Immigration and Doctoral Dreariness

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Is It Perhaps Different Doing A PhD In A Country You Grew Up In As Opposed to One That You Moved To?

I Mean Probably, IDK Though, Lets Find Out!

Like All Good Articles, We Start With The Abstract

Abstract: A 2019 Nature survey of doctoral students worldwide conducted by Shift Learning, a UK based education market research and consulting firm, demonstrated that PhD students are not doing all that well. The Nature write up by Chris Woolston noted that more than a third of PhD students have sought help for anxiety or depression caused by their their PhD studies, and more than a fifth of PhD students had experienced discrimination or harassment in their PhD program. Prior research has backed up the concept that PhD students and graduate students at large aren't doing so hot, . As a PhD student I thought, "yeah, I feel it, its pretty bad, I'm pretty sad.". However I made a startling realization that at least I didn't have to deal with being an actual immigrant or a woman. But then one asks oneself, "huh, is it actually worse?". Maybe Bill O'Rielly was right when he said that women don't feel discrimination in the workplace.

To analyze if it is worse to be a woman, or an immigrant, as opposed to not those things, I analyzed Nature's data set as published on figshare. I would have analyzed the data for trans people, however, they're rolled into the male and female. Gender queer was included, so I will attempt an analysis, however that was a very small number of persons, so I may not be able to demonstrate a significant difference even if one is liable to exist (previous research indicates significant differences with all of the aforementioned groups).

The results were xyz, abc, def, ghi, jkl, mno, pqr, stu, vwx, yza.

https://group.springernature.com/gp/group/media/press-releases/archive-2019/nature-phd-survey-puts-spotlight-on-mental-health/17372858 https://www.zmescience.com/other/pieces/journals-to-blame-poor-phd-mental-health-0432/ https://www.insidehighered.com/news/2019/11/14/phd-student-poll-finds-mental-health-bullying-and-career-uncertainty-are-top https://www.nature.com/articles/d41586-019-03535-y https://figshare.com/articles/dataset/Data_publication_survey_raw_data/1234052 https://figshare.com/articles/dataset/Nature_Graduate_Survey_2017/5480716?file=9558301 https://www.nature.com/articles/nj7677-549a

Background: This is the github post that lead me to the data set https://github.com/rfordatascience/tidytuesday/issues/153 This is the dataset https://figshare.com/s/74a5ea79d76ad66a8af8 This is the course that I am writing this code for https://data-science-methods.github.io/project/

Methods paste this in to hide output, code, and code: {r someVar,results='hide', echo=FALSE,include=FALSE}

Load in Libraries and Installations

```
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.1.2
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.5     v dplyr   1.0.7
## v tidyr   1.1.4     v stringr 1.4.0
## v readr   2.1.0     v forcats 0.5.1
```

```
## Warning: package 'ggplot2' was built under R version 4.1.2
```

```
## Warning: package 'tidyr' was built under R version 4.1.2
```

```
## Warning: package 'readr' was built under R version 4.1.2
```

```
## Warning: package 'forcats' was built under R version 4.1.2
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(readxl)
```

```
## Warning: package 'readxl' was built under R version 4.1.2
```

```
library(ggplot2)
library(tinytex)
```

```
## Warning: package 'tinytