

1

Workbook

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7 must be indented, like this line.

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9 The authors made the following contributions. Preston Lyons: Conceptualization,
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Abstract

17 One or two sentences providing a **basic introduction** to the field, comprehensible to a
18 scientist in any discipline.

19 Two to three sentences of **more detailed background**, comprehensible to scientists
20 in related disciplines.

21 One sentence clearly stating the **general problem** being addressed by this particular
22 study.

23 One sentence summarizing the main result (with the words “**here we show**” or their
24 equivalent).

25 Two or three sentences explaining what the **main result** reveals in direct comparison
26 to what was thought to be the case previously, or how the main result adds to previous
27 knowledge.

28 One or two sentences to put the results into a more **general context**.

29 Two or three sentences to provide a **broader perspective**, readily comprehensible to
30 a scientist in any discipline.

31 *Keywords:* keywords

32 Word count: X

33 Workbook

34 **Methods**

35 We report how we determined our sample size, all data exclusions (if any), all
36 manipulations, and all measures in the study.

37 **Participants**

38 **Material**

39 **Procedure**

40 **Data analysis**

41 We used R (Version 4.0.4; R Core Team, 2021) and the R-packages *papaja* (Version
42 0.1.0.9997; Aust & Barth, 2020), and *tinylabes* (Version 0.2.0; Barth, 2021) for all our
43 analyses.

44 **Import Data**

45 Question 1 ## Integer

46 ## # A tibble: 4,126 x 6

47 ## # HLTH.SleepHours Hours.Internet Hours.Exercise Hours.Work Hours.News

48 ## <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>

49 ## 1 6 10 14 14 4

50 ## 2 6 5 24 0 4

51 ## 3 6 14 7 35 5

52 ## 4 4 15 10 65 4

53 ## 5 7 2 5 60 1

```

54 ## 6 7 2 6 50 2
55 ## 7 6 4 1 41 0
56 ## 8 4 4 0 42 0
57 ## 9 7 10 1 0 8
58 ## 10 8 14 7 0 7
59 ## # ... with 4,116 more rows, and 1 more variable: HoursCharity <dbl>
60 ## tibble [4,126 x 68] (S3:tbl_df/tbl/data.frame)
61 ## $ Id : num [1:4126] 1 1 2 2 3 3 4 4 5 5 ...
62 ## $ Wave : Factor w/ 2 levels "2018","2019": 2 1 2 1 2 1 2 1 2 1 ...
63 ## $ years : num [1:4126] 10.43 9.47 10.61 9.9 10.17 ...
64 ## $ Age : num [1:4126] 47 46 47 46 53 52 60 59 84 84 ...
65 ## $ Male : Factor w/ 2 levels "Male","Not_Male": 1 1 1 1 1 1 1 2 2 ...
66 ## $ Gender : num [1:4126] 1 1 1 1 1 1 0 0 0 0 ...
67 ## $ Edu : num [1:4126] 3 3 7 7 4 4 8 7 7 7 ...
68 ## $ Partner : num [1:4126] 1 1 1 1 0 0 1 NA 0 0 ...
69 ## $ BornNZ : num [1:4126] 1 1 1 1 1 1 1 1 1 1 ...
70 ## $ Employed : num [1:4126] 1 0 1 1 1 1 1 1 NA 0 0 ...
71 ## $ BigDoms : Factor w/ 5 levels "Buddhist","Christian",...: 4 4 4 4 ...
72 ## $ TSCORE : num [1:4126] 3869 3520 3936 3677 3774 ...
73 ## $ GenCohort : Factor w/ 5 levels "Gen Boomers: born >= 1946 & b.< ...
74 ## $ Religion.Church : num [1:4126] 0 0 0 0 0 0 2 NA 0 0 ...
75 ## $ Religion.Believe.Cats : num [1:4126] 4 4 1 1 1 1 1 NA 3 1 ...
76 ## $ Relid : num [1:4126] 0 0 0 0 0 0 7 7 2 2 ...
77 ## $ HLTH.Fatigue : num [1:4126] 2 2 1 2 2 2 1 2 NA 1 ...
78 ## $ HLTH.SleepHours : num [1:4126] 6 6 6 4 7 7 6 4 7 8 ...
79 ## $ HLTH.BMI : num [1:4126] 23.1 23.1 35.1 13.1 34 ...
80 ## $ HLTH.Weight : num [1:4126] 75 75 120 45 110 110 64 74 54.4 54.4 ...

