Results

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## Defining and measuring fear of COVID-19

In wave 2 just over one-third (34%) of people said that “No”, they had not worried about getting COVID-19 in the past 3 weeks. From those who said “Yes”, there was variation in self-reported frequency and intensity of worry. 35% of people who were worried experienced this “Once or twice” in the last 3 weeks, while 21% worried more than 10 times in this timeframe. On the last occasion, 58% said they “felt fairly worried” or “very worried”.

First, individuals were classified as unworried if they reported being unworried about catching COVID-19: it did not matter if they took precautions that made them feel safer, or if their quality of life was reduced by their precautions; if they reported being unworried they were simply classified as unworried.

To be classified in the functional worry group, respondents must have met three conditions: (a) they must have reported being worried about crime; (b) they must have taken precautions that made them feel safer; and (c) they must have judged their quality of life unaffected by either their worries or their precautions. Importantly, we assume that the worry process partly motivates these beneficial precautions; as Tallis & Eysenck (1994) argue, worry can play a problem-solving role in people’s lives by stimulating action and helping them deal with uncertain future events. Finally, to be classified in the dysfunctional worry group, respondents must have reported being worried about COVID-19 but also that their quality of life was reduced by either their worries or their precautions (or both).

To generate the three groups, Tables 1 and 2 break down the sample. Overall 35 % (n = 401, weighted n = 312) of respondents were unworried. The other two categories – functional worry and dysfunctional worry – are subsets of the remaining 65% (n = 690, weighted n = 581).

Table 1 here

## # A tibble: 4 x 4  
## prec\_cons w\_n n perc  
## <chr> <dbl> <int> <dbl>  
## 1 No precs 25.0 34 4  
## 2 Precs and not safer 5.58 5 1  
## 3 Precs and safer 541. 641 93  
## 4 <NA> 9.73 10 2

Of these 65%, 4% (n = 34, weighted n = 25) took no precautions, 93% (n = 641, weighted n = 541) took precautions and felt safer as a result, and 1% (n = 5, weighted n = 6) took precautions but did not feel safer as a result (Table 1). We make this distinction because of the central role that beneficial precautionary activity plays in the functional/dysfunctional distinction.

Table 2 takes the categorisation process one step further by considering also whether the worry or the precautions had an effect on people’s quality of life. Overall 37% (n = 206, weighted n = 203) said their quality of life was not affected by either precautions or worry, 33% (n = 236, weighted n = 181) said they were affected by both, 12% (n = 82, weighted n = 64) said their quality of life was reduced by their worry but not the precautions, and 18% (n = 122, weighted n = 99) said this was the other way around (precautions but not the worry).

By cross-tabulating precautionary activity with levels of impact on quality of life, we can identify the functionally worried and the dysfunctionally worried. The cell to highlight is top-left (Table 2). This represents the functionally worried – the subset of the sample who were worried about COVID-19, who took precautions that made them feel safer, and whose quality of life was not reduced by either worry or precaution. The other three cells comprise the dysfunctional worry group.

Table 2 here

## # A tibble: 7 x 5  
## # Groups: quol\_either [3]  
## quol\_either prec\_cons w\_n n perc  
## <chr> <chr> <dbl> <int> <dbl>  
## 1 Affected by either or both No precs 10.4 16 2  
## 2 Affected by either or both Precs and not safer 1.15 2 0  
## 3 Affected by either or both Precs and safer 343. 438 59  
## 4 Affected by either or both <NA> 9.73 10 2  
## 5 Not affected by either Precs and not safer 4.43 3 1  
## 6 Not affected by either Precs and safer 198. 203 34  
## 7 <NA> No precs 14.6 18 3

Bringing this classification process to a close, we found that just over one-third (35% (n = 401, weighted n = 312)) of the sample were unworried, about one-in-five (22% (n = 203, weighted n = 198)) were functionally worried, and just less than a half (43% (n = 487, weighted n = 383)) were dysfunctionally worried (Table 3).

