

Figure	$p, F, \eta_p^2$ stats: time	$p, F, \eta_p^2$ stats: Genotype	$p, F, \eta_p^2$ stats: Exposure	$p, F, \eta_p^2$ stats: Time X Genotype	$p, F, \eta_p^2$ stats: Time X Exposure	$p, F, \eta_p^2$ stats: Genotype X Exposure	$p, F, \eta_p^2$ stats: Time X Exposure X Genotype
3ac Reg trace training Female	$p < 0.001^{***}$ F(6.647,239.307) = 85.516, $\eta_p^2 = 0.704$	$p = 0.002^{**}$ F(1,36) = 11.456 $\eta_p^2 = 0.241$	$p = 0.905$ F(1,36) = 0.014 $\eta_p^2 < 0.001$	$p < 0.001^{***}$ F(6.647,239.307) = 4.496 $\eta_p^2 = 0.111$	$p = 0.433$ F(6.647,239.307) = 0.995 $\eta_p^2 = 0.027$	$p = 0.658$ F(1,36) = 0.199 $\eta_p^2 = 0.006$	$p = 0.955$ F(6.647,239.307) = 0.284 $\eta_p^2 = 0.008$
3bd Reg trace test Female	$p < 0.001^{***}$ F(4.338,156.177) = 38.883 $\eta_p^2 = 0.519$	$p < 0.001^{***}$ F(1,36) = 14.505 $\eta_p^2 = 0.287$	$p = 0.033^*$ F(1,36) = 0.4915 $\eta_p^2 = 0.12$	$p = 0.001^{***}$ F(4.338,156.177) = 4.861 $\eta_p^2 = 0.119$	$p = 0.015^*$ F(4.338,156.177) = 3.076 $\eta_p^2 = 0.079$	$p = 0.718$ F(1,36) = 0.132 $\eta_p^2 = 0.004$	$p = 0.385$ F(4.338,156.177) = 1.051 $\eta_p^2 = 0.028$
3eg Reg trace training Male	$p < 0.001^{***}$ F(5.959,214.512) = 62.143 $\eta_p^2 = 0.633$	$p = 0.002^{**}$ F(1,36) = 11.268 $\eta_p^2 = 0.238$	$p = 0.501$ F(1,36) = 0.462 $\eta_p^2 = 0.013$	$p = 0.001^{***}$ F(5.959,214.512) = 3.787 $\eta_p^2 = 0.095$	$p = 0.342$ F(5.959,214.512) = 1.137 $\eta_p^2 = 0.031$	$p = 0.036^*$ F(1,36) = 4.74 $\eta_p^2 = 0.116$	$p = 0.189$ F(5.959,214.512) = 1.474 $\eta_p^2 = 0.039$
3fh Reg trace test Male	$p < 0.001^{***}$ F(3.038,109.385) = 47.887 $\eta_p^2 = 0.571$	$p = 0.006^{**}$ F(1,36) = 8.574 $\eta_p^2 = 0.192$	$p = 0.076$ F(1,36) = 3.328 $\eta_p^2 = 0.085$	$p = 0.072$ F(3.038,109.385) = 2.384 $\eta_p^2 = 0.062$	$p = 0.108$ F(3.038,109.385) = 2.069 $\eta_p^2 = 0.054$	$p = 0.163$ F(1,36) = 2.031 $\eta_p^2 = 0.053$	$p = 0.219$ F(3.038,109.385) = 1.497 $\eta_p^2 = 0.040$
4ac Mod trace training Female	$p < 0.001^{***}$ F(7.262,355.829) = 58.227 $\eta_p^2 = 0.543$	$p = 0.134$ F(1,49) = 2.324 $\eta_p^2 = 0.045$	$p = 0.164$ F(1,49) = 1.992 $\eta_p^2 = 0.039$	$p = 0.265$ F(7.262,355.829) = 1.265 $\eta_p^2 = 0.025$	$p = 0.895$ F(7.262,355.829) = 0.42 $\eta_p^2 = 0.009$	$p = 0.132$ F(1,49) = 2.34 $\eta_p^2 = 0.046$	$p = 0.725$ F(7.262,355.829) = 0.644 $\eta_p^2 = 0.013$
4bd Mod trace test Female	$p < 0.001^{***}$ F(7.25,355.249) = 34.581 $\eta_p^2 = 0.414$	$p = 0.279$ F(1,49) = 1.198 $\eta_p^2 = 0.024$	$p = 0.802$ F(1,49) = 0.064 $\eta_p^2 = 0.001$	$p = 0.404$ F(7.25,355.249) = 1.039 $\eta_p^2 = 0.021$	$p = 0.162$ F(7.25,355.249) = 1.505 $\eta_p^2 = 0.030$	$p = 0.33$ F(1,49) = 0.966 $\eta_p^2 = 0.019$	$p = 0.72$ F(7.25,355.249) = 0.649 $\eta_p^2 = 0.013$
4eg Mod trace training Male	$p < 0.001^{***}$ F(6.435,296.032) = 57.799 $\eta_p^2 = 0.557$	$p = 0.124$ F(1,46) = 2.449 $\eta_p^2 = 0.051$	$p = 0.058$ F(1,46) = 3.772 $\eta_p^2 = 0.076$	$p = 0.449$ F(6.435,296.032) = 0.97 $\eta_p^2 = 0.021$	$p = 0.455$ F(6.435,296.032) = 0.962 $\eta_p^2 = 0.02$	$p = 0.41$ F(1,46) = 0.692 $\eta_p^2 = 0.015$	$p = 0.651$ F(6.435,296.032) = 0.711 $\eta_p^2 = 0.015$
4fh Mod trace test Male	$p < 0.001^{***}$ F(7.526,346.196) = 35.149 $\eta_p^2 = 0.433$	$p = 0.021^*$ F(1,46) = 5.666 $\eta_p^2 = 0.110$	$p = 0.065$ F(1,46) = 3.573 $\eta_p^2 = 0.072$	$p < 0.001^{***}$ F(7.526,346.196) = 11.052 $\eta_p^2 = 0.194$	$p = 0.522$ F(7.526,346.196) = 0.888 $\eta_p^2 = 0.019$	$p = 0.104$ F(1,46) = 2.743 $\eta_p^2 = 0.056$	$p = 0.003^{**}$ F(7.526,346.196) = 3.054 $\eta_p^2 = 0.062$

**Supplemental Table 5.** Detailed statistics from BDNF genotype X exposure condition X time three-way repeated measures ANOVAs from both the regular and modified trace fear conditioning paradigms. Statistics presented include F ratios, p values, and effect size as partial eta squared ( $\eta_p^2$ ).