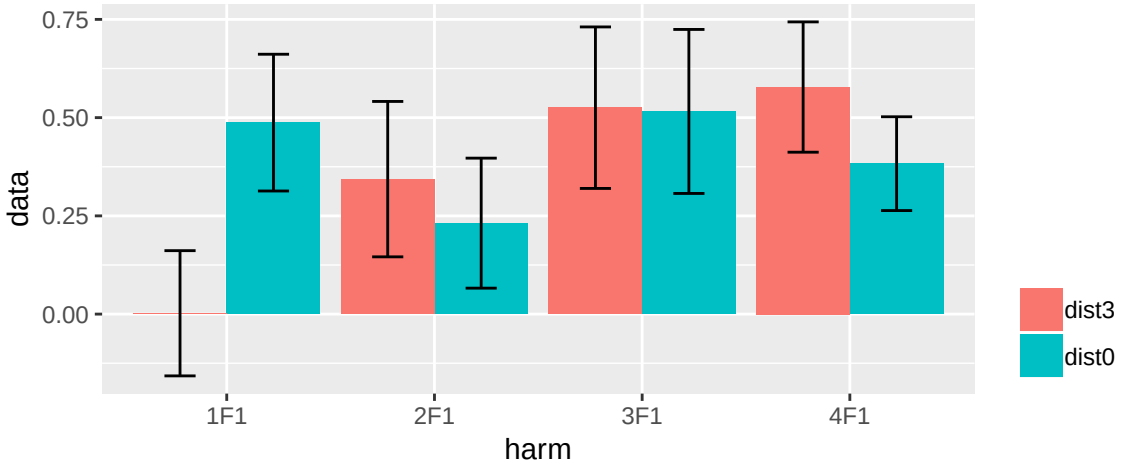
# NUMEROSITY ANALYSIS RESULTS

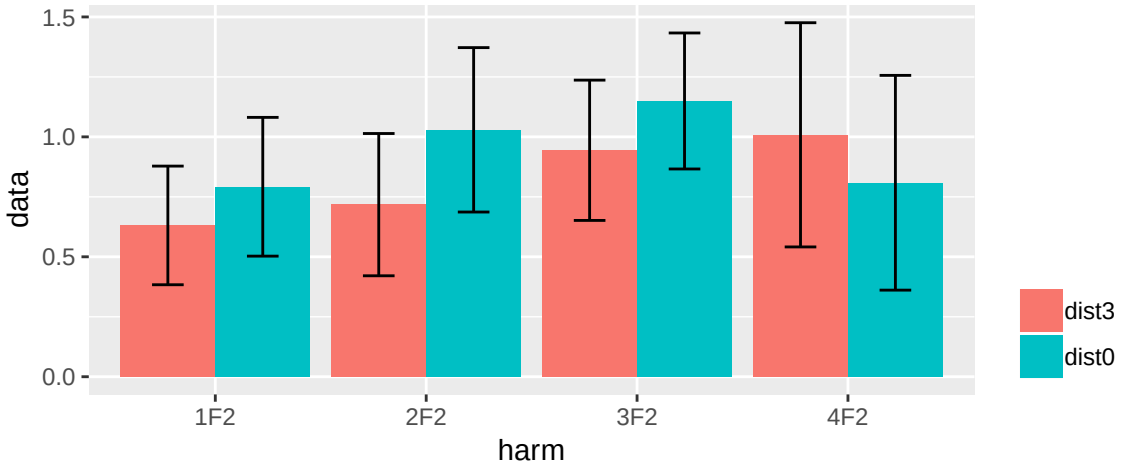
```
top_folder = '/Users/kohler/Dropbox/WRITING/Articles/2019_KohlerNumerositySSVEP/figures/results/experiment3'
counter = 0
for (c in c(5,6,8,9)) {
  for (q in c(1,2,3,4)) {
    cur_file = switch(q, "RLS_oddball_rc1_carr", "RLS_carrier_rc1_carr", "RLS_oddball_rc2_carr", "RLS_carrier_rc
    cur_csv <- sprintf('%s/%s%d_full_projected_all_trials.csv', top_folder, cur_file, c)
    cur_data <-data.frame( read.csv(file = cur_csv ) )
    cur_data$cond <- factor(cur_data$condition, levels(cur_data$condition)[c(2,1)])
    cur_data$harm <- cur_data$harmonic
    cur_data$harm_alt <- factor(cur_data$harmonic, levels(cur_data$harmonic)[c(2,1,3,4)])
    g <- ggplot(cur_data, aes(harm, data, fill = cond)) +
      stat_summary(geom = "bar", fun.y = mean, position=position_dodge()) +
      stat_summary(geom = "errorbar", fun.data = mean_se, width=.3, position=position_dodge(.9))
    g <- g + theme(legend.title=element_blank(),
      legend.justification=c(1,0),
      legend.background = element_blank()) +
      ggtitle(toupper(sprintf('%s%d\n',cur_file, c)))
    if (q == 1 && c == 6) {
      cat("RESULTS BELOW\n  ")
      cat("\n  ")
    }
    print(g)
    m1 <- lmer(data ~ cond * harm + (1|subject), cur_data)
    emm = emmeans(m1, ~ cond * harm, lmer.df = "satterthwaite")
    m2 <- lmer(data ~ cond + harm + (1|subject), cur_data)
    if (isSingular(m1)) {
      if (isSingular(m2)) {
        cat("WARNING: BOTH MODELS ARE SINGULAR!   ")
      } else {
        cat("WARNING: MODEL1 IS SINGULAR, BUT MODEL2 IS NOT!   ")
      }
    } else {
      cat("LOVELY: NONE OF THE MODELS ARE SINGULAR!   ")
    }
    if (!converge_ok(m1)) {
      if (!converge_ok(m2)) {
        cat("WARNING: BOTH MODELS DID NOT CONVERGE!\n\n")
      } else {
        cat("WARNING: MODEL1 DID NOT CONVERGE, BUT MODEL2 DID!\n\n")
      }
    } else {
      cat("LOVELY: BOTH MODELS CONVERGED!\n\n")
    }

    cat("ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS\n")
    print(anova(m1), type='pdf')
    cat("\nSUMMARY AND POST-HOC TESTS, harm1 baseline \n")
    print(prettify(summary(m1)), type='pdf')
    cat("\nESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION\n")
    print(prettify(summary(pairs(emm, simple = "cond", adjust = "none"))))
    cat("\nTEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT\n")
    print(anova(m1, m2))
  }
}
```

