

Measure	Description	Approximate Cutoff (for identifying a problem)	Source
Outliers			
(Internally) Studentized Residuals	Indicates outlier on y.	t (df = $n - p - 1$). For quick reference: > 2.5 or 3.0	NWK
Studentized Deleted Residuals	Indicates outlier on y. i^{th} case removed.	t (df = $n - p - 1$). For quick reference: > 2.5 or 3.0	NWK
Leverage (h_{ii})	Also called hat values. Multivariable outlier (on x) based on distance from mean of x.	$> 2p/n$. For quick reference: .5 high, .2-.5 mod.	NWK
Mahalanobis	Multivariate distribution outlier on x.	$> X^2$ (df = $p - 1$, $\alpha = .001$)	TF
Influential cases			
Cook's Distance	Influence on all coefficients. Partly a function of unstandardized residuals and leverage.	$> 4/n$. Quick reference: substantially larger than 1.	BJ
DFFits*	Based on change in MSE by deleting i^{th} case. Partly a function of studentized deleted residuals and leverage.	> 1 , for small n. $> 2\sqrt{p/n}$, for large n.	BJ
DFBetas*	Change in regression coefficients by deleting i^{th} case.	> 1 , for small n. $> 2/\sqrt{n}$, for large n.	BJ
COVRATIO	Change in the joint confidence region (standard errors) by deleting i^{th} case. Partly a function of h and studentized residuals.	Substantially larger or smaller than 1. Alternatively, $ \text{COVRATIO} - 1 > 3p/n$ $\text{COVRATIO} > 3p/n + 1$ or $\text{COVRATIO} < 3p/n - 1$	F
Multicollinearity			
Variance Inflation Factors (VIF)	A function of the inflation of the variances of b.	> 6 or 10	NWK
Tolerance	Reciprocal of VIF	$< .16$ or $.10$	NWK

(see reverse side of page)

NWK = Neter, J., Wasserman, W., & Kutner, M. H. (1989). Applied linear regression-models. Chicago: Irwin.

TF = Tabachnick, B. G. & Fidell, LS (1989). Using multivariate statistics. New York: Harper and Row.

BJ = Bollen, K. A., & Jackman, R. W. (1985). Regression diagnostics an expository treatment of outliers and influential cases. Sociological Methods & Research, 13(4), 510-542.

F= Fox, J. (1991). Regression diagnostics: An introduction (Vol. 79). Sage.

$p = k + 1$
(number of predictors plus the intercept)