## # A tibble: 3 x 4  
## foc19\_w2 w\_n n perc  
## <fct> <dbl> <int> <dbl>  
## 1 Unworried 312. 401 36.8  
## 2 Functional Worry 198. 203 18.6  
## 3 Dysfunctional Worry 383. 487 44.6

## Previous experience

## # weights: 12 (6 variable)  
## initial value 1162.331801   
## iter 10 value 1085.352570  
## final value 1085.351914   
## converged

## # weights: 57 (36 variable)  
## initial value 856.917585   
## iter 10 value 788.224782  
## iter 20 value 777.663151  
## iter 30 value 777.233143  
## final value 777.230911   
## converged

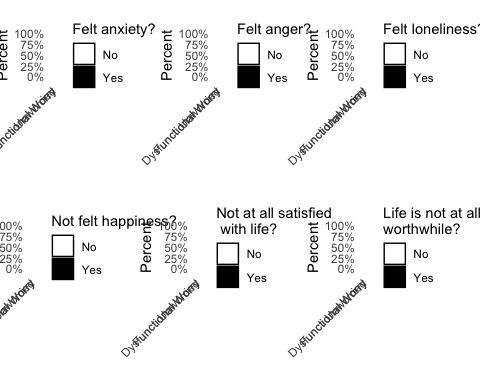
##   
## ===========================================================================================  
## Dependent variable:   
## -------------------------------------------------------------------------  
## Functional Worry Dysfunctional Worry Functional Worry Dysfunctional Worry  
## (1) (2) (3) (4)   
## -------------------------------------------------------------------------------------------  
## a\_cov 2.439 1.012 2.076 0.936   
## (0.293) (0.178) (0.348) (0.215)   
## p = 0.003\*\*\* p = 0.946 p = 0.036\*\* p = 0.757   
##   
## covaff\_w2 0.979 1.465 0.860 1.458   
## (0.127) (0.091) (0.162) (0.108)   
## p = 0.866 p = 0.00003\*\*\* p = 0.349 p = 0.0005\*\*\*   
##   
## age25-44 0.889 1.238   
## (0.267) (0.207)   
## p = 0.660 p = 0.303   
##   
## age45-64 2.264 1.611   
## (0.351) (0.304)   
## p = 0.020\*\* p = 0.117   
##   
## age65+ 2.081 2.085   
## (0.760) (0.657)   
## p = 0.335 p = 0.264   
##   
## genderFemale 1.252 1.310   
## (0.217) (0.170)   
## p = 0.301 p = 0.113   
##   
## race\_codedWhite 0.883 1.113   
## (0.298) (0.234)   
## p = 0.676 p = 0.648   
##   
## a\_covidjob 0.978 0.964   
## (0.040) (0.031)   
## p = 0.577 p = 0.233   
##   
## citiesCardiff 1.889 1.256   
## (0.667) (0.450)   
## p = 0.341 p = 0.613   
##   
## citiesEdinburgh 2.968 1.698   
## (0.626) (0.425)   
## p = 0.083\* p = 0.213   
##   
## citiesGlasgow 2.392 0.841   
## (0.610) (0.424)   
## p = 0.153 p = 0.683   
##   
## citiesLeeds 2.445 2.138   
## (0.630) (0.410)   
## p = 0.156 p = 0.064\*   
##   
## citiesLiverpool 2.759 1.532   
## (0.622) (0.419)   
## p = 0.103 p = 0.309   
##   
## citiesLondon 2.630 1.282   
## (0.533) (0.336)   
## p = 0.070\* p = 0.460   
##   
## citiesManchester 2.730 1.025   
## (0.600) (0.414)   
## p = 0.094\* p = 0.953   
##   
## citiesNewcastle 1.654 0.950   
## (0.722) (0.480)   
## p = 0.486 p = 0.915   
##   
## citiesSheffield 3.390 0.975   
## (0.607) (0.435)   
## p = 0.045\*\* p = 0.954   
##   
## Constant 0.016 0.969 0.014 0.922   
## (1.152) (0.686) (1.510) (0.933)   
## p = 0.0004\*\*\* p = 0.963 p = 0.005\*\*\* p = 0.932   
##   
## -------------------------------------------------------------------------------------------  
## Akaike Inf. Crit. 2,182.704 2,182.704 1,626.462 1,626.462   
## ===========================================================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

