involved fatherhood

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### 兒童行為

#### [1] 比較主要照顧者（Ft9）

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.906 0.4042  
## 4904   
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 190 95.08 4.774 0.00849 \*\*  
## Residuals 4904 97668 19.92   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 222 observations deleted due to missingness

##   
## Posthoc multiple comparisons of means : Scheffe Test   
## 95% family-wise confidence level  
##   
## $`as.factor(data[[group]])`  
## diff lwr.ci upr.ci pval   
## 2-1 0.8956652 -0.22376624 2.0150966 0.1469   
## 3-1 0.3638210 0.01510154 0.7125405 0.0384 \*   
## 3-2 -0.5318442 -1.67429447 0.6106062 0.5223   
##   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.4665 0.6272  
## 4932   
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 99 49.28 4.11 0.0165 \*  
## Residuals 4932 59140 11.99   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 194 observations deleted due to missingness

##   
## Posthoc multiple comparisons of means : Scheffe Test   
## 95% family-wise confidence level  
##   
## $`as.factor(data[[group]])`  
## diff lwr.ci upr.ci pval   
## 2-1 0.6014114 -0.280313978 1.4831368 0.2480   
## 3-1 0.2724333 0.002017048 0.5428496 0.0478 \*   
## 3-2 -0.3289781 -1.228481802 0.5705257 0.6697   
##   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 2 3.4709 0.03116 \*  
## 5004   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## One-way analysis of means (not assuming equal variances)  
##   
## data: data[[var1]] and data[[group]]  
## F = 8.381, num df = 2.00, denom df = 261.37, p-value = 0.0002966

## Registered S3 method overwritten by 'GGally':  
## method from   
## +.gg ggplot2

## Registered S3 methods overwritten by 'lme4':  
## method from  
## cooks.distance.influence.merMod car   
## influence.merMod car   
## dfbeta.influence.merMod car   
## dfbetas.influence.merMod car

## n means variances  
## 1 3500 8.30 4.27  
## 2 100 9.16 5.73  
## 3 1407 8.45 4.74

## Registered S3 methods overwritten by 'ufs':  
## method from   
## grid.draw.ggProportionPlot userfriendlyscience  
## pander.associationMatrix userfriendlyscience  
## pander.dataShape userfriendlyscience  
## pander.descr userfriendlyscience  
## pander.normalityAssessment userfriendlyscience  
## print.CramersV userfriendlyscience  
## print.associationMatrix userfriendlyscience  
## print.confIntOmegaSq userfriendlyscience  
## print.confIntV userfriendlyscience  
## print.dataShape userfriendlyscience  
## print.descr userfriendlyscience  
## print.ggProportionPlot userfriendlyscience  
## print.meanConfInt userfriendlyscience  
## print.multiVarFreq userfriendlyscience  
## print.normalityAssessment userfriendlyscience  
## print.scaleDiagnosis userfriendlyscience  
## print.scaleStructure userfriendlyscience  
## print.scatterMatrix userfriendlyscience

## diff ci.lo ci.hi t df p  
## 2-1 0.863 0.28724 1.438 3.57 103 .002  
## 3-1 0.155 -0.00421 0.313 2.28 2478 .058  
## 3-2 -0.708 -1.29318 -0.123 2.87 111 .013

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 2 3.4101 0.03311 \*  
## 5035   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## One-way analysis of means (not assuming equal variances)  
##   
## data: data[[var1]] and data[[group]]  
## F = 2.5977, num df = 2.00, denom df = 255.15, p-value = 0.07641

#### [2] 控制「父母」為主要照顧者（Ft9 = 1），比較填答者（Bd21 = 1 or 2）

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 1 5.0477 0.02472 \*  
## 3432   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## [1] "Levels of Bd21 : 1 and 2"

##   
## Welch Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.4341, df = 1397.6, p-value = 0.007528  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.1412435  
## sample estimates:  
## mean of x mean of y   
## 20.42391 20.86014

##   
## Cohen's d  
##   
## d estimate: -0.09886254 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.1761811 -0.0215440

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 1 0.2313 0.6306  
## 3466   
##   
## [1] "Levels of Bd21 : 1 and 2"

##   
## Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.4611, df = 3466, p-value = 0.006951  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.109863  
## sample estimates:  
## mean of x mean of y   
## 15.70568 16.03712

##   
## Cohen's d  
##   
## d estimate: -0.09669853 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.17376901 -0.01962806

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 1 1.6761 0.1955  
## 3498   
##   
## [1] "Levels of Bd21 : 1 and 2"

##   
## Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.678, df = 3498, p-value = 0.003721  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.08344122  
## sample estimates:  
## mean of x mean of y   
## 8.243828 8.460208

##   
## Cohen's d  
##   
## d estimate: -0.1048595 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.18166983 -0.02804911