RLS_ODDBALL_RC1_CARR5



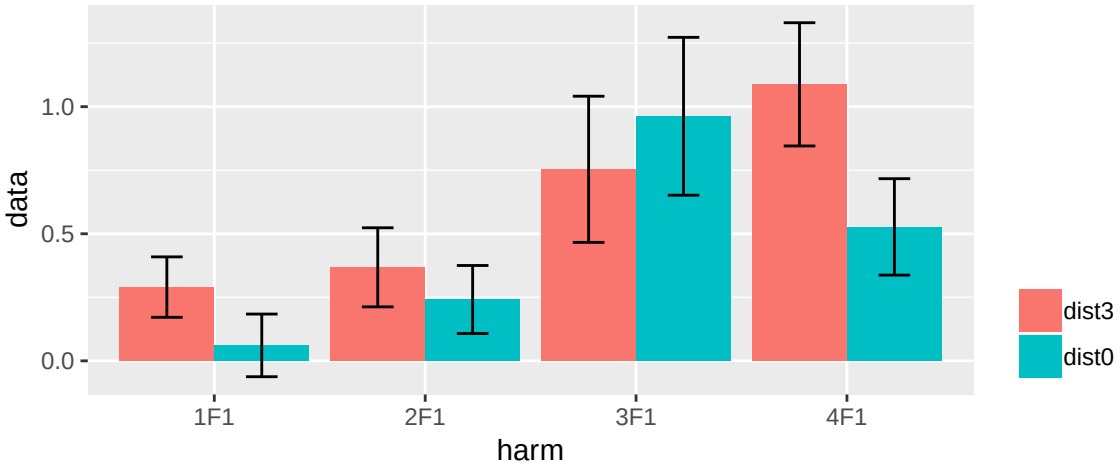

```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.05326 0.05326     1   112  0.1138 0.7365
## harm      1.69915 0.56638     3   112  1.2099 0.3095
## cond:harm 2.09242 0.69747     3   112  1.4900 0.2212
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate   CI (lower)   CI (upper) Std. Error  df     t value Pr(>|t|)
## 1       (Intercept)  0.002117086 -0.335078330  0.339312501  0.1766568 112  0.01198417     0.99
## 2       cond: dist0  0.485193647  0.008327317  0.962059977  0.2498305 112  1.94209150    0.055   .
## 3         harm: 2F1  0.341362834 -0.135503496  0.818229164  0.2498305 112  1.36637786    0.175
## 4         harm: 3F1  0.523205826  0.046339496  1.000072156  0.2498305 112  2.09424339    0.038   *
## 5         harm: 4F1  0.575757403  0.098891073  1.052623733  0.2498305 112  2.30459234    0.023   *
## 6 conddist0:harm2F1 -0.597203849 -1.271594681  0.077186982  0.3533136 112 -1.69029374    0.094   .
## 7 conddist0:harm3F1 -0.494794878 -1.169185710  0.179595953  0.3533136 112 -1.40044088    0.164
## 8 conddist0:harm4F1 -0.680232600 -1.354623432 -0.005841769  0.3533136 112 -1.92529386    0.057   .
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm     estimate        SE  df     t.ratio    p.value
## 1 1 dist3 - dist0  1F1 -0.485193647 0.2498305 112 -1.94209150 0.05463719
## 2 2 dist3 - dist0  2F1  0.112010202 0.2498305 112  0.44834483 0.65477051
## 3 3 dist3 - dist0  3F1  0.009601231 0.2498305 112  0.03843098 0.96941248
## 4 4 dist3 - dist0  4F1  0.195038953 0.2498305 112  0.78068519 0.43663460
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 259.88 279.39 -122.94   245.88
## m1 10 261.18 289.06 -120.59   241.18 4.6961      3     0.1955
```

RLS_CARRIER_RC1_CARR5



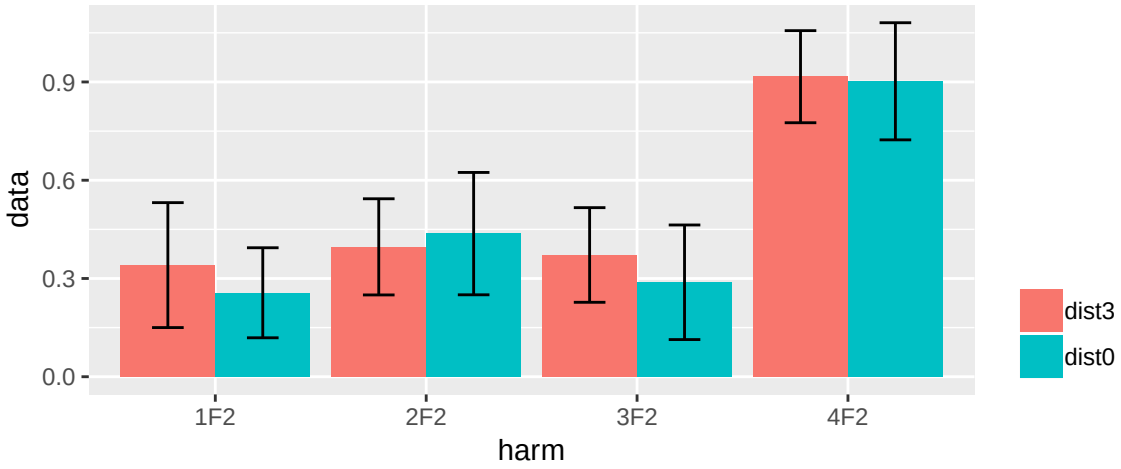

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.42996 0.42996     1    98  0.2493 0.6187
## harm      1.71085 0.57028     3    98  0.3306 0.8032
## cond:harm 1.11114 0.37038     3    98  0.2147 0.8860
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate  CI (lower) CI (upper) Std. Error        df     t value Pr(>|t|)
## 1       (Intercept)  0.63083187 -0.02176651  1.2834302  0.3418912 111.79172  1.84512466    0.068    .
## 2       cond: dist0  0.16124308 -0.75515028  1.0776364  0.4795468  97.99985  0.33624056    0.737
## 3         harm: 2F2  0.08666669 -0.82972666  1.0030600  0.4795468  97.99985  0.18072626    0.857
## 4         harm: 3F2  0.31332492 -0.60306844  1.2297183  0.4795468  97.99985  0.65337718    0.515
## 5         harm: 4F2  0.37772329 -0.53867007  1.2941166  0.4795468  97.99985  0.78766725    0.433
## 6 conddist0:harm2F2  0.15069057 -1.14528534  1.4466665  0.6781815  97.99985  0.22219799    0.825
## 7 conddist0:harm3F2  0.04428420 -1.25169171  1.3402601  0.6781815  97.99985  0.06529845    0.948
## 8 conddist0:harm4F2 -0.36108410 -1.65706001  0.9348918  0.6781815  97.99985 -0.53242984    0.596
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm   estimate        SE       df    t.ratio   p.value
## 1 1 dist3 - dist0  1F2 -0.1612431 0.4795468 97.99985 -0.3362406 0.7374084
## 2 2 dist3 - dist0  2F2 -0.3119337 0.4795468 97.99985 -0.6504760 0.5169069
## 3 3 dist3 - dist0  3F2 -0.2055273 0.4795468 97.99985 -0.4285865 0.6691647
## 4 4 dist3 - dist0  4F2  0.1998410 0.4795468 97.99985  0.4167289 0.6777881
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance Chisq Chi Df Pr(>Chisq)
## m2  7 414.23 433.74 -200.12   400.23
## m1 10 419.54 447.42 -199.77   399.54 0.688      3      0.876
```

RLS_ODDBALL_RC2_CARR5



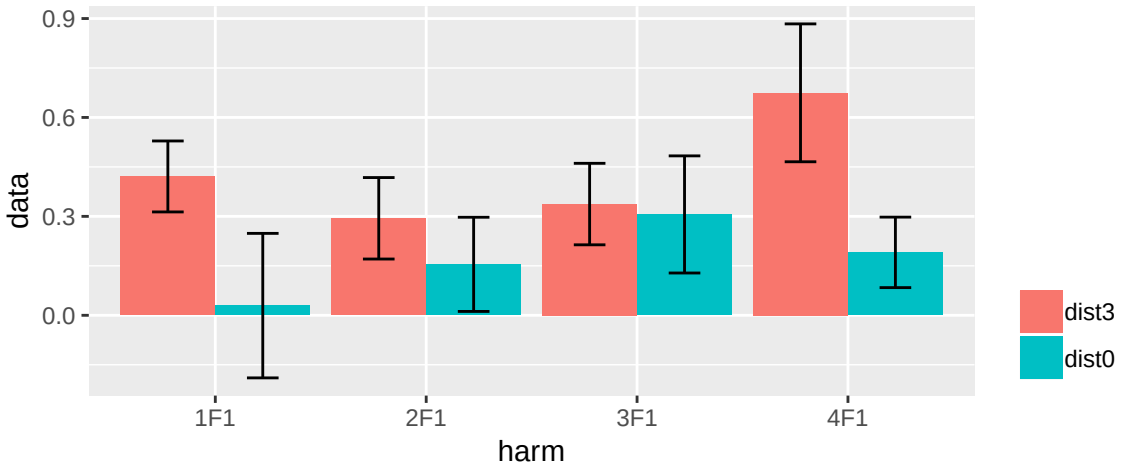

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF  DenDF F value   Pr(>F)
## cond       0.9407  0.9407     1 97.999  1.4702 0.228236
## harm      10.8237  3.6079     3 97.999  5.6385 0.001317 **
## cond:harm  2.2602  0.7534     3 97.999  1.1774 0.322362
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error        df    t value Pr(>|t|)
## 1       (Intercept)  0.29019142 -0.10640744  0.6867903  0.2077766 111.88935  1.3966513    0.165
## 2       cond: dist0 -0.22934271 -0.78750998  0.3288246  0.2920888  97.99913 -0.7851815    0.434
## 3         harm: 2F1  0.07781344 -0.48035383  0.6359807  0.2920888  97.99913  0.2664034     0.79
## 4         harm: 3F1  0.46345981 -0.09470747  1.0216271  0.2920888  97.99913  1.5867087    0.116
## 5         harm: 4F1  0.79773058  0.23956330  1.3558979  0.2920888  97.99913  2.7311237    0.007  **
## 6 conddist0:harm2F1  0.10270887 -0.68665886  0.8920766  0.4130759  97.99913  0.2486441    0.804
## 7 conddist0:harm3F1  0.43793397 -0.35143375  1.2273017  0.4130759  97.99913  1.0601780    0.292
## 8 conddist0:harm4F1 -0.33158741 -1.12095514  0.4577803  0.4130759  97.99913 -0.8027276    0.424
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm   estimate        SE       df    t.ratio    p.value
## 1 1 dist3 - dist0  1F1  0.2293427 0.2920888 97.99913  0.7851815 0.43424128
## 2 2 dist3 - dist0  2F1  0.1266338 0.2920888 97.99913  0.4335457 0.66557121
## 3 3 dist3 - dist0  3F1 -0.2085913 0.2920888 97.99913 -0.7141365 0.47684027
## 4 4 dist3 - dist0  4F1  0.5609301 0.2920888 97.99913  1.9204097 0.05771337
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance Chisq Chi Df Pr(>Chisq)
## m2  7 297.78 317.30 -141.89   283.78
## m1 10 300.06 327.94 -140.03   280.06 3.718      3     0.2936
```