##   
## Reliability analysis   
## Call: psych::alpha(x = data %>% select(b\_covidaffect\_1, b\_covidaffect\_2,   
## b\_covidaffect\_3, b\_covidaffect\_4, b\_covidaffect\_5, b\_covidaffect\_6,   
## b\_covidaffect\_7, b\_covidaffect\_8) %>% replace(is.na(.), 0))  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.41 0.41 0.41 0.08 0.7 0.024 0.055 0.099 0.074  
##   
## lower alpha upper 95% confidence boundaries  
## 0.36 0.41 0.46   
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r  
## b\_covidaffect\_1 0.36 0.36 0.35 0.074 0.56 0.027 0.0066  
## b\_covidaffect\_2 0.33 0.34 0.35 0.070 0.53 0.028 0.0085  
## b\_covidaffect\_3 0.35 0.37 0.37 0.078 0.60 0.027 0.0071  
## b\_covidaffect\_4 0.41 0.41 0.41 0.091 0.70 0.025 0.0082  
## b\_covidaffect\_5 0.39 0.38 0.37 0.080 0.61 0.025 0.0075  
## b\_covidaffect\_6 0.38 0.38 0.37 0.079 0.60 0.026 0.0080  
## b\_covidaffect\_7 0.39 0.37 0.36 0.078 0.60 0.025 0.0069  
## b\_covidaffect\_8 0.41 0.41 0.40 0.091 0.70 0.024 0.0055  
## med.r  
## b\_covidaffect\_1 0.072  
## b\_covidaffect\_2 0.037  
## b\_covidaffect\_3 0.072  
## b\_covidaffect\_4 0.091  
## b\_covidaffect\_5 0.072  
## b\_covidaffect\_6 0.072  
## b\_covidaffect\_7 0.091  
## b\_covidaffect\_8 0.091  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## b\_covidaffect\_1 1170 0.62 0.48 0.36 0.232 0.1393 0.346  
## b\_covidaffect\_2 1170 0.60 0.50 0.38 0.261 0.1009 0.301  
## b\_covidaffect\_3 1170 0.51 0.45 0.30 0.239 0.0573 0.232  
## b\_covidaffect\_4 1170 0.20 0.38 0.16 0.115 0.0043 0.065  
## b\_covidaffect\_5 1170 0.42 0.44 0.28 0.157 0.0504 0.219  
## b\_covidaffect\_6 1170 0.37 0.45 0.29 0.183 0.0239 0.153  
## b\_covidaffect\_7 1170 0.36 0.45 0.31 0.149 0.0308 0.173  
## b\_covidaffect\_8 1170 0.31 0.38 0.19 0.098 0.0299 0.170  
##   
## Non missing response frequency for each item  
## 0 1 miss  
## b\_covidaffect\_1 0.86 0.14 0  
## b\_covidaffect\_2 0.90 0.10 0  
## b\_covidaffect\_3 0.94 0.06 0  
## b\_covidaffect\_4 1.00 0.00 0  
## b\_covidaffect\_5 0.95 0.05 0  
## b\_covidaffect\_6 0.98 0.02 0  
## b\_covidaffect\_7 0.97 0.03 0  
## b\_covidaffect\_8 0.97 0.03 0