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 1 16.972 0.0000388 \*\*\*  
## 3536   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## [1] "Levels of Bd21 : 1 and 2"

##   
## Welch Two Sample t-test  
##   
## data: v0 and v1  
## t = -4.4186, df = 1352.7, p-value = 0.000005363  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.1694446  
## sample estimates:  
## mean of x mean of y   
## 6.193075 6.463110

##   
## Cohen's d  
##   
## d estimate: -0.183817 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.2601614 -0.1074727

#### [3] 控制填答者母親，比較主要照顧者為父母、母親（Bd21 = 1）

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 1 2.9602 0.08542 .  
## 3818   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## [1] "Levels of Ft9 : 1 and 3"

##   
## Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.8311, df = 3818, p-value = 0.002331  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.1813709  
## sample estimates:  
## mean of x mean of y   
## 20.42391 20.85691

##   
## Cohen's d  
##   
## d estimate: -0.09774808 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.16547511 -0.03002104

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 1 0.6695 0.4133  
## 3843   
##   
## [1] "Levels of Ft9 : 1 and 3"

##   
## Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.2272, df = 3843, p-value = 0.013  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.06952306  
## sample estimates:  
## mean of x mean of y   
## 15.70568 15.97175

##   
## Cohen's d  
##   
## d estimate: -0.07685739 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.144535813 -0.009178966

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 1 5.1201 0.0237 \*  
## 3901   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## [1] "Levels of Ft9 : 1 and 3"

##   
## Welch Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.4741, df = 2358.8, p-value = 0.006714  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.06073993  
## sample estimates:  
## mean of x mean of y   
## 8.243828 8.425197

##   
## Cohen's d  
##   
## d estimate: -0.08658152 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.15359056 -0.01957247

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 1 12.806 0.0003497 \*\*\*  
## 3920   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## [1] "Levels of Ft9 : 1 and 3"

##   
## Welch Two Sample t-test  
##   
## data: v0 and v1  
## t = -2.7843, df = 2204.8, p-value = 0.002705  
## alternative hypothesis: true difference in means is less than 0  
## 95 percent confidence interval:  
## -Inf -0.06070614  
## sample estimates:  
## mean of x mean of y   
## 6.193075 6.341502

##   
## Cohen's d  
##   
## d estimate: -0.09987039 (negligible)  
## 95 percent confidence interval:  
## lower upper   
## -0.16687913 -0.03286165

### 社會支持

#### [1] 比較主要照顧者（Ft9）

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 2 8.2203 0.0002731 \*\*\*  
## 4622   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## One-way analysis of means (not assuming equal variances)  
##   
## data: data[[var1]] and data[[group]]  
## F = 16.41, num df = 2.0, denom df = 241.2, p-value = 0.000000208

## n means variances  
## 1 3234 15.3 7.92  
## 2 92 14.3 9.31  
## 3 1299 14.9 9.04  
##   
## diff ci.lo ci.hi t df p  
## 2-1 -1.047 -1.814 -0.281 3.25 95.5 .004  
## 3-1 -0.482 -0.709 -0.254 4.97 2259.7 <.001  
## 3-2 0.566 -0.216 1.348 1.72 103.9 .203

#### [2] 雙因子變異數分析：主要照顧者 x 社會支持

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 131 130.5 6.66 0.00989 \*\*   
## Bd43\_G 1 429 429.1 21.90 0.00000296 \*\*\*  
## Ft9:Bd43\_G 1 0 0.4 0.02 0.88623   
## Residuals 4433 86866 19.6   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 692 observations deleted due to missingness

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 131 130.5 6.662 0.00988 \*\*   
## Bd43\_G 1 429 429.1 21.905 0.00000295 \*\*\*  
## Residuals 4434 86867 19.6   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 692 observations deleted due to missingness

## Anova Table (Type II tests)  
##   
## Response: Ch4\_aggressive\_sum  
## Sum Sq Df F value Pr(>F)   
## Ft9 111 1 5.6427 0.01757 \*   
## Bd43\_G 429 1 21.9045 0.000002951 \*\*\*  
## Residuals 86867 4434   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 62 62.0 5.351 0.0208 \*   
## Bd43\_G 1 1296 1295.7 111.899 <0.0000000000000002 \*\*\*  
## Ft9:Bd43\_G 1 14 13.9 1.199 0.2735   
## Residuals 4459 51632 11.6   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 666 observations deleted due to missingness

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 62 62.0 5.351 0.0208 \*   
## Bd43\_G 1 1296 1295.7 111.894 <0.0000000000000002 \*\*\*  
## Residuals 4460 51646 11.6   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 666 observations deleted due to missingness