```

```

81 ## $ HLTH.Height : num [1:4126] 1.8 1.8 1.85 1.85 1.8 1.8 1.58 1.58 1.6
82 ## $ HomeOwner : num [1:4126] NA 1 NA 0 NA 1 NA NA 0 ...
83 ## $ Pol.Orient : num [1:4126] 3 3 5 3 4 4 3 NA 4 4 ...
84 ## $ PATRIOT : num [1:4126] 4.5 5 6.5 7 4 4 5.5 4 6.5 6 ...
85 ## $ Env.SatNZEvironment : num [1:4126] 7 4 7 7 7 7 4 3 7 8 ...
86 ## $ Env.MotorwaySpend : num [1:4126] 5 5 3 5 4 4 4 6 5 6 ...
87 ## $ Env.PubTransSubs : num [1:4126] 5 6 5 5 4 4 7 6 4 6 ...
88 ## $ Env.ClimateChgConcern : num [1:4126] 6 6 7 7 4 4 6 NA 4 2 ...
89 ## $ LIFEMEANING : num [1:4126] 5 6.5 5 4.5 5.5 5.5 7 7 5 6 ...
90 ## $ Hours.Internet : num [1:4126] 10 5 14 15 2 2 4 4 10 14 ...
91 ## $ Issue.GovtSurveillance : num [1:4126] 3 1 3 3 4 4 1 2 4 3 ...
92 ## $ Issue.RegulateAI : num [1:4126] NA 1 NA 4 NA 4 NA 3 NA 4 ...
93 ## $ Issue.IncomeRedistribution : num [1:4126] 3 2 4 4 2 4 7 6 4 3 ...
94 ## $ Hours.Exercise : num [1:4126] 14 24 7 10 5 6 1 0 1 7 ...
95 ## $ Hours.Work : num [1:4126] 14 0 35 65 60 50 41 42 0 0 ...
96 ## $ Hours.News : num [1:4126] 4 4 5 4 1 2 0 0 8 7 ...
97 ## $ CONSCIENTIOUSNESS : num [1:4126] 4.75 5.25 5.5 5.5 5 4.25 4.75 4.75 NA 5 ...
98 ## $ EXTRAVERSION : num [1:4126] 3.25 2.75 4.75 4 3.75 4.5 5.75 4.25 NA 4 ...
99 ## $ AGREEABLENESS : num [1:4126] 4.5 5 5 6 5.75 5.25 5 5.25 NA 5 ...
100 ## $ OPENNESS : num [1:4126] 6.5 7 4.25 4.25 6 6 5.75 6.25 NA 5 ...
101 ## $ Religious : Factor w/ 2 levels "Not_Religious",...: 1 1 1 1 1 1 2
102 ## $ Spiritual.Identification : num [1:4126] NA 1 NA 5 NA 4 NA NA 2 ...
103 ## $ Believe.God : Factor w/ 2 levels "Believe God",...: 2 2 1 1 1 1 1 NA
104 ## $ Believe.Spirit : Factor w/ 2 levels "Believe Spirit",...: 2 2 1 1 1 1 1
105 ## $ HoursCharity : num [1:4126] 2 0 0 2 0 0 0 4 0 0 ...
106 ## $ CharityDonate : num [1:4126] 180 80 300 100 4200 3500 400 350 50 100
107 ## $ Your.Personal.Relationships: num [1:4126] 7 6 2 2 8 8 10 10 9 9 ...