RLS_CARRIER_RC2_CARR5



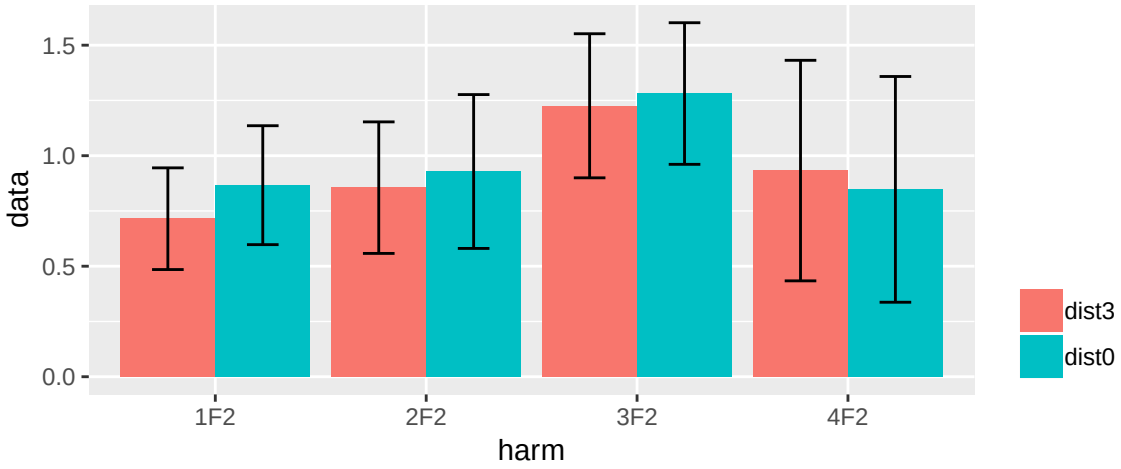

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value   Pr(>F)
## cond      0.0376 0.03755     1    98  0.0967 0.756454
## harm      7.2965 2.43216     3    98  6.2648 0.000619 ***
## cond:harm 0.0818 0.02728     3    98  0.0703 0.975689
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error       df      t value Pr(>|t|)
## 1       (Intercept)  0.34083064  0.02792184  0.6537394  0.1639199 110.9504  2.079251150     0.04   *
## 2       cond: dist0 -0.08448818 -0.51926270  0.3502863  0.2275168  98.0000 -0.371349145    0.711
## 3         harm: 2F2  0.05573070 -0.37904382  0.4905052  0.2275168  98.0000  0.244951990    0.807
## 4         harm: 3F2  0.03096258 -0.40381194  0.4657371  0.2275168  98.0000  0.136089198    0.892
## 5         harm: 4F2  0.57530030  0.14052578  1.0100748  0.2275168  98.0000  2.528605579    0.013   *
## 6 conddist0:harm2F2  0.12487668 -0.48998735  0.7397407  0.3217574  98.0000  0.388108211    0.699
## 7 conddist0:harm3F2  0.00110976 -0.61375427  0.6159738  0.3217574  98.0000  0.003449058    0.997
## 8 conddist0:harm4F2  0.07044651 -0.54441752  0.6853105  0.3217574  98.0000  0.218942947    0.827
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE df     t.ratio   p.value
## 1 1 dist3 - dist0  1F2  0.08448818 0.2275168 98  0.37134915 0.7111791
## 2 2 dist3 - dist0  2F2 -0.04038850 0.2275168 98 -0.17751875 0.8594673
## 3 3 dist3 - dist0  3F2  0.08337842 0.2275168 98  0.36647144 0.7148033
## 4 4 dist3 - dist0  4F2  0.01404167 0.2275168 98  0.06171706 0.9509138
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 236.95 256.46 -111.47   222.95
## m1 10 242.72 270.60 -111.36   222.72 0.2256      3     0.9734
## RESULTS BELOW
##
```

##

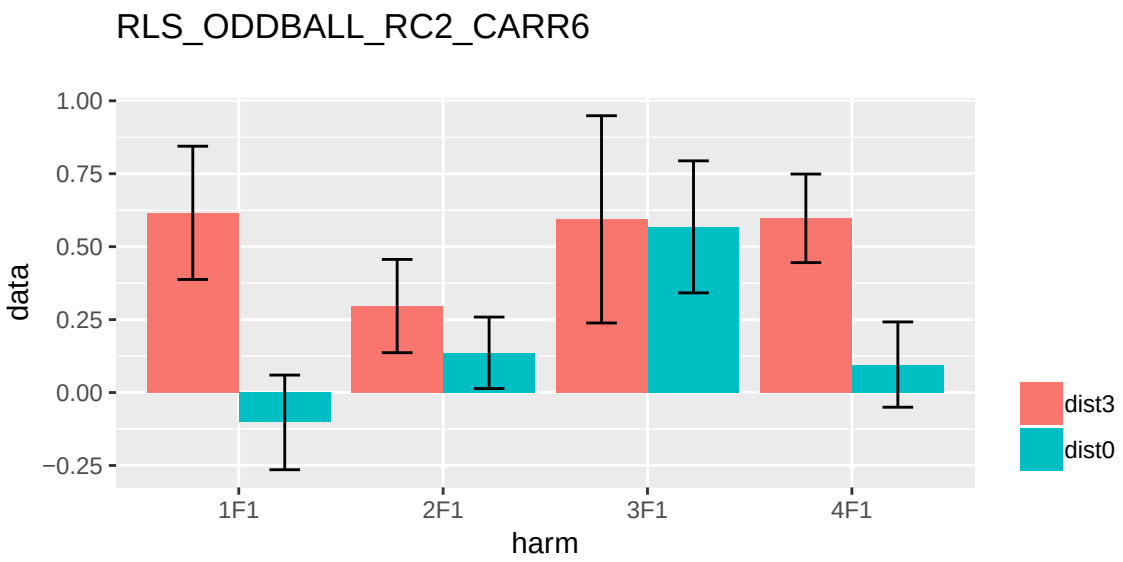



