

## PROC MIXED (SAS version 8.01)

**PROC MIXED** *data=*data set

*cl* (confidence limits for variance estimates)

*ic* (information criteria)

*maxiter=* number (maximum number of iterations, default is 50)

*method=*  $\begin{cases} \text{ml} & \text{(for mean structure)} \\ \text{reml} & \text{(for covariance structure) (default)} \end{cases}$

*nobound* (no limits on variance components ( $\neq 0$ ))

*scoring=* number (number of Fisher scoring iterations at start);

**CLASS** factors (factors (non-quantitative) in the design);

**MODEL** *response=* fixed effects

*/cl* (confidence limits for fixed effects)

*ddfm=*  $\begin{cases} \text{contain} & \text{(default)} \\ \text{kenwardroger} & \text{(denominator degrees-of-freedom method)} \\ \text{satterth} & \end{cases}$

*htype* (type of tests, **type3** default)

*noint* (no intercept in mean structure)

*notest* (no tests for fixed effects)

*outpred=* data set (predicted values, residuals ...)

*outpredm=* data set (estimated mean, residuals ...)

*solution* (fixed effects estimates);

**RANDOM** random effects

*int* (a random intercept, not default)

*/cl* (confidence limits for predicted random effects)

*solution* (predicted random effects)

*subject=* variable (random effects for each subject level)

*type=*  $\begin{cases} \text{un} \\ \text{vc} & \text{(default) (covariance structure for random effects)} \end{cases}$

*g gcorr* (estimated covariance/correlation matrix);

**REPEATED** variable (time variable)

*/group=* variable (covariance parameters for each group level)

*local* (individual measurement error, useful for some covariances)

*r rcorr* (estimated covariance/correlation matrix)

*subject=* variable (independence between subjects)

*type=*  $\begin{cases} \text{ante}(1), \text{ar}(1), \text{arh}(1) \\ \text{cs}, \text{csh} \\ \text{sp}(\text{gau})(\text{variable}) & \text{(covariance structure for repeated meas.);} \\ \text{un}, \text{un}(1) \\ \text{vc} & \text{(default)} \end{cases}$

**PARMS**  $\underbrace{\dots\dots}_{\text{RANDOM}} \underbrace{\dots\dots}_{\text{REPEATED}} \underbrace{\dots}_{\text{RESIDUAL}}$  (initial variance parameter values)

*/noprofile* (no profiling of residual variance parameter);

**LSMEANS** factors (computation of covariate-corrected means)

*/adjust=*  $\begin{cases} \text{bon} & \text{(default)} \\ \text{simulate} & \end{cases}$  (adjustment for multiple pairwise comparisons)

*at* covariate= value (means for a specified covariate value)

*cl* (confidence limits)

*pdiff* (pairwise comparisons);

**ODS** *output* ODS<sub>tablename</sub>=data set (customised output) ;

**WEIGHT** variable (weights on the measurements);

**RUN**;