```

```

108 ## $ Your.Future.Security      : num [1:4126] 8 10 8 6 8 7 8 7 9 9 ...
109 ## $ Standard.Living         : num [1:4126] 7 8 8 6 8 8 10 10 9 9 ...
110 ## $ NZ.Economic.Situation    : num [1:4126] 7 4 2 6 5 6 7 5 7 8 ...
111 ## $ NZ.Social.Conditions     : num [1:4126] 7 7 2 6 5 5 2 0 9 7 ...
112 ## $ NZ.Business.Conditions   : num [1:4126] 7 8 2 6 5 5 6 5 9 7 ...
113 ## $ Emp.JobSecure            : num [1:4126] 7 NA 6 6 5 4 6 NA NA NA ...
114 ## $ Issue.Food.GMO           : num [1:4126] 1 2 5 5 4 4 7 7 1 4 ...
115 ## $ Env.SacMade              : logi [1:4126] NA NA NA NA NA NA ...
116 ## $ KESSLER6sum              : num [1:4126] 5 3 7 7 3 3 0 4 NA 2 ...
117 ## $ FeelHopeless             : Factor w/ 5 levels "None Of The Time",...: 1 1 2 1 1 1 ...
118 ## $ FeelDepressed            : Factor w/ 5 levels "None Of The Time",...: 1 1 1 1 1 1 ...
119 ## $ FeelRestless              : Factor w/ 5 levels "None Of The Time",...: 3 2 4 4 2 2 ...
120 ## $ EverythingIsEffort        : Factor w/ 5 levels "None Of The Time",...: 2 2 2 3 2 2 ...
121 ## $ FeelWorthless             : Factor w/ 5 levels "None Of The Time",...: 1 1 1 1 1 1 ...
122 ## $ FeelNervous               : Factor w/ 5 levels "None Of The Time",...: 3 2 3 3 2 2 ...
123 ## $ date                     : Date[1:4126], format: "2020-02-02" "2019-02-18" ...
124 ## $ Hours.Internet_int       : int [1:4126] 10 5 14 15 2 2 4 4 10 14 ...
125 ## $ Hours.Exercise_int       : int [1:4126] 14 24 7 10 5 6 1 0 1 7 ...
126 ## $ Hours.Work_int            : int [1:4126] 14 0 35 65 60 50 41 42 0 0 ...
127 ## $ Hours.News_int            : int [1:4126] 4 4 5 4 1 2 0 0 8 7 ...
128 ## $ HoursCharity_int          : int [1:4126] 2 0 0 2 0 0 0 4 0 0 ...

```

129 Question 2a ## Scale, Center, Transform

```

130 ## # A tibble: 6 x 5
131 ##   Pol.Orient   Age Pol.Orient1[,1] Pol.Orient2[,1] Age1[,1]
132 ##   <dbl> <dbl>          <dbl>          <dbl>          <dbl>
133 ## 1       3      47        -0.420        -0.582        -0.357

```

```
134 ## 2          3   46      -0.420      -0.582    -0.457
135 ## 3          5   47       1.02       1.42     -0.357
136 ## 4          3   46      -0.420      -0.582    -0.457
137 ## 5          4   53       0.301      0.418     0.243
138 ## 6          4   52       0.301      0.418     0.143
```

139 Question 2b ## Data Wrangle

```
140 ##          V1
141 ## Min. : -0.70917
142 ## 1st Qu.: -0.46046
143 ## Median : -0.21175
144 ## Mean   : -0.00897
145 ## 3rd Qu.:  0.16131
146 ## Max.   :  9.23926
147 ## NA's   : 57
```

```
148 ## 2018 2019
149 ## 2063 0
```

```
150 ## # A tibble: 2,063 x 3
151 ##   Hours.Exercise Wave Hours.Exercise44[,1]
152 ##           <dbl> <fct>            <dbl>
153 ##     1        24  2018         2.28
154 ##     2        10  2018         0.534
155 ##     3        6   2018         0.0370
156 ##     4        0   2018        -0.709
157 ##     5        7   2018         0.161
```

```
158 ## 6           1   2018      -0.585
159 ## 7           1   2018      -0.585
160 ## 8           3   2018      -0.336
161 ## 9           8   2018      0.286
162 ## 10          5.5 2018    -0.0252
163 ## # ... with 2,053 more rows
```