```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value  Pr(>F)
## cond      2.05459 2.05459     1   112  5.5549 0.02017 *
## harm      0.88223 0.29408     3   112  0.7951 0.49912
## cond:harm 1.00626 0.33542     3   112  0.9069 0.44023
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate CI (lower) CI (upper) Std. Error  df    t value Pr(>|t|)
## 1       (Intercept)  0.42109254  0.1213628  0.7208223  0.1570285 112  2.6816306    0.008  **
## 2       cond: dist0 -0.39180186 -0.8156837  0.0320800  0.2220719 112 -1.7643019     0.08   .
## 3         harm: 2F1 -0.12689177 -0.5507736  0.2969901  0.2220719 112 -0.5713995    0.569
## 4         harm: 3F1 -0.08376223 -0.5076441  0.3401196  0.2220719 112 -0.3771852    0.707
## 5         harm: 4F1  0.25359340 -0.1702885  0.6774753  0.2220719 112  1.1419428    0.256
## 6 conddist0:harm2F1  0.25211517 -0.3473443  0.8515747  0.3140571 112  0.8027686    0.424
## 7 conddist0:harm3F1  0.36033551 -0.2391240  0.9597950  0.3140571 112  1.1473567    0.254
## 8 conddist0:harm4F1 -0.09203808 -0.6914976  0.5074214  0.3140571 112 -0.2930616     0.77
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm   estimate        SE  df   t.ratio    p.value
## 1 1 dist3 - dist0  1F1 0.39180186 0.2220719 112 1.7643019 0.08040749
## 2 2 dist3 - dist0  2F1 0.13968669 0.2220719 112 0.6290156 0.53061968
## 3 3 dist3 - dist0  3F1 0.03146635 0.2220719 112 0.1416944 0.88757593
## 4 4 dist3 - dist0  4F1 0.48383995 0.2220719 112 2.1787536 0.03144525
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 229.79 249.31 -107.90   215.79
## m1 10 232.91 260.79 -106.46   212.91 2.8801      3     0.4105
```

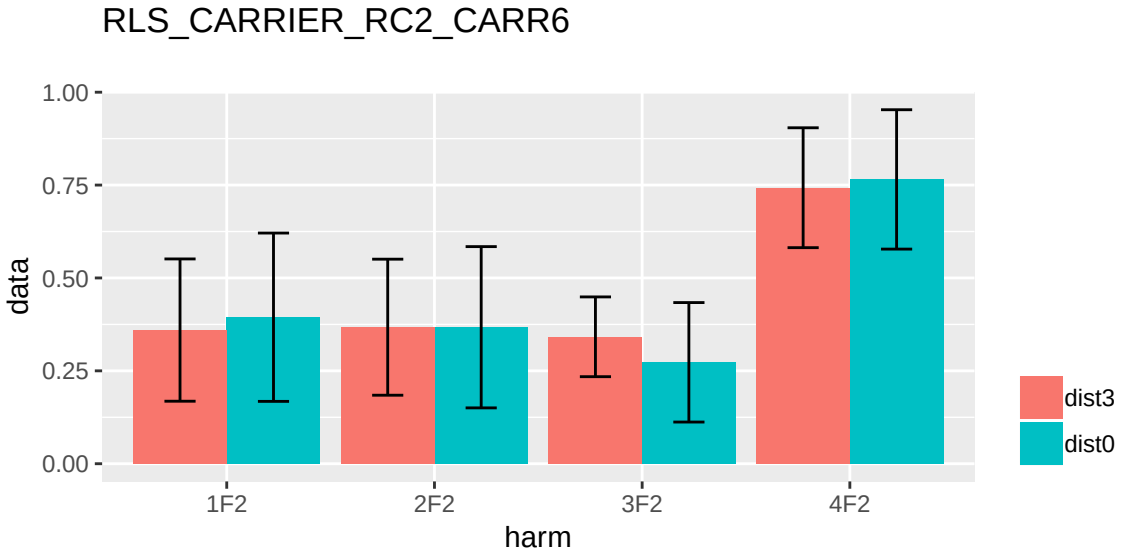
RLS_CARRIER_RC1_CARR6




```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.0715 0.07145     1    98  0.0380 0.8458
## harm      3.7268 1.24227     3    98  0.6609 0.5781
## cond:harm 0.2184 0.07280     3    98  0.0387 0.9898
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error       df    t value Pr(>|t|)
## 1       (Intercept)  0.71493457  0.02218291   1.407686  0.3628823 110.1949  1.9701555    0.051    .
## 2       cond: dist0  0.15171235 -0.80496203   1.108387  0.5006262  98.0000  0.3030452    0.762
## 3         harm: 2F2  0.14048766 -0.81618672   1.097162  0.5006262  98.0000  0.2806239     0.78
## 4         harm: 3F2  0.51082353 -0.44585085   1.467498  0.5006262  98.0000  1.0203692     0.31
## 5         harm: 4F2  0.21773718 -0.73893720   1.174412  0.5006262  98.0000  0.4349297    0.665
## 6 conddist0:harm2F2 -0.07868761 -1.43162949   1.274254  0.7079923  98.0000 -0.1111419    0.912
## 7 conddist0:harm3F2 -0.09625540 -1.44919728   1.256686  0.7079923  98.0000 -0.1359554    0.892
## 8 conddist0:harm4F2 -0.23669052 -1.58963240   1.116251  0.7079923  98.0000 -0.3343123    0.739
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE df    t.ratio   p.value
## 1 1 dist3 - dist0  1F2 -0.15171235 0.5006262 98 -0.3030452 0.7624978
## 2 2 dist3 - dist0  2F2 -0.07302474 0.5006262 98 -0.1458668 0.8843262
## 3 3 dist3 - dist0  3F2 -0.05545695 0.5006262 98 -0.1107752 0.9120212
## 4 4 dist3 - dist0  4F2  0.08497817 0.5006262 98  0.1697438 0.8655616
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 427.24 446.75 -206.62   413.24
## m1 10 433.12 460.99 -206.56   413.12 0.1244      3     0.9888
```

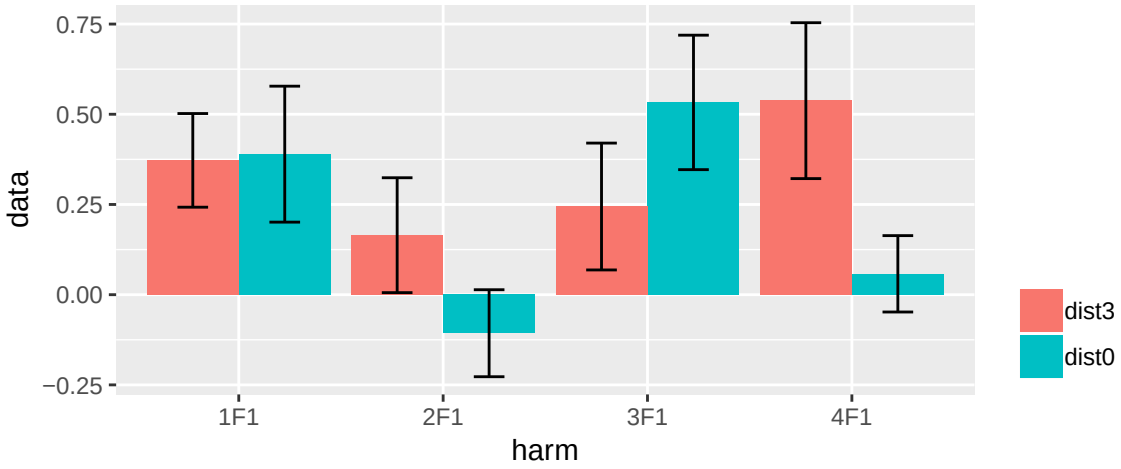