## name num perc  
## 1 b\_covidaffect\_1 163 13.9  
## 2 b\_covidaffect\_2 118 10.1  
## 3 b\_covidaffect\_3 67 5.7  
## 4 b\_covidaffect\_4 5 0.4  
## 5 b\_covidaffect\_5 59 5.0  
## 6 b\_covidaffect\_6 28 2.4  
## 7 b\_covidaffect\_7 36 3.1  
## 8 b\_covidaffect\_8 35 3.0

## # A tibble: 6 x 3  
## b\_cov num perc  
## <dbl+lbl> <int> <dbl>  
## 1 1 [Yes, diagnosed and recovered] 1 100  
## 2 2 [Yes, diagnosed and still ill] 1 100  
## 3 3 [Not formally diagnosed but suspected] 165 100  
## 4 4 [No] 898 100  
## 5 5 [Prefer not to say] 2 100  
## 6 NA 103 100

## Negative outcomes on emotional well being



##   
## =========================================================================  
## Dependent variable:   
## ---------------------------------------------  
## allemosum   
## (1) (2)   
## -------------------------------------------------------------------------  
## foc19\_w2Functional Worry 0.913 0.936   
## (0.026) (0.031)   
## p = 0.0005\*\*\* p = 0.034\*\*   
##   
## foc19\_w2Dysfunctional Worry 1.164 1.162   
## (0.021) (0.025)   
## p = 0.000\*\*\* p = 0.000\*\*\*   
##   
## a\_cov 0.977   
## (0.031)   
## p = 0.443   
##   
## covaff\_w2 1.061   
## (0.016)   
## p = 0.0002\*\*\*   
##   
## age25-44 0.946   
## (0.029)   
## p = 0.057\*   
##   
## age45-64 0.885   
## (0.032)   
## p = 0.0002\*\*\*   
##   
## age65+ 0.826   
## (0.044)   
## p = 0.00002\*\*\*   
##   
## genderFemale 1.007   
## (0.022)   
## p = 0.761   
##   
## race\_codedWhite 1.097   
## (0.039)   
## p = 0.017\*\*   
##   
## a\_covidjob 1.010   
## (0.004)   
## p = 0.027\*\*   
##   
## citiesCardiff 0.955   
## (0.049)   
## p = 0.355   
##   
## citiesEdinburgh 0.900   
## (0.051)   
## p = 0.039\*\*   
##   
## citiesGlasgow 0.985   
## (0.049)   
## p = 0.752   
##   
## citiesLeeds 1.003   
## (0.049)   
## p = 0.958   
##   
## citiesLiverpool 0.957   
## (0.051)   
## p = 0.393   
##   
## citiesLondon 0.997   
## (0.050)   
## p = 0.950   
##   
## citiesManchester 1.018   
## (0.050)   
## p = 0.728   
##   
## citiesNewcastle 1.005   
## (0.050)   
## p = 0.917   
##   
## citiesSheffield 0.910   
## (0.052)   
## p = 0.069\*   
##   
## Constant 14.312 14.093   
## (0.016) (0.134)   
## p = 0.000\*\*\* p = 0.000\*\*\*   
##   
## -------------------------------------------------------------------------  
## Observations 1,058 780   
## Log Likelihood -2,443.521 -1,619.934   
## theta 151.136\* (77.824) 114,651.800 (1,204,052.000)  
## Akaike Inf. Crit. 4,893.042 3,279.869   
## =========================================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

