

How Long Does a Santa Barbara Divorce Take?

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Abstract

There has been considerable research about the amount of time the psychological grief processes requires when couples divorce. However, there has been little research on the time the actual process of divorce requires. In order to address this, we have obtained divorce cases from Santa Barbara County and monitored the cases for a period of six years. We are able to offer some insight regarding the length of divorce, including factors that may increase or decrease the length of divorce. Our results are consistent with those found in other literature which focus on the length of the grief process, and our results are consistent with our experiences in family law practice and mediation.

Key Words: length of divorce, time to judgment, statistical analysis

1 Introduction

At some point during a divorce, clients may ask "how long is this divorce going to take?" The question may be asked of a counselor, a family law lawyer, or mediator. Few have any answers supported with evidence. Instead, the response to this important question will be answered on the basis of impressionistic and anecdotal clinical experience. An unqualified answer would be misleading at best. Using statistical analysis, we address the question "how long does the average Santa Barbara divorce take?" Our intuitive and understandable results may be valuable insights for individuals in family law practice and/or mediation.

The literature on the length of divorce is both limited and equivocal. Established researchers have made comments on the subject, but we find no published study that gathers and analyzes the necessary data. Instead, there are comments made in passing and without reference to empirical data. However, there is extensive literature addressing the duration of the psychological *grief process* which occurs during a divorce (Crosby, Lybarber, and Mason 1983, 1986). Folberg and Milne (1988) have suggested this process could take 2 – 4 years after the legal divorce is complete. The duration of the entire transitional period including legal proceedings, settlements, and lifestyle adjustment is also well studied (Vaughn 1980). Kelly and Wallerstein (1980) as well as Johnston and Cambell (1980) have suggested the duration of this transitional period to be 18 – 24 months and 2 – 3 years respectively. Others simply suggest there is "no timetable" (Ahrons 1994). Based on the experienced practice of Burke Family Law, we hypothesize that the length of divorce is between 18 – 36 months. This suggests the question "how do we measure the length of divorce?"

In this paper, we do not develop advanced statistical methodologies ideally suited for our current data idiosyncracies. We use reliable statistical methodologies which are accessible to individuals without advanced Statistics training. Most importantly, we will clarify and define the *length of divorce* so it is objectively measurable in comparable legal proceedings and in most jurisdictions. Using our definition and the data we have gathered, we have found

that the average length of divorce is 24 – 34 months. We have found that divorcing couples with minor children have a longer length of divorce. Interestingly, we have discovered that only a “short” marriage increases the length of divorce.

In Section 2, we define a method to measure the length of divorce. We will discuss the methodology used to collect the data, the specific population the data represent, and some initial tabulations. Section 3 describes the statistical modeling approach used to examine the potential affects that marriage duration and minor children may have on the length of divorce. In Section 4, we present a methodology which allows us to recommend a sample size for future data collections and analysis. Section 5 concludes with suggestions for future research.

2 The Santa Barbara Census

A population is a well defined, complete collection of subjects which have attributes that are of interest. A census occurs when all of the elements of the population are completely surveyed (Devore 2008). For the work presented here, we obtained a census of all civil cases filed in the Anacapa Division of South County Santa Barbara (Santa Barbara, California) from January 2nd to July 11th 1997. We identified family law cases initiated by a petition for dissolution, nullity, or legal separation. The census resulted in 358 petitions. Each of these files were obtained from the court clerk. Summaries were made of the other documents filed within six years of the initial petition (Burke 2009).

Due to the large variation in the way divorce cases are litigated and subsequently resolved, it can be difficult to define the length of a divorce. Our definition of the length of divorce is measurable and reproducible with other data collections - preferably in different jurisdictions. We define the length of a divorce to be *time to judgment* (T2J): the amount of time between the file date of separation and date of entry of judgment on substantive issues (measured in months). This interval of time is measured by dates on legal documents

resulting from proceedings and resolutions. Not all divorces are resolved in this way. As such, this changes the population of interest and the resulting data.

