

Checkbox	Nr	Section	Instruction	R code
<input type="checkbox"/>	1	Prepare the data	Identify all variables required for the model and verify they are present in the dataset.	<code>names(data)</code>
<input type="checkbox"/>	2	Prepare the data	Determine for each variable whether it should be continuous, binary, categorical, or ordered.	<code>str(data)</code>
<input type="checkbox"/>	3	Prepare the data	Confirm that continuous variables take plausible numerical values and are correctly coded.	<code>summary(data\$bvar)</code>
<input type="checkbox"/>	4	Prepare the data	Check that binary variables are coded consistently.	<code>table(data\$binary_var)</code>
<input type="checkbox"/>	5	Prepare the data	Ensure that categorical variables use a clear coding scheme and select a reference category.	<code>data\$cat_var <- factor(data\$cat_var, levels = c('ref','cat2','cat3'))</code>
<input type="checkbox"/>	6	Prepare the data	Verify that ordered variables follow a meaningful and consistent order.	<code>data\$ord_var <- ordered(data\$ord_var, levels = c('low','med','high'))</code>
<input type="checkbox"/>	7	Prepare the data	Identify variables requiring dummy coding and construct the necessary dummy variables.	<code>data\$cat_var <- factor(data\$cat_var)</code>
<input type="checkbox"/>	8	Prepare the data	Confirm that one category per categorical variable is omitted as the reference.	<code>relevel(data\$cat_var, ref = 'ref')</code>
<input type="checkbox"/>	9	Prepare the data	Deal with missing data in a coherent and defensible manner.	<code>data <- na.omit(data)</code>
<input type="checkbox"/>	10	Specify the first model	Write down and run the regression equation including all required predictors.	<code>model1 <- lm(y ~ x1 + x2 + x3, data = data)</code>
<input type="checkbox"/>	11	Specify the first model	Create a results table without copying software output.	<code>broom::tidy(model1); stargazer()</code>
<input type="checkbox"/>	12	Specify the second model with an interaction	Identify and construct the interaction term.	<code>model2 <- lm(y ~ x1 * x2 + x3 + x4, data = data)</code>
<input type="checkbox"/>	13	Specify the second model with an interaction	Estimate the second model.	
<input type="checkbox"/>	14	Specify the second model with an interaction	Extend the results table.	<code>broom::tidy(model2); stargazer(model1, model2, type="text")</code>
<input type="checkbox"/>	15	Interpret the first model	Interpret continuous predictors as marginal effects.	
<input type="checkbox"/>	16	Interpret the first model	Interpret binary predictors as differences relative to reference.	
<input type="checkbox"/>	17	Interpret the first model	Interpret categorical predictors against the omitted group.	
<input type="checkbox"/>	18	Interpret the first model	Comment on sign, magnitude, significance.	<code>summary(model1)</code>
<input type="checkbox"/>	19	Interpret the first model	Comment on model fit if relevant.	<code>summary(model1)\$r.squared</code>
<input type="checkbox"/>	20	Interpret the second model	Explain what the interaction term represents.	
<input type="checkbox"/>	21	Interpret the second model	Interpret the interaction coefficient.	
<input type="checkbox"/>	22	Interpret the second model	Reinterpret main effects given the interaction.	
<input type="checkbox"/>	23	Interpret the second model	Check whether inclusion changes other coefficients.	
<input type="checkbox"/>	24	Interpret the second model	Comment on change in model fit.	<code>summary(model2)\$r.squared</code>
<input type="checkbox"/>	25	Compare the models	Summarise how interaction changes interpretation.	
<input type="checkbox"/>	26	Compare the models	Describe whether model 2 provides additional insight.	
<input type="checkbox"/>	27	Compare the models	Highlight changes in sign, magnitude, or significance.	
<input type="checkbox"/>	28	Compare the models	Conclude with a statement about explanatory performance.	
<input type="checkbox"/>	29	Diagnostic Tests	Check for potential violation of the linear regression assumption of homoscedasticity (constant variance of errors).	<code>lmtest::bptest(model)</code>
<input type="checkbox"/>	30	Diagnostic Tests	Check for potential violation of the normality of errors assumption, especially important for small sample inference.	<code>shapiro.test(resid(model))</code>
<input type="checkbox"/>	31	Diagnostic Tests	Check for overly influential observations that may disproportionately drive the results.	<code>car::influencePlot(model)</code>
<input type="checkbox"/>	32	Diagnostic Tests	Calculate the Variance Inflation Factor (VIF) to check for severe multicollinearity between predictors.	<code>car::vif(model)</code>
<input type="checkbox"/>	33	Robustness Checks	Check if results are sensitive to the inclusion/exclusion of potential confounding variables.	<code>lm(y ~ x1 + x2 + new_control, data=data)</code>
<input type="checkbox"/>	34	Robustness Checks	Test if results are robust to a different sample (e.g., using a subset of the data).	<code>lm(y ~ x1 + x2, data=subset(data, condition))</code>
<input type="checkbox"/>	35	Synthesis	Based on diagnostics and robustness, state the level of confidence in the results. Are they fragile or robust?	