```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value  Pr(>F)
## cond      3.7043  3.7043     1   112  5.7964 0.01769 *
## harm      2.3954  0.7985     3   112  1.2494 0.29533
## cond:harm 2.2477  0.7492     3   112  1.1724 0.32358
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error  df     t value Pr(>|t|)
## 1       (Intercept)  0.61595252  0.22196840  1.0099366  0.2064084 112  2.98414393    0.003  **
## 2       cond: dist0 -0.71834836 -1.27552603 -0.1611707  0.2919056 112 -2.46089245    0.015   *
## 3         harm: 2F1 -0.31956277 -0.87674044  0.2376149  0.2919056 112 -1.09474685    0.276
## 4         harm: 3F1 -0.02230958 -0.57948726  0.5348681  0.2919056 112 -0.07642739    0.939
## 5         harm: 4F1 -0.01885754 -0.57603522  0.5383201  0.2919056 112 -0.06460148    0.949
## 6 conddist0:harm2F1  0.55807999 -0.22988825  1.3460482  0.4128169 112  1.35188261    0.179
## 7 conddist0:harm3F1  0.69261611 -0.09535212  1.4805843  0.4128169 112  1.67778042    0.096    .
## 8 conddist0:harm4F1  0.21712478 -0.57084345  1.0050930  0.4128169 112  0.52595905      0.6
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm   estimate        SE  df    t.ratio    p.value
## 1 1 dist3 - dist0  1F1 0.71834836 0.2919056 112 2.46089245 0.01538548
## 2 2 dist3 - dist0  2F1 0.16026837 0.2919056 112 0.54904173 0.58406977
## 3 3 dist3 - dist0  3F1 0.02573225 0.2919056 112 0.08815263 0.92991280
## 4 4 dist3 - dist0  4F1 0.50122357 0.2919056 112 1.71707403 0.08872973
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 296.25 315.76 -141.12   282.25
## m1 10 298.54 326.41 -139.27   278.54 3.7104      3     0.2945
```



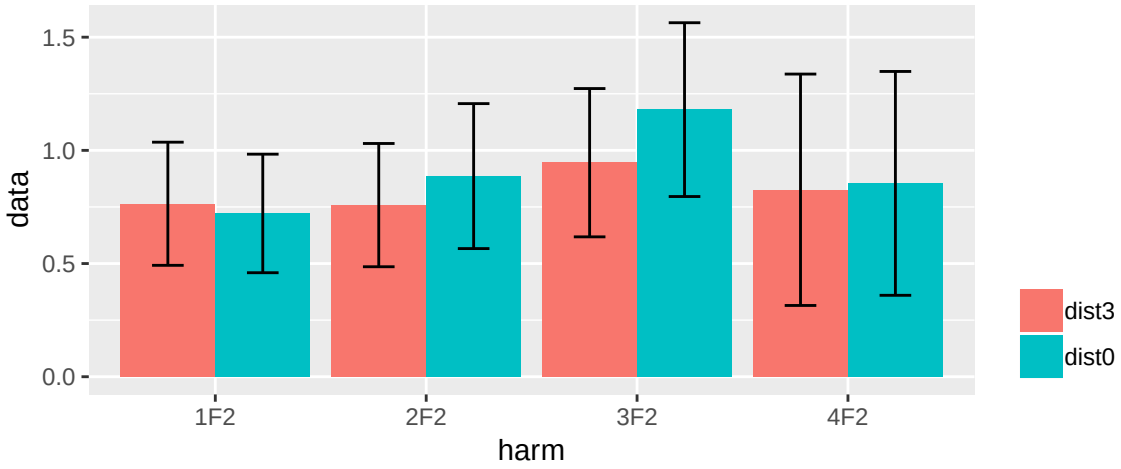

```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value  Pr(>F)
## cond      0.0003 0.00026     1   112  0.0005 0.98188
## harm      3.7484 1.24945     3   112  2.4940 0.06364 .
## cond:harm 0.0479 0.01595     3   112  0.0318 0.99232
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate  CI (lower) CI (upper) Std. Error  df     t value Pr(>|t|)
## 1       (Intercept)  0.359723201  0.01089233  0.7085541  0.1827526 112  1.96836112    0.051    .
## 2       cond: dist0  0.034628306 -0.45869304  0.5279497  0.2584513 112  0.13398389    0.894
## 3         harm: 2F2  0.007769116 -0.48555223  0.5010905  0.2584513 112  0.03006028    0.976
## 4         harm: 3F2 -0.018059851 -0.51138120  0.4752615  0.2584513 112 -0.06987720    0.944
## 5         harm: 4F2  0.383139035 -0.11018232  0.8764604  0.2584513 112  1.48244207    0.141
## 6 conddist0:harm2F2 -0.034764830 -0.73242657  0.6628969  0.3655053 112 -0.09511444    0.924
## 7 conddist0:harm3F2 -0.103294364 -0.80095611  0.5943674  0.3655053 112 -0.28260703    0.778
## 8 conddist0:harm4F2 -0.012218565 -0.70988031  0.6854432  0.3655053 112 -0.03342924    0.973
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm      estimate        SE  df      t.ratio   p.value
## 1 1 dist3 - dist0  1F2 -0.0346283063 0.2584513 112 -0.133983889 0.8936558
## 2 2 dist3 - dist0  2F2  0.0001365233 0.2584513 112  0.000528236 0.9995795
## 3 3 dist3 - dist0  3F2  0.0686660576 0.2584513 112  0.265682803 0.7909719
## 4 4 dist3 - dist0  4F2 -0.0224097410 0.2584513 112 -0.086707800 0.9310586
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 263.43 282.94 -124.71   249.43
## m1 10 269.32 297.20 -124.66   249.32 0.1023      3     0.9916
```

RLS_ODDBALL_RC1_CARR8



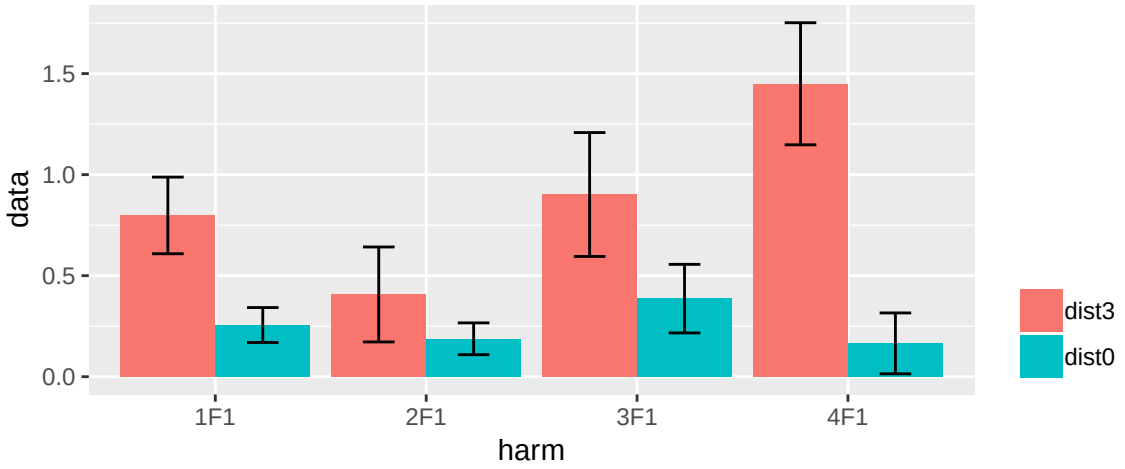

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.37264 0.37264     1    98  0.9330 0.3365
## harm      2.55405 0.85135     3    98  2.1315 0.1011
## cond:harm 2.53467 0.84489     3    98  2.1153 0.1032
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate  CI (lower) CI (upper) Std. Error        df     t value Pr(>|t|)
## 1       (Intercept)  0.37224593  0.05880687  0.6856850  0.1642093 111.87770  2.26689854    0.025   *
## 2       cond: dist0  0.01720799 -0.42378584  0.4582018  0.2307715  97.99994  0.07456722    0.941
## 3         harm: 2F1 -0.20738587 -0.64837970  0.2336080  0.2307715  97.99994 -0.89866334    0.371
## 4         harm: 3F1 -0.12792757 -0.56892140  0.3130663  0.2307715  97.99994 -0.55434740    0.581
## 5         harm: 4F1  0.16546219 -0.27553164  0.6064560  0.2307715  97.99994  0.71699583    0.475
## 6 conddist0:harm2F1 -0.28891296 -0.91257241  0.3347465  0.3263602  97.99994 -0.88525806    0.378
## 7 conddist0:harm3F1  0.27133929 -0.35232016  0.8949988  0.3263602  97.99994  0.83141061    0.408
## 8 conddist0:harm4F1 -0.49706510 -1.12072456  0.1265944  0.3263602  97.99994 -1.52305696    0.131
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE       df     t.ratio    p.value
## 1 1 dist3 - dist0  1F1 -0.01720799 0.2307715 97.99994 -0.07456722 0.94071105
## 2 2 dist3 - dist0  2F1  0.27170497 0.2307715 97.99994  1.17737673 0.24189667
## 3 3 dist3 - dist0  3F1 -0.28854728 0.2307715 97.99994 -1.25035938 0.21414564
## 4 4 dist3 - dist0  4F1  0.47985711 0.2307715 97.99994  2.07936058 0.04019532
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 244.17 263.68 -115.08   230.17
## m1 10 243.58 271.46 -111.79   223.58 6.5881      3    0.08625 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

RLS_CARRIER_RC1_CARR8



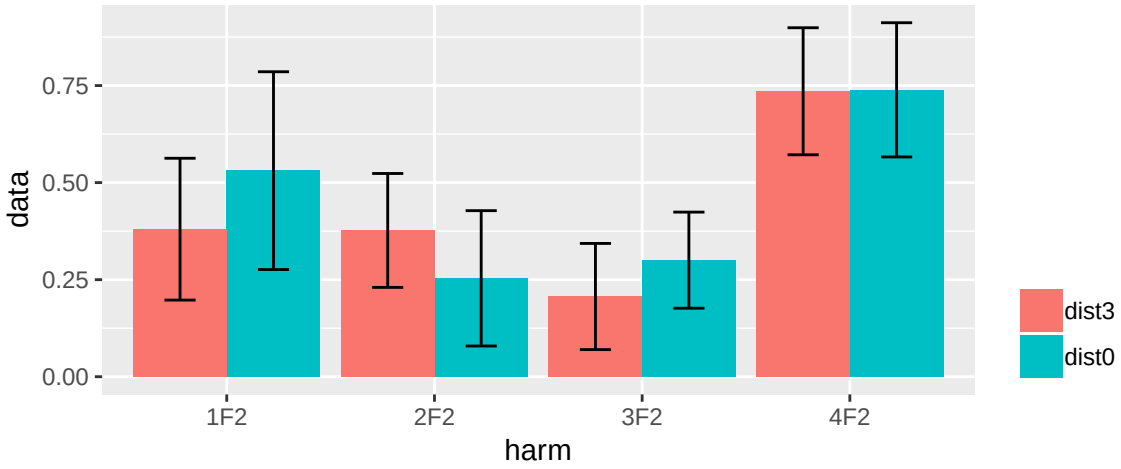

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.22714 0.22714     1    98  0.1185 0.7314
## harm      1.69475 0.56492     3    98  0.2948 0.8291
## cond:harm 0.32831 0.10944     3    98  0.0571 0.9820
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate CI (lower) CI (upper) Std. Error       df     t value Pr(>|t|)
## 1       (Intercept)  0.764177637  0.0628336  1.4655217  0.3673717 109.7998  2.08012102     0.04   *
## 2       cond: dist0 -0.042883823 -1.0087808  0.9230132  0.5054524  98.0000 -0.08484246    0.933
## 3         harm: 2F2 -0.006069375 -0.9719664  0.9598276  0.5054524  98.0000 -0.01200781     0.99
## 4         harm: 3F2  0.181340898 -0.7845561  1.1472379  0.5054524  98.0000  0.35876951    0.721
## 5         harm: 4F2  0.061772219 -0.9041248  1.0276692  0.5054524  98.0000  0.12221175    0.903
## 6 conddist0:harm2F2  0.171129195 -1.1948554  1.5371138  0.7148176  98.0000  0.23940261    0.811
## 7 conddist0:harm3F2  0.277356658 -1.0886279  1.6433413  0.7148176  98.0000  0.38801040    0.699
## 8 conddist0:harm4F2  0.071103945 -1.2948807  1.4370885  0.7148176  98.0000  0.09947145    0.921
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE df     t.ratio   p.value
## 1 1 dist3 - dist0  1F2  0.04288382 0.5054524 98  0.08484246 0.9325597
## 2 2 dist3 - dist0  2F2 -0.12824537 0.5054524 98 -0.25372396 0.8002404
## 3 3 dist3 - dist0  3F2 -0.23447284 0.5054524 98 -0.46388711 0.6437574
## 4 4 dist3 - dist0  4F2 -0.02822012 0.5054524 98 -0.05583142 0.9555898
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 430.08 449.59 -208.04   416.08
## m1 10 435.90 463.77 -207.95   415.90 0.1834      3     0.9802
```