164 Question 3 ## Working with dates

```
165 ## # A tibble: 607 x 3
166 ##   day       n Year
167 ##   <date>     <int> <fct>
168 ## 1 2018-06-21    112 2018
169 ## 2 2018-06-22     93 2018
170 ## 3 2018-06-24     80 2018
171 ## 4 2018-06-20     67 2018
172 ## 5 2018-06-23     59 2018
173 ## 6 2018-06-26     58 2018
174 ## 7 2019-12-03     54 2019
175 ## 8 2018-06-25     52 2018
176 ## 9 2019-10-04     47 2019
177 ## 10 2019-12-02    46 2019
178 ## # ... with 597 more rows
```

179 Maxmimum for 2019: 54 Maximum for 2018: 112 based from the above summary and
180 pulling the relevant dates out from it.

181 Question 4 ## Calculating dates and creating summaries

182 How many days are there between the date with the highest number of responses and

183 the date with the second highest number of responses? Pulling the relevant data from the

184 above summary: the answer is 1 day between these dates.

185 *Bonus:* Calculate difference between the number of responses on the highest response

186 date and second highest response date? See below:

187 ## [1] 19

188 Question 5 ## Working with date intervals

189 ## [1] 302.8338

190 Question 6 ## Create an ordered factor from numerical data

191 ##

192 ## Non-attendance Moderate attendance Frequent attendance <NA>

193 ## 3366 493 158 109

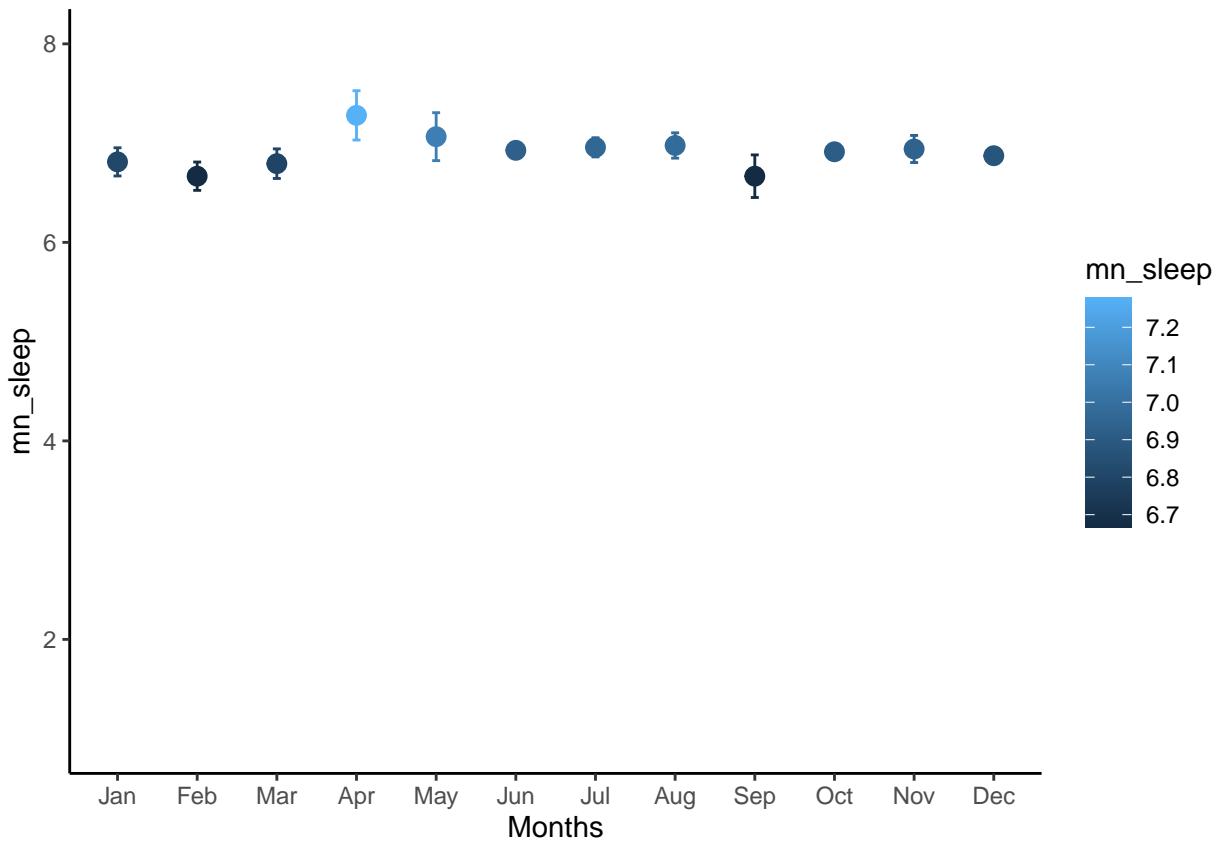
194 *Make sure to re-level the factor so that the ordinal ranking moves from lowest to