##   
## Reliability analysis   
## Call: psych::alpha(x = data %>% select(worry\_n, anger\_n, lonely\_n,   
## happy\_n, satisf\_reverse, worth\_reverse) %>% replace(is.na(.),   
## 0))  
##   
## raw\_alpha std.alpha G6(smc) average\_r S/N ase mean sd median\_r  
## 0.88 0.88 0.88 0.55 7.5 0.0052 2.3 1 0.54  
##   
## lower alpha upper 95% confidence boundaries  
## 0.87 0.88 0.89   
##   
## Reliability if an item is dropped:  
## raw\_alpha std.alpha G6(smc) average\_r S/N alpha se var.r med.r  
## worry\_n 0.87 0.87 0.86 0.56 6.4 0.0059 0.0185 0.52  
## anger\_n 0.88 0.88 0.87 0.60 7.4 0.0055 0.0115 0.56  
## lonely\_n 0.87 0.87 0.86 0.57 6.6 0.0059 0.0169 0.53  
## happy\_n 0.86 0.86 0.85 0.54 6.0 0.0065 0.0116 0.54  
## satisf\_reverse 0.84 0.84 0.83 0.52 5.4 0.0071 0.0054 0.51  
## worth\_reverse 0.85 0.85 0.84 0.53 5.7 0.0067 0.0079 0.53  
##   
## Item statistics   
## n raw.r std.r r.cor r.drop mean sd  
## worry\_n 1170 0.77 0.78 0.71 0.66 1.9 1.3  
## anger\_n 1170 0.68 0.70 0.61 0.57 1.5 1.1  
## lonely\_n 1170 0.76 0.76 0.69 0.65 1.7 1.2  
## happy\_n 1170 0.83 0.82 0.78 0.73 3.4 1.4  
## satisf\_reverse 1170 0.87 0.86 0.86 0.80 2.9 1.3  
## worth\_reverse 1170 0.84 0.84 0.82 0.76 2.6 1.3  
##   
## Non missing response frequency for each item  
## 0 1 2 3 4 5 miss  
## worry\_n 0.09 0.36 0.28 0.19 0.00 0.09 0  
## anger\_n 0.09 0.55 0.19 0.12 0.00 0.04 0  
## lonely\_n 0.09 0.48 0.23 0.13 0.00 0.07 0  
## happy\_n 0.09 0.05 0.00 0.25 0.43 0.18 0  
## satisf\_reverse 0.09 0.02 0.26 0.28 0.24 0.11 0  
## worth\_reverse 0.09 0.08 0.32 0.23 0.22 0.06 0

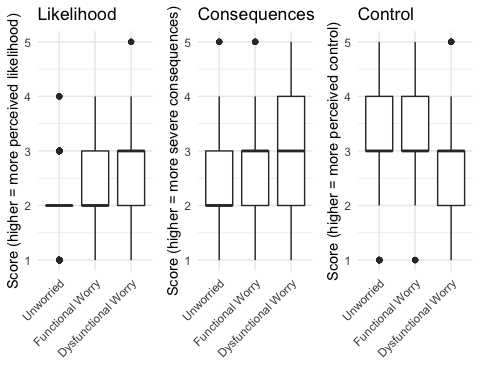
### Note: try poisson

No difference in outcome, pretty similar AIC scores too:

##   
## ========================================================  
## Dependent variable:   
## ----------------------------  
## allemosum   
## (1) (2)   
## --------------------------------------------------------  
## foc19\_w2Functional Worry 0.913\*\*\* 0.936\*\*   
## (0.025) (0.031)   
##   
## foc19\_w2Dysfunctional Worry 1.164\*\*\* 1.162\*\*\*   
## (0.020) (0.025)   
##   
## a\_cov 0.977   
## (0.031)   
##   
## covaff\_w2 1.061\*\*\*   
## (0.016)   
##   
## age25-44 0.946\*   
## (0.029)   
##   
## age45-64 0.885\*\*\*   
## (0.032)   
##   
## age65+ 0.826\*\*\*   
## (0.044)   
##   
## genderFemale 1.007   
## (0.022)   
##   
## race\_codedWhite 1.097\*\*   
## (0.039)   
##   
## a\_covidjob 1.010\*\*   
## (0.004)   
##   
## citiesCardiff 0.955   
## (0.049)   
##   
## citiesEdinburgh 0.900\*\*   
## (0.051)   
##   
## citiesGlasgow 0.985   
## (0.049)   
##   
## citiesLeeds 1.003   
## (0.049)   
##   
## citiesLiverpool 0.957   
## (0.051)   
##   
## citiesLondon 0.997   
## (0.050)   
##   
## citiesManchester 1.018   
## (0.050)   
##   
## citiesNewcastle 1.005   
## (0.050)   
##   
## citiesSheffield 0.910\*   
## (0.052)   
##   
## Constant 14.312\*\*\* 14.093\*\*\*   
## (0.015) (0.134)   
##   
## --------------------------------------------------------  
## Observations 1,058 780   
## Log Likelihood -2,444.677 -1,618.933   
## Akaike Inf. Crit. 4,895.354 3,277.866   
## ========================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Move between groups

