to the question posed here. For example, there may be a "set point" for SWB that individuals return to after negative life events such as divorce that could dampen a negative relationship between divorce and SWB across time (Lucas, Clark, Georgellis, and Diener 2003). Alternatively, individuals with little or no opportunity to escape bad situations such as poor marriages may report higher levels of SWB than expected as they adapt their frame of reference for evaluations of SWB -- a phenomenon referred to as marital conventionalization (Fowers, Applegate, Olson, and Pomerantz 1994).

Other planned analyses include a test of the extent to which not differentiating remarried individuals from those who are divorced or separated. Also, there are a number of additional variables available in the NSFH that were not included in the Waite et al. study that are relevant for estimates of the propensity to divorce. For example, measures of conservative family values, the anticipation of positive or negative sanctions from members of one's social networks, and one's perception of the likelihood of experiencing a divorce during the next year. I will include these in the estimation of the propensity score which will provide a less biased estimate of the causal effect of divorce on subjective well-being than presented here.

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Table 1.
Replication of Table 2 from Waite et al. 2009 Using Multiple Imputation

	Waite				
	(1)	(2)	(1)	(2)	(3)
Marital Transition from T1					
Remain married	---	---	---	---	
Remarried	.189	.281	.149	.220	
Divorced	-.135	.297	-.198*	.284	
Separated	-.764**	-.535	-.694***	-.534	
Divorced or Separated					-.247**
Happy marriage at T1	.252*	.327**	.243**	.328***	.231**
X Remarried		-.109		-.083	
X Divorced		-.612**		-.689***	
X Separated		-.262		-.186	
X Divorced or Separated					
N	3684	3684	4416	4416	4416

Notes: The Waite 1 & 2 columns were taken from Waite et al. (2009). To simplify the presentation, the control variables (e.g., race, gender, education, income, etc.) included in the models are not reported. There were no substantive differences between the Waite et al. results and mine. *p < .05; **p < .01; *** p < .001; two-tailed tests.

Table 2.
Results of Sensitivity Analysis Testing the CIA of the Effect of Divorce on SWB: Range of Significance Levels for the Wilcoxon Signed-Rank Statistic

•	Lower bound	Upper bound
1	.0412	.0412
1.01	.0338	.0499
1.02	.0276	.0598
1.03	.0224	.0711
1.04	.0181	.0839
1.05	.0146	.0981