RLS_ODDBALL_RC2_CARR8



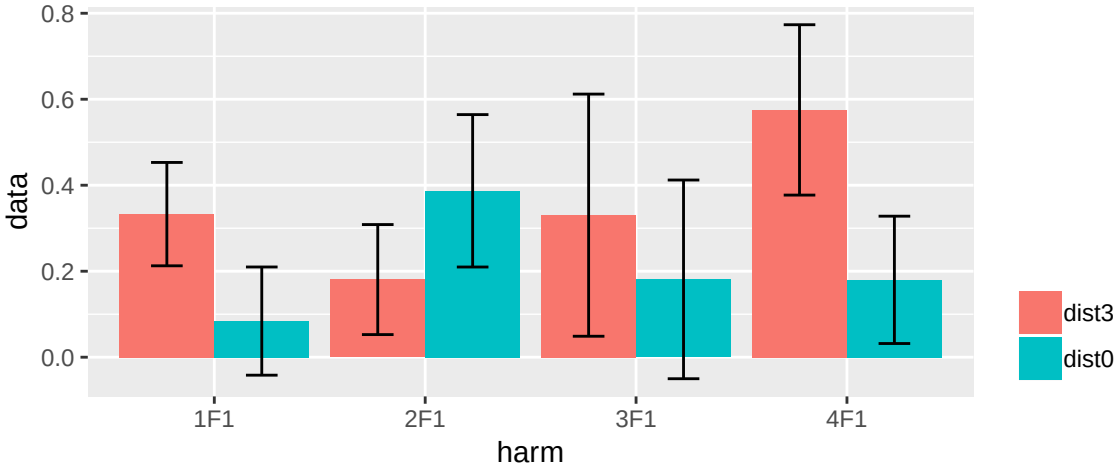

```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value    Pr(>F)
## cond      12.3031 12.3031     1   112 19.2130 2.649e-05 ***
## harm       4.1393  1.3798     3   112  2.1547   0.09737 .
## cond:harm  4.6319  1.5440     3   112  2.4111   0.07062 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error  df    t value Pr(>|t|)
## 1       (Intercept)  0.79816545  0.40378612 1.19254478  0.2066155 112  3.8630473   <0.001 ***
## 2       cond: dist0 -0.54222680 -1.09996340 0.01550979  0.2921984 112 -1.8556800    0.066   .
## 3         harm: 2F1 -0.39100487 -0.94874147 0.16673173  0.2921984 112 -1.3381484    0.184
## 4         harm: 3F1  0.10356958 -0.45416701 0.66130618  0.2921984 112  0.3544495    0.724
## 5         harm: 4F1  0.65155229  0.09381569 1.20928888  0.2921984 112  2.2298280    0.028   *
## 6 conddist0:harm2F1  0.32277668 -0.46598198 1.11153534  0.4132310 112  0.7811047    0.436
## 7 conddist0:harm3F1  0.02700584 -0.76175282 0.81576450  0.4132310 112  0.0653529    0.948
## 8 conddist0:harm4F1 -0.74244392 -1.53120258 0.04631474  0.4132310 112 -1.7966801    0.075   .
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm  estimate        SE  df   t.ratio      p.value
## 1 1 dist3 - dist0  1F1 0.5422268 0.2921984 112 1.8556800 6.612826e-02
## 2 2 dist3 - dist0  2F1 0.2194501 0.2921984 112 0.7510311 4.542090e-01
## 3 3 dist3 - dist0  3F1 0.5152210 0.2921984 112 1.7632570 8.058440e-02
## 4 4 dist3 - dist0  4F1 1.2846707 0.2921984 112 4.3965693 2.514564e-05
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 300.29 319.80 -143.14   286.29
## m1 10 298.78 326.65 -139.39   278.78 7.5101      3     0.0573 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

RLS_CARRIER_RC2_CARR8



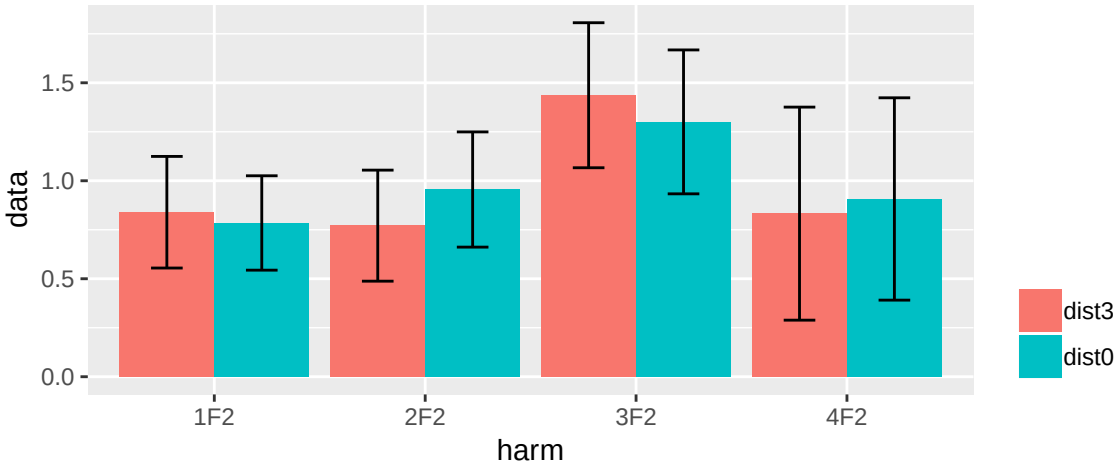