Of the 358 census cases, 95 cases were removed from this analysis for various reasons. First, dismissals (13 cases) and joint petitions (25 cases) were removed from the data and subsequent analysis. Dismissals are usually the result of reconciliation, for which no divorce actually occurs. In the case of joint petitions, cases are concluded before the initial petition is filed because of legal marriage circumstances and pre-petition contracts. The remaining cases (57) were removed because no judgment had been reached in the 6 years of monitoring the cases.

Longitudinal studies are those that monitor subjects over time. At the end of the study, it is possible that some variables may have not been observed because they occur after the study ends. For our data, 57 cases did not have an observable time to judgment during the 6 year period of observation. The statistical classification of such data are called *censored data*. For the 57 cases with no judgment, the actual time to judgment is at least 6 years (72 months). There are diverse and extensive statistical methods for analyzing censored data (Little and Rubin 1987). However, these methods are too complex for the work we present in this initial study. Future studies and analysis will include the censored data. For our work here, we remove these cases. Our census consists of 263 cases. For the remainder of this paper, we shall refer to these data as *sample data* and not a census.

Recall that the original census of 385 cases only represented the cases for the first six months of 1997. Obviously, divorces occurred in the second half of 1997, and in the many years before and after 1997. Moreover, we removed 95 cases for the aforementioned reasons. The 263 cases represent a census of a very specific population: couples from Santa Barbara that filed a divorce petition during the six month period, required judgment, and had a judgment within 6 years. We would like our results to be useful and applicable to other individuals from other populations. These populations include cases in different years (particular current or future cases), and in different locations and/or jurisdictions.

Removing cases due to dismissal or joint petition should be done as they do not constitute the type of divorce we consider. However, removing the censored data presents a large problem of bias.

For the 57 censored cases, the time to judgment is clearly longer than 6 years (72 months). The effect of not including these cases and/or failing to account for the censored data has the problem of biasing our numerical analysis. The estimates of time to judgment we report will be lower than they should be if the analysis had included the censored data. We realize this is unattractive and problematic. The reader should be aware of this caveat. We discuss this more in Section 5. The data we use, our analysis, and our conclusions may still be useful for individuals practicing family law and/or mediation. These results are not specific to other populations, but can still serve as an indication of the expected length of divorce.

Duration	Years
Very Short	<1
Short	1-5
Medium	5-10
Long	>10

Table 1: Categorical marriage duration

The data we use in this analysis consists of 263 cases. For each case record, we have the time to judgment (T2J, measured in months), an indicator that the case involved a minor child at the time the petition was filed (Child, either Yes or No), and the duration of the marriage (Duration, measured in years). To simplify the analysis and results, we create a marriage duration categorical variable according to Table (1). This marriage duration configuration will slightly increase the complexity of the statistical models we consider. However, our categorical marriage duration will simplify the interpretation and presentation of results. Our analysis is based on using multiple regression models which have the capability of incorporating categorical variables (such as Duration and Child) to model and estimate the average time to judgment.

3 Statistical Analysis

The statistical analysis we conduct has three purposes. First, it will allow us to investigate the potential relationship between marriage duration, having a minor child, and time to judgment. Experience and common knowledge may suggest that marriages of different durations and/or with minor children may result in differing lengths of divorce. Next, we will use our statistical analysis to estimate the average time to judgment accounting for marriage duration and having minor children. Lastly, we will use the results of our statistical analysis to suggest reasonable sample sizes for future research.

A *multiple regression model* is a natural, common, and reliable statistical model for achieving all of these goals (Neter, Kutner, Jachsheim, and Wasserman 1996). Multiple regression is a method for finding the best statistical fit between one variable (such as time to judgment) and other variables (such as marriage duration and minor children). We use multiple regression as the basis for this analysis because it is capable of incorporating multiple predictor variables (marriage duration and minor children), identifying possible interactions, and there exist reliable methods to compare candidate models. In this section, we will not give a lengthy exposition of multiple regression models, estimation methods, variable selection, or model comparison methods (see Neter, Kutner, Jachsheim, and Wasserman 1996). All computations were done using the R Statistical Computing Environment (Maindonald and Braun 2007, Verzani 2000).