195 highest - because the factors are already leveled correctly, no re-leveling is required -

196 re-leveling could otherwise be done with the re-level function

197 Question 7a ## Make a summary table

198 Question 7b ## Make a summary graph



199

200 Comment:

201 Let me have a think!

202 Briefly explain why some intervals are wider than others.

203 Question 8 ## Correlation graph

```

204 ## Parameter          | FeelNervous | FeelWorthless | EverythingIsEffort | FeelRestless
205 ##
206 ## FeelHopeless      | -0.29***   | 0.02          | -0.22***        | -0.33*** 
207 ## FeelDepressed     | -0.26***   | -6.78e-03    | -0.17***        | -0.30*** 
208 ## FeelRestless      | -0.14***   | -0.29***     | -0.22***        |
209 ## EverythingIsEffort | -0.30***   | -0.21***     |                   |
210 ## FeelWorthless     | -0.21***   |                   |                   |
211 ## # Correlation Matrix (pearson-method)

```

```
212 ##  
213 ## Parameter | FeelNervous | FeelWorthless | EverythingIsEffort | FeelRestless  
214 ## -----  
215 ## FeelHopeless | 0.43*** | 0.65*** | 0.52*** | 0.43***  
216 ## FeelDepressed | 0.38*** | 0.67*** | 0.49*** | 0.38***  
217 ## FeelRestless | 0.46*** | 0.39*** | 0.46*** |  
218 ## EverythingIsEffort | 0.42*** | 0.47*** |  
219 ## FeelWorthless | 0.40*** | | |  
220 ##  
221 ## p-value adjustment method: Holm (1979)
```

222 *What do you find most interesting about this plot?* The strong correlations present
223 between feeling worthless, depressed, and hopeless.

224 **Discuss further, note the plot doesn't show me everything that's going on here
225 people halp!

226 Can't see the strength of the "FeelWorthless" to "FeelDepressed" correlation

227 Question 9 ## Create a blank papaja report

228 Question 10 ## Patchwork

229 Use the patchwork library to create a figure with two plots on top of each other. Use
230 the tag_levels function to index each of the two plots. The graphs should describe some
231 dimension of the truncated nz dataset.

232 **Results**

233 **Discussion**

234

References

235 Aust, F., & Barth, M. (2020). *papaja: Prepare reproducible APA journal articles*236 with R Markdown. Retrieved from <https://github.com/crsh/papaja>237 Barth, M. (2021). *tinylabes: Lightweight variable labels*. Retrieved from238 <https://github.com/mariusbarth/tinylabes>239 R Core Team. (2021). *R: A language and environment for statistical computing*.

240 Vienna, Austria: R Foundation for Statistical Computing. Retrieved from

241 <https://www.R-project.org/>

Table 1

Average Number of Hours of Sleep by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6.81090	6.66666	6.79289	7.27948	7.06493	6.92735	6.95745	6.97608	6.66666	6.91284	6.94074	6.872973