

An R Markdown program to create the experimental design for a Discrete Choice Experiment (DCE) exploring online help seeking in socially anxious young people

Pilot survey analysis sub-routine (reproduction)

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09 June 2022

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Suggested citation: “Matthew Hamilton (2022). dce_sa_design: An R Markdown program to create the experimental design for a Discrete Choice Experiment (DCE) exploring online help seeking in socially anxious young people. Zenodo. <https://doi.org/10.5281/zenodo.6626256>”

1 About this code

1.1 Motivation

This sub-routine was used to analyse pilot survey responses for a Discrete Choice Experiment study that is currently being written up. Future versions of this program will include details of the parent study.

1.2 Status

This code has been minimally adapted from when it was first applied. It has not been formatted for consistency or ease of use and a number of sections have copied almost unchanged from online examples provided by other authors to demonstrate the third party functions (in particular from the `idefix` package) used in this program. Future releases of this program aim to adopt a more consistent and integrated approach that should make the program easier to follow and adapt.

1.3 Use

When using this code it is important to note that some of the steps in this program involve interactivity - they generate a prompt that a user must respond to before proceeding. Therefore, **this code should be run step by step** (i.e run one chunk at a time and do not try to run the program by knitting the R Markdown version of this code). Although it would be possible to add work-arounds to the interactivity issue, running the program by knitting the RMD version is still not recommended as it will prevent the documents generated by this program from rendering properly.

2 Install and load required libraries

If you do not already have the required libraries to run this program installed, you can do so by un-commenting and running the following lines.

```
# utils::install.packages("idefix")  
# utils::install.packages("magrittr")  
# utils::install.packages("purrr")  
# utils::install.packages("stringr")
```

Next load the libraries required to run this program.

```
library(magrittr)  
library(ready4)  
library(ready4use)
```

3 Ingest data

Note the original data file has not been publicly distributed in order to protect participant confidentiality. Future releases will include access to a synthetic dataset that closely resembles the source data which will enable even those without access to the real data to execute this code.

```
path_to_data_1L_chr <- "SUPPLY PATH TO DATASET HERE"
```

If a valid path has been supplied, the pilot survey response dataset can now be ingested.

```
responses <- read.csv(path_to_data_1L_chr)
```

4 Analyse data

```
n_responses <- nrow(responses)
choice_vars <- names(responses)[names(responses) %>% startsWith("DCE_B")] # Manually check order is correct
b1_vars <- choice_vars[choice_vars %>% startsWith("DCE_B1")]
b2_vars <- choice_vars[choice_vars %>% startsWith("DCE_B2")]
choice_responses <- responses %>%
  dplyr::select(choice_vars)
y <- purrr::map(1:n_responses,
  ~ choice_responses %>%
    dplyr::slice(.x) %>%
    as.numeric() %>%
    purrr::map(
      ~ switch(.x, c(1,0,0), c(0,1,0), c(0,0,1))) %>%
    unlist()) %>%
  unlist()
blocks_vec <- purrr::map(1:n_responses,
  ~ choice_responses %>%
    dplyr::slice(.x) %>%
    as.numeric()) %>%
  purrr::map_chr(~ ifelse(all(is.na(c(.x)[1:15])), "Block_2", "Block_1"))
des <- purrr::map(blocks_vec,
  ~ no_app_optout_ls$design[switch("Block_1", "Block_1" = 1:45, "Block_2" = 46:90),]) %>%
  stats::setNames(letters[1:7]) %>%
```

```

  purrr::reduce(~rbind(.x,.y))
## Constraints
low = c(-Inf, -Inf, -Inf, -Inf, -Inf, -Inf, -Inf, -Inf, 0.005, 0.006, -Inf)
up = c(Inf, Inf, Inf, Inf, Inf, Inf, Inf, Inf, Inf, Inf, -0.0499)
pilot_analysis <- idfix::ImpsampMNL(n.draws = 100,
                                   prior.mean = mu,
                                   prior.covar = v,
                                   des = des,
                                   n.alts = 3,
                                   y = y,
                                   lower = low,
                                   upper = up,
                                   alt.cte = c(0,0,1))

```