```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value  Pr(>F)
## cond      0.0292 0.02917     1   112  0.0646 0.79985
## harm      4.1673 1.38911     3   112  3.0762 0.03055 *
## cond:harm 0.3213 0.10709     3   112  0.2372 0.87029
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate  CI (lower) CI (upper) Std. Error  df     t value Pr(>|t|)
## 1       (Intercept)  0.380081078  0.04890057  0.7112616  0.1735056 112  2.19059819    0.031   *
## 2       cond: dist0  0.150710996 -0.31764897  0.6190710  0.2453740 112  0.61420934     0.54
## 3         harm: 2F2 -0.003281258 -0.47164122  0.4650787  0.2453740 112 -0.01337248    0.989
## 4         harm: 3F2 -0.173473507 -0.64183347  0.2948865  0.2453740 112 -0.70697594    0.481
## 5         harm: 4F2  0.355175611 -0.11318435  0.8235356  0.2453740 112  1.44748681    0.151
## 6 conddist0:harm2F2 -0.274086213 -0.93644723  0.3882748  0.3470112 112 -0.78984827    0.431
## 7 conddist0:harm3F2 -0.057030956 -0.71939197  0.6053301  0.3470112 112 -0.16434902     0.87
## 8 conddist0:harm4F2 -0.147004643 -0.80936566  0.5153564  0.3470112 112 -0.42363080    0.673
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm     estimate       SE  df     t.ratio   p.value
## 1 1 dist3 - dist0  1F2 -0.150710996 0.245374 112 -0.61420934 0.5403227
## 2 2 dist3 - dist0  2F2  0.123375217 0.245374 112  0.50280479 0.6160888
## 3 3 dist3 - dist0  3F2 -0.093680040 0.245374 112 -0.38178472 0.7033444
## 4 4 dist3 - dist0  4F2 -0.003706353 0.245374 112 -0.01510491 0.9879754
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 251.62 271.13 -118.81   237.62
## m1 10 256.86 284.74 -118.43   236.86 0.7599      3      0.859
```

RLS_ODDBALL_RC1_CARR9



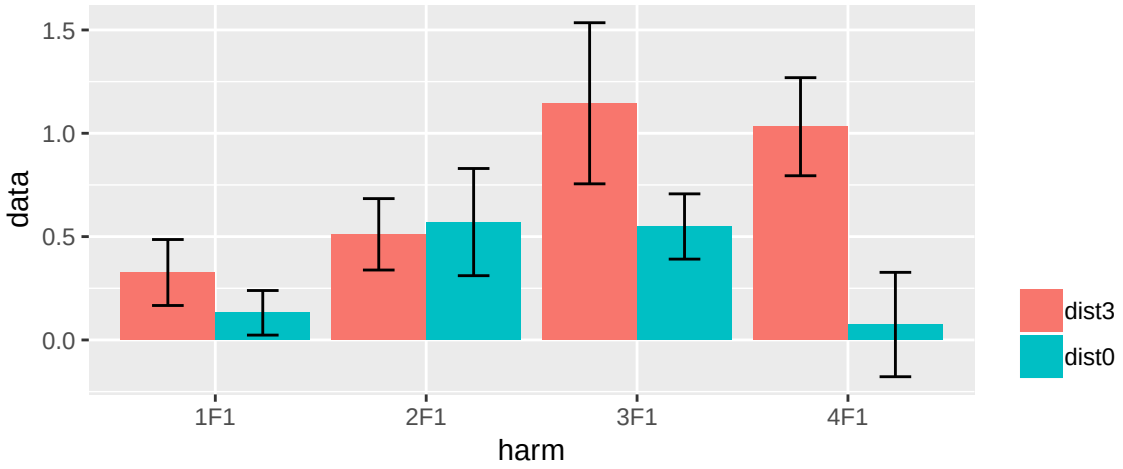

```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.64600 0.64600     1   112  1.2667 0.2628
## harm      0.45735 0.15245     3   112  0.2989 0.8261
## cond:harm 1.47700 0.49233     3   112  0.9654 0.4118
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate CI (lower) CI (upper) Std. Error  df      t value Pr(>|t|)
## 1       (Intercept)  0.332779144 -0.0191735  0.6847318  0.1843881 112  1.804775190    0.074    .
## 2       cond: dist0 -0.248763157 -0.7464994  0.2489730  0.2607642 112 -0.953977373    0.342
## 3         harm: 2F1 -0.152208552 -0.6499448  0.3455276  0.2607642 112 -0.583701848    0.561
## 4         harm: 3F1 -0.002401153 -0.5001374  0.4953350  0.2607642 112 -0.009208139    0.993
## 5         harm: 4F1  0.242441334 -0.2552949  0.7401775  0.2607642 112  0.929733926    0.355
## 6 conddist0:harm2F1  0.455207176 -0.2486981  1.1591125  0.3687763 112  1.234372154     0.22
## 7 conddist0:harm3F1  0.099405995 -0.6044993  0.8033113  0.3687763 112  0.269556366    0.788
## 8 conddist0:harm4F1 -0.146529858 -0.8504351  0.5573754  0.3687763 112 -0.397340785    0.692
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm   estimate        SE  df    t.ratio   p.value
## 1 1 dist3 - dist0  1F1  0.2487632 0.2607642 112  0.9539774 0.3421495
## 2 2 dist3 - dist0  2F1 -0.2064440 0.2607642 112 -0.7916885 0.4302159
## 3 3 dist3 - dist0  3F1  0.1493572 0.2607642 112  0.5727671 0.5679505
## 4 4 dist3 - dist0  4F1  0.3952930 0.2607642 112  1.5159021 0.1323614
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 268.52 288.04 -127.26   254.53
## m1 10 271.46 299.34 -125.73   251.46 3.0636      3     0.3819
```

RLS_CARRIER_RC1_CARR9



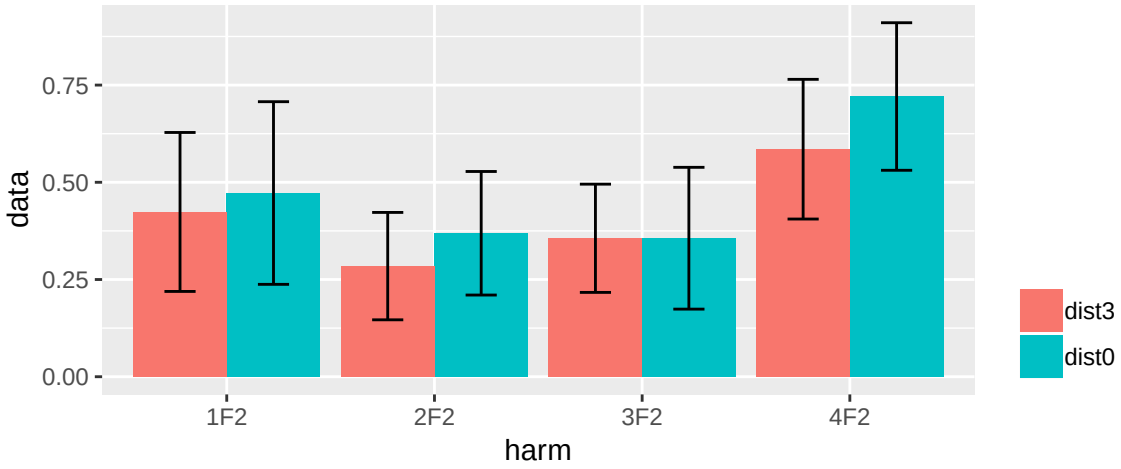