For this analysis, we consider four candidate multiple regression models. The first model we consider uses minor children and marriage duration to predict time to judgment. This model has the form

$$T2J = \beta_0 + \beta_1 Child + \beta_2 Medium + \beta_3 Short + \beta_4 VeryShort + \varepsilon \quad (1)$$

where β_0 is the average T2J for long marriages without children (intercept), β_i is the average change in T2J when the i^{th} indicator is true (accounting for the other variable), and ε

is random error. Given our sample data of 263 observations, we can easily estimate the parameters of this regression model (eg the β coefficients). A summary of the estimated regression model is given in Table (2). The estimated regression model indicates that minor children significantly increase the average time to judgment (as indicated by the p-value of 0.00). Accounting for marriage duration, having minor children increases the estimated average time to judgment by over 14 months. Interestingly, the estimated regression model suggests that marriage duration does not significantly change the average time to judgment (as indicated by the large p-values for the marriage duration coefficients). This is the case for long, medium, and very short marriages. However, the estimated regression model does indicate that short marriages do increase the estimated average time to judgment by almost 8 months (accounting for minor children). This increase may be significant since the p-value for the short marriage indicator coefficient is 0.08. In order to better establish the importance of short marriages, we consider alternative regression models with different configurations.

	Coefficient	Estimate	St. Error	T	P-value
	(Intercept)	21.33	3.98	5.36	0.00
	as.factor(Child)Yes	14.18	3.73	3.80	0.00
	as.factor(Duration)Medium	-1.38	4.64	-0.30	0.77
	as.factor(Duration)Short	7.95	4.58	1.74	0.08
	as.factor(Duration)Very Short	-3.17	7.28	-0.44	0.66

Table 2: Eqn (1) estimated regression model

The first alternative model we consider uses minor children and a short marriage indicator to predict time to judgment. This model has the form

$$T2J = \beta_0 + \beta_1 Child + \beta_2 Short + \varepsilon \quad (2)$$

where β_2 is of course different from the β_2 described by Eqn (1). Here, we hypothesize two marriage groups. The first group combines very short, medium, and long marriages into a single group. The second group only consists of short marriages. A summary of the

estimated regression model is in Table (3), and these results are comparable to the estimated regression model for Eqn (1). The smaller regression model in Eqn (2) is nested inside the larger regression model described in Eqn (1). We can use a standard Analysis of Variance “F-test” to compare these two models (Neter, Kutner, Jachsheim, and Wasserman 1996). The p-value for the model comparison is 0.8969, which indicates the smaller regression model is better. From this, we are able to conclude that short marriage durations have a longer length of divorce (accounting for minor children). There is no evidence to conclude the length of divorce is different for the other marriage durations (accounting for minor children).

	Coefficient	Estimate	St. Error	T	P-value
	(Intercept)	20.19	2.89	6.98	0.00
	as.factor(Child)Yes	14.61	3.60	405	0.00
	as.factor(Data\$Duration == "Short")TRUE	8.95	3.86	2.23	0.02

Table 3: Eqn (2) estimated regression model

We do consider two other alternative, candidate regression models. First, we consider a further reduced regression model which only uses minor children to predict time to judgment. This is the regression model analogue of a two sample T-test (Neter, Kutner, Jachsheim, and Wasserman 1996). The estimated regression model suggests a very similar relationship between minor children and the average time to judgment. Comparison of this smaller model to the estimate regression model in Eqn (2) gives a p-values of 0.02111 which suggests that the short marriage duration indicator is needed in the model. This is further evidence that marriages with short durations have a longer length of divorce.

In an effort to explore a more complex regression model, we do consider a model which includes all of the marriage durations, minor children, and interactions between these variables to predict time to judgment. This would allow for the possibility that there is a different relationship between marriage duration and the average time to judgment with and without minor children. We find no utility with the additional marriage durations and interaction terms (the p-value for model comparison to the estimated regression model in

Eqn (2) is 0.864). Again, this supports our conclusion that having minor children and/or short marriages increases the length of divorce.

Although we can conclude only short marriage durations and having minor children is important for understanding time to judgment, using marriage duration does provide more specific estimates of the average time to judgment. For example, clients will want to know the average time to judgment for their particular length of marriage (regardless of the analysis we present here). Table (4) gives the estimated average time to judgment and 95% confidence intervals for each group defined by marriage duration and having minor children. These values demonstrate the implications of the regression analysis and model selection process. It is clear that marriages with minor children and/or short durations have a longer length of divorce.