While most people have stayed in the same group between the two waves (71%), almost a third (29%) moved between categories (Figure 2).



Unworried group have lower perceived likelihood and severity of consequences and higher perceived control, the Coping group are in the middle, and the Struggling group have the highest perceived likelihood and perceive most severe consequences!

## # weights: 15 (8 variable)  
## initial value 1056.865022   
## iter 10 value 902.142819  
## final value 875.790667   
## converged

## # weights: 66 (42 variable)  
## initial value 776.718888   
## iter 10 value 664.017483  
## iter 20 value 632.266454  
## iter 30 value 631.288374  
## final value 631.286082   
## converged

##   
## ========================================================================  
## Dependent variable:   
## ------------------------------------------------------  
## Unworried Functional Worry Unworried Functional Worry  
## (1) (2) (3) (4)   
## ------------------------------------------------------------------------  
## c\_riskln 0.455\*\*\* 0.781\* 0.538\*\*\* 0.883   
## (0.119) (0.137) (0.138) (0.167)   
##   
## c\_riskcn 1.189\* 1.299\*\* 1.232\* 1.377\*\*   
## (0.098) (0.117) (0.115) (0.145)   
##   
## c\_risksn 0.394\*\*\* 0.760\*\*\* 0.405\*\*\* 0.798\*   
## (0.096) (0.105) (0.117) (0.133)   
##   
## a\_cov 0.816 1.578   
## (0.249) (0.374)   
##   
## covaff\_w2 0.868 0.751\*   
## (0.122) (0.155)   
##   
## age25-44 0.894 0.581\*   
## (0.253) (0.303)   
##   
## age45-64 1.030 0.565   
## (0.338) (0.406)   
##   
## age65+ 1.779 0.864   
## (0.677) (0.790)   
##   
## genderFemale 0.653\*\* 0.883   
## (0.198) (0.250)   
##   
## race\_codedWhite 0.995 0.938   
## (0.276) (0.336)   
##   
## a\_covidjob 0.978 0.996   
## (0.035) (0.044)   
##   
## citiesCardiff 1.344 1.310   
## (0.517) (0.647)   
##   
## citiesEdinburgh 1.246 0.916   
## (0.477) (0.615)   
##   
## citiesGlasgow 1.088 1.295   
## (0.483) (0.601)   
##   
## citiesLeeds 0.575 0.641   
## (0.463) (0.600)   
##   
## citiesLiverpool 1.199 1.274   
## (0.487) (0.606)   
##   
## citiesLondon 1.153 1.252   
## (0.395) (0.496)   
##   
## citiesManchester 1.349 1.380   
## (0.472) (0.590)   
##   
## citiesNewcastle 0.836 0.996   
## (0.552) (0.706)   
##   
## citiesSheffield 2.127 3.063\*   
## (0.536) (0.634)   
##   
## Constant 56.120\*\*\* 0.898 107.074\*\*\* 0.129   
## (0.486) (0.582) (1.223) (1.735)   
##   
## ------------------------------------------------------------------------  
## Akaike Inf. Crit. 1,767.581 1,767.581 1,346.572 1,346.572   
## ========================================================================  
## Note: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

So one thing could be to target these perceptions with comms etc to help people out of ‘struggling’ group.