```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF  DenDF F value Pr(>F)
## cond      0.0088 0.00881     1 98.012  0.0042 0.9484
## harm      6.1472 2.04908     3 98.012  0.9795 0.4057
## cond:harm 0.4495 0.14984     3 98.012  0.0716 0.9750
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                          Estimate CI (lower) CI (upper) Std. Error        df     t value Pr(>|t|)
## 1       (Intercept)  0.839422401  0.1190277  1.5598171  0.3774065 111.66002  2.22418663    0.028   *
## 2       cond: dist0 -0.054818289 -1.0641014  0.9544648  0.5281468  98.01237 -0.10379366    0.918
## 3         harm: 2F2 -0.068486352 -1.0777694  0.9407967  0.5281468  98.01237 -0.12967294    0.897
## 4         harm: 3F2  0.596977850 -0.4123053  1.6062609  0.5281468  98.01237  1.13032557    0.261
## 5         harm: 4F2 -0.007164451 -1.0164476  1.0021187  0.5281468  98.01237 -0.01356526    0.989
## 6 conddist0:harm2F2  0.239269022 -1.1880728  1.6666109  0.7469124  98.01237  0.32034416    0.749
## 7 conddist0:harm3F2 -0.081117341 -1.5084592  1.3462245  0.7469124  98.01237 -0.10860356    0.914
## 8 conddist0:harm4F2  0.129678129 -1.2976637  1.5570200  0.7469124  98.01237  0.17361893    0.863
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE       df    t.ratio   p.value
## 1 1 dist3 - dist0  1F2  0.05481829 0.5281468 98.01237  0.1037937 0.9175452
## 2 2 dist3 - dist0  2F2 -0.18445073 0.5281468 98.01237 -0.3492414 0.7276573
## 3 3 dist3 - dist0  3F2  0.13593563 0.5281468 98.01237  0.2573823 0.7974233
## 4 4 dist3 - dist0  4F2 -0.07485984 0.5281468 98.01237 -0.1417406 0.8875759
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance Chisq Chi Df Pr(>Chisq)
## m2  7 437.43 456.94 -211.72   423.43
## m1 10 443.20 471.07 -211.60   423.20  0.23      3     0.9726
```

RLS_ODDBALL_RC2_CARR9




```
## WARNING: BOTH MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##           Sum Sq Mean Sq NumDF DenDF F value  Pr(>F)
## cond      5.3501  5.3501     1   112  6.6174 0.01141 *
## harm      5.7381  1.9127     3   112  2.3658 0.07476 .
## cond:harm 4.4989  1.4996     3   112  1.8549 0.14137
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                        Estimate  CI (lower) CI (upper) Std. Error  df    t value Pr(>|t|)
## 1       (Intercept)  0.3263556 -0.11678443  0.7694956  0.2321613 112  1.4057281    0.163
## 2       cond: dist0 -0.1949779 -0.82167249  0.4317168  0.3283256 112 -0.5938552    0.554
## 3         harm: 2F1  0.1847523 -0.44194232  0.8114470  0.3283256 112  0.5627107    0.575
## 4         harm: 3F1  0.8188509  0.19215623  1.4455455  0.3283256 112  2.4940208    0.014   *
## 5         harm: 4F1  0.7054457  0.07875101  1.3321403  0.3283256 112  2.1486161    0.034   *
## 6 conddist0:harm2F1  0.2541540 -0.63212607  1.1404340  0.4643225 112  0.5473652    0.585
## 7 conddist0:harm3F1 -0.4012170 -1.28749705  0.4850631  0.4643225 112 -0.8640912    0.389
## 8 conddist0:harm4F1 -0.7622190 -1.64849906  0.1240611  0.4643225 112 -1.6415724    0.103
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm    estimate        SE  df    t.ratio     p.value
## 1 1 dist3 - dist0  1F1  0.19497785 0.3283256 112  0.5938552 0.553806530
## 2 2 dist3 - dist0  2F1 -0.05917614 0.3283256 112 -0.1802361 0.857292898
## 3 3 dist3 - dist0  3F1  0.59619484 0.3283256 112  1.8158647 0.072066316
## 4 4 dist3 - dist0  4F1  0.95719685 0.3283256 112  2.9153891 0.004291515
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 326.57 346.09 -156.29   312.57
## m1 10 326.75 354.63 -153.38   306.75 5.8187      3     0.1208
```

RLS_CARRIER_RC2_CARR9




```
## LOVELY: NONE OF THE MODELS ARE SINGULAR!   LOVELY: BOTH MODELS CONVERGED!
##
## ANOVA TEST FOR MAIN EFFECTS AND INTERACTIONS
## Type III Analysis of Variance Table with Satterthwaite's method
##            Sum Sq Mean Sq NumDF DenDF F value Pr(>F)
## cond      0.13544 0.13544     1    98  0.2896 0.5917
## harm      1.95371 0.65124     3    98  1.3923 0.2497
## cond:harm 0.07352 0.02451     3    98  0.0524 0.9841
##
## SUMMARY AND POST-HOC TESTS, harm1 baseline
##                         Estimate  CI (lower) CI (upper) Std. Error        df    t value Pr(>|t|)
## 1       (Intercept)  0.42373836  0.07819195  0.7692848  0.1810068 110.20557  2.3410076    0.021   *
## 2       cond: dist0  0.04866705 -0.42856167  0.5258958  0.2497331  97.99996  0.1948763    0.846
## 3         harm: 2F2 -0.13930175 -0.61653047  0.3379270  0.2497331  97.99996 -0.5578026    0.578
## 4         harm: 3F2 -0.06769259 -0.54492131  0.4095361  0.2497331  97.99996 -0.2710598    0.787
## 5         harm: 4F2  0.16141673 -0.31581199  0.6386455  0.2497331  97.99996  0.6463571     0.52
## 6 conddist0:harm2F2  0.03583258 -0.63907075  0.7107359  0.3531759  97.99996  0.1014582    0.919
## 7 conddist0:harm3F2 -0.04853889 -0.72344222  0.6263644  0.3531759  97.99996 -0.1374354    0.891
## 8 conddist0:harm4F2  0.08680222 -0.58810111  0.7617055  0.3531759  97.99996  0.2457762    0.806
##
## ESTIMATED MARGINAL MEANS, SIMPLE MAIN EFFECTS OF CONDITION WITHOUT CORRECTION
##          contrast harm      estimate        SE       df       t.ratio   p.value
## 1 1 dist3 - dist0  1F2 -0.0486670523 0.2497331 97.99996 -0.1948762875 0.8458932
## 2 2 dist3 - dist0  2F2 -0.0844996322 0.2497331 97.99996 -0.3383598111 0.7358159
## 3 3 dist3 - dist0  3F2 -0.0001281665 0.2497331 97.99996 -0.0005132138 0.9995916
## 4 4 dist3 - dist0  4F2 -0.1354692722 0.2497331 97.99996 -0.5424562943 0.5887357
##
## TEST OF WHETHER OR NOT THE INTERACTION PROVIDES A BETTER FIT
## Data: cur_data
## Models:
## m2: data ~ cond + harm + (1 | subject)
## m1: data ~ cond * harm + (1 | subject)
##    Df    AIC    BIC  logLik deviance  Chisq Chi Df Pr(>Chisq)
## m2  7 260.36 279.87 -123.18   246.36
## m1 10 266.19 294.07 -123.10   246.19 0.1683      3     0.9825
```