Duration	Child	Estimate	Confidence Interval
Long	No	20.61	(9.92, 31.30)
Medium	No	23.13	(14.07, 32.19)
Short	No	27.82	(20.33, 35.32)
Very Short	No	16.73	(2.13, 31.34)
Long	Yes	35.85	(28.48, 43.21)
Medium	Yes	30.36	(20.52, 40.21)
Short	Yes	46.52	(35.63, 57.41)
Very Short	Yes	36.60	(11.30, 61.90)

Table 4: Average time to judgment and 95% confidence intervals (in months)

The estimated average time to judgment is graphically presented in Figure (1). Visually, it is clear that divorces take longer for couples with minor children. The visual representation also demonstrates how short marriages have a longer length of divorce (as indicated by the respective spikes for short marriages). We have found this graph to be extremely useful for counseling and mediation purposes when clients ask “how long will this divorce take?” With this graph, individuals can classify their marriage duration, minor children status, and visually obtain a rough estimate of how long the divorce will take.

The results we present here are for our specific set of 263 cases, and are directly appli-

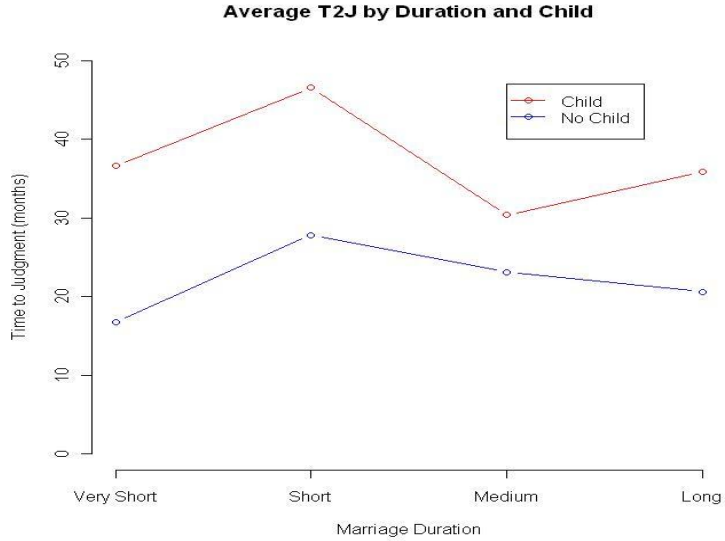


Figure 1: Estimated Average Time to judgment by Duration and Child

cable to the specific Santa Barbara population. For different time periods and jurisdictions, these results may be useful with the caveats we have discussed. Suppose a researcher wants to conduct a similar study and is going to gather new data. How large of a random sample size should they acquire in order for their results to be reliable? In the next section, we address the question of sample size determination for future studies.

4 Sample Size Determination

The data we have gathered, analyzed, and presented offers new insights for individuals practicing family law and mediation. However, this work only constitutes preliminary research and should be extended further. Researchers may be interested in obtaining data from jurisdictions of interest to them. In our experience, gathering these data can be time consuming and may be costly. We suggest sample sizes for future data collections which are tractable, and provide a sufficient amount of data to reliably estimate model parameters. First, we formalize the “sample size” question.

Sample size determination is closely linked to the estimation of population parameters. In fact, it answers the question: “what type of sample size is needed to estimate the population average time to judgment, to within some precision, with some probability?” Our multiple regression model is conditional on marriage duration and having minor child, and from this model we can obtain an estimate of the conditional variance of time to judgment values. The estimate of variance is important for any sample size determination. Populations with larger variation will require more samples to estimate parameters with the same level of accuracy when compared to populations with less variation.