## Anova Table (Type II tests)  
##   
## Response: Ch4\_soc\_sum  
## Sum Sq Df F value Pr(>F)   
## Ft9 39 1 3.3633 0.06673 .   
## Bd43\_G 1296 1 111.8943 < 0.0000000000000002 \*\*\*  
## Residuals 51646 4460   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 20 19.81 4.479 0.034371 \*   
## Bd43\_G 1 57 56.75 12.832 0.000344 \*\*\*  
## Ft9:Bd43\_G 1 2 1.79 0.406 0.524211   
## Residuals 4527 20019 4.42   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 598 observations deleted due to missingness

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 20 19.81 4.479 0.034359 \*   
## Bd43\_G 1 57 56.75 12.834 0.000344 \*\*\*  
## Residuals 4528 20021 4.42   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 598 observations deleted due to missingness

## Anova Table (Type II tests)  
##   
## Response: Ch4\_attention\_sum  
## Sum Sq Df F value Pr(>F)   
## Ft9 16.9 1 3.8121 0.050946 .   
## Bd43\_G 56.7 1 12.8339 0.000344 \*\*\*  
## Residuals 20021.1 4528   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 8 7.656 3.318 0.068578 .   
## Bd43\_G 1 29 29.075 12.602 0.000389 \*\*\*  
## Ft9:Bd43\_G 1 7 7.017 3.041 0.081229 .   
## Residuals 4552 10502 2.307   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 573 observations deleted due to missingness

## Df Sum Sq Mean Sq F value Pr(>F)   
## Ft9 1 8 7.656 3.317 0.06864 .   
## Bd43\_G 1 29 29.075 12.597 0.00039 \*\*\*  
## Residuals 4553 10509 2.308   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 573 observations deleted due to missingness

## Anova Table (Type II tests)  
##   
## Response: Ch4\_withdrawal\_sum  
## Sum Sq Df F value Pr(>F)   
## Ft9 6.4 1 2.7613 0.0966387 .   
## Bd43\_G 29.1 1 12.5967 0.0003903 \*\*\*  
## Residuals 10508.9 4553   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### [3] 控制社會支持程度（Bd43\_G = 1 or 2）

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.2686 0.7644  
## 3463   
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 124 61.95 3.33 0.0359 \*  
## Residuals 3463 64420 18.60   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 136 observations deleted due to missingness

##   
## Posthoc multiple comparisons of means : Scheffe Test   
## 95% family-wise confidence level  
##   
## $`as.factor(data[[group]])`  
## diff lwr.ci upr.ci pval   
## 2-1 1.0189113 -0.33925589 2.3770784 0.1851   
## 3-1 0.3231464 -0.08096211 0.7272549 0.1472   
## 3-2 -0.6957649 -2.08037844 0.6888487 0.4691   
##   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.1761 0.8386  
## 3472   
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 55 27.29 2.441 0.0872 .  
## Residuals 3472 38815 11.18   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 127 observations deleted due to missingness

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 2 2.4865 0.08335 .  
## 3527   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 58 28.908 6.5 0.00152 \*\*  
## Residuals 3527 15685 4.447   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 72 observations deleted due to missingness

##   
## Posthoc multiple comparisons of means : Scheffe Test   
## 95% family-wise confidence level  
##   
## $`as.factor(data[[group]])`  
## diff lwr.ci upr.ci pval   
## 2-1 0.94017825 0.2814399 1.5989166 0.0022 \*\*   
## 3-1 0.09371631 -0.1020933 0.2895259 0.5032   
## 3-2 -0.84646195 -1.5180109 -0.1749130 0.0086 \*\*   
##   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.6175 0.5394  
## 3543   
## Df Sum Sq Mean Sq F value Pr(>F)  
## as.factor(data[[group]]) 2 7 3.544 1.614 0.199  
## Residuals 3543 7781 2.196   
## 56 observations deleted due to missingness

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 1.2837 0.2775  
## 968   
## Df Sum Sq Mean Sq F value Pr(>F)  
## as.factor(data[[group]]) 2 32 15.81 0.683 0.505  
## Residuals 968 22402 23.14   
## 52 observations deleted due to missingness

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 1.8051 0.165  
## 985   
## Df Sum Sq Mean Sq F value Pr(>F)   
## as.factor(data[[group]]) 2 66 32.99 2.548 0.0787 .  
## Residuals 985 12750 12.94   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
## 35 observations deleted due to missingness

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)  
## group 2 0.5008 0.6062  
## 998   
## Df Sum Sq Mean Sq F value Pr(>F)  
## as.factor(data[[group]]) 2 14 7.023 1.637 0.195  
## Residuals 998 4281 4.290   
## 22 observations deleted due to missingness

## Levene's Test for Homogeneity of Variance (center = median)  
## Df F value Pr(>F)   
## group 2 3.1874 0.0417 \*  
## 1007   
## ---  
## Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
##   
## One-way analysis of means (not assuming equal variances)  
##   
## data: data[[var1]] and data[[group]]  
## F = 2.8074, num df = 2.000, denom df = 71.105, p-value = 0.06707

##### 