

Logistic Regression

In reporting logistic regression output it is important to provide enough information for readers to gauge the substantive significance as well as the statistical significance. Readers have difficulty interpreting the unstandardized B estimates, and noting which is statistically significant does little to help the reader know which, if any, is substantively significant. For this reason it is important to report the exponentiated B, e^B , often called the odds ratio, along with the B value. An example of how to clarify the interpretation of these values appears in:

Crosnoe, R., Mistry, R., & Elder, Jr., G. (2002) Economic disadvantage, family dynamics, and adolescent enrollment in higher education. *Journal of Marriage Family*, 64, 690 – 702. (See the right hand column on p.696.)

A valuable tutorial on logistic regression appears in

DeMaris, A. (1995) A tutorial in logistic regression. *Journal of Marriage and the Family*, 57, 956 – 968.

If spacing does not permit a separate column for the odds ratio, this may be placed in parentheses under the B estimates with this explained in the table note.

The odds ratio can give misleading results, and other approaches should be considered including estimating probabilities and reporting tables showing outcomes. Where there are not so many predictors that they become too cumbersome, it is also helpful to describe scenarios.

Note that the percentage of participants with an outcome coded as 1 is also included. The percentage is useful in evaluating the odds ratios because doubling the odds of a percentage of 1% is different from doubling the odds of a percentage of 30%, for example. This table does not report the estimates for all predictors. The note at the bottom of the table indicates that several control variables were included in the estimation but these are not reported in the table. This approach simplifies the presentation of the table when there is no need to discuss the parameter estimates of the control variables.

Table 1

Summary of Logistic Regression Analysis for Variables Predicting Decisions to Divorce by Tenth Year of Marriage for Mothers (n = 889) and Fathers (n = 989), Controlling for Background Variables

Predictor	Mother			Father		
	<i>B</i>	<i>SE B</i>	<i>OR</i>	<i>B</i>	<i>SE B</i>	<i>OR</i>
Mother						
Uninvolved style	.58**	.13	1.79		.27	2.34
Permissive style	-.10	.08	0.90	-.45**	.11	.64
Authoritarian style	.34**	.07	1.40	.58**	.18	1.79
Satisfaction with parenting role	.10*	.04	1.11	.05*	.02	1.05
Father						
Uninvolved style	.31**	.09	1.36	.25**	.09	1.28
Permissive style	-.22**	.07	0.80	.10	.07	1.10
Authoritarian style	.56**	.07	1.75	-.10*	.04	.90
Satisfaction with parenting role	.18**	.06	1.20	.20**	.06	1.22
Constant	-1.05			-1.21		
χ^2		264.15			129.25	
<i>df</i>		9			9	
% divorced by Year 10		26.5			25.6	

Note: Controls are education, income, and race (omitted from the table). OR = Odds Ratio. Parenting style

predictors (uninvolved, permissive, authoritarian) coded as 1 for *yes* and 0 for *no*. Satisfaction with parenting role scored from 1 for *very dissatisfied* to 5 for *very satisfied*. Authoritative parenting style of both mother and father is the reference category.

* $p < .05$. ** $p < .01$. *** $p < .001$.