Sample size determination is widely studied in the Statistics community. Park and Dudycha (1974) were among the first to consider the problem in the regression context, and much work has been done in the last 35 years. Here, we present a straight-forward approach to suggest a sample size. To estimate the population average time to judgment within some precision δ with some probability $1 - \alpha$, Park and Dudycha suggest a sample size given by

$$N_0 = \frac{s^2 T_{N-5, \frac{\alpha}{2}}^2}{\delta^2}$$

where s^2 is the estimated conditional variance from Eqn (1) and $T_{N-5, \frac{\alpha}{2}}$ is the $1 - \frac{\alpha}{2}$ percentile of a T distribution with $n - 5$ degrees of freedom. However, this assumes that the population is infinitely large. For finite populations of size N , we correct N_0 with

$$N^* = \frac{N_0 N}{N_0 + N - 1}$$

as is commonly done. N^* is the sample size adjusting for the finite population.

First, we consider how the suggested sample size increases with precision. The precision is how close, denoted by δ , estimates are to the true population value (in absolute value). Increasing precision means that δ becomes smaller, and requires more samples. Table (5) gives sample size suggestions for Santa Barbara with a finite population of divorce cases,

$N = 263$, and with probability 0.95. Estimating population average time to judgment more

Precision (Months)	Suggested Sample Size
0.5	241
1	190
3	60
6	18

Table 5: Suggested sample sizes by precision

precisely requires more sample data. We find that recommending a sample size of 60 to be sufficient for reliable estimation. This is consistent with sample data replication studies already done (Burke, 2009). In situations where data has to be manually inspected and organized, it would be much easier to manage 50 – 60 cases rather than hundreds or possibly thousands. Having the ability to use a much smaller sample is a more realistic suggestion for researchers.

The above suggestion is specific to the Santa Barbara population. Researchers in different jurisdictions can utilize these suggestions, so long as they are willing to assume their population of divorce cases is not different from Santa Barbara. Specifically, a researcher has to assume the relationship between marriage duration, minor children, and time to judgment is similar. Also, it must be assumed that the conditional variance is similar. With these assumptions, it is possible to obtain sample size suggestions specific to divorce case populations of different sizes. Table (6) compares the suggested sample size for Santa

Location	Population Size	Suggested Sample Size
Santa Barbara, CA	263	60
Fresno, CA	7,825	76

Table 6: Suggested sample sizes by population size

Barbara and Fresno, CA. The population size of 7,825 for Fresno, CA was obtained from the National Center for Health Statistics (2004). Since Fresno has a much larger population, the method suggests a larger sample size as we would expect. However, it may not be

reasonable to assume the Santa Barbara and Fresno populations are similar. The only way to specifically address this concern is to gather data from Fresno.

In the Spring of 2010, students at the California Polytechnic State University (Cal Poly) gathered comparable data on 75 cases from San Luis Obispo County in 2003 (Carrillo et al, 2010). Their initial findings indicate that the Santa Barbara and San Luis Obispo populations are remarkably similar. This is possibly explained by the geographic and demographic similarities between the two counties. This suggests that using the Santa Barbara findings as a basis to make sample size suggestions for other jurisdictions is reasonable. Only by gathering data from different, diverse locations can we better understand differences between jurisdictions.

5 Conclusions and Future Research

The primary objective of this work is not to develop or employ advanced statistical methods, or to use complicated and geographically diverse census/sampling techniques over time. Here, we obtain free, publicly available data and use standard statistical methods to answer the question “how long does a Santa Barbara divorce take?” The regression analysis we use and the method for suggesting a future sample size are both based on the assumption that the time to judgment values follow a Normal distribution (Devore 2008; Neter, Kutner, Jachsheim, and Wasserman 1996).

Although we did not present the results here, the time to judgment values do not follow a Normal distribution. Strictly speaking, we should use alternative methodologies which reflect this. This adds an additional caveat to our conclusions. With a more appropriate analysis, it is possible to reach comparable conclusions. However, future work should use methods such as Generalized Linear Models which can easily remedy the lack of Normality (Neter, Kutner, Jachsheim, and Wasserman 1996). Also, recall that several of the time to judgment values were censored because no judgment had been reached within the 6 years

of observation. In future studies, this should be accounted for by using regression methods which can include censored data.

All the same, these results give family law litigators and/or mediators some indication of the length of divorce. It was originally hypothesized that divorces may take between 18–36 months. Not accounting for marriage duration or children, we have found that the average length of divorce is 24 – 34 months. We find that marriages with minor children and/or short durations have an increased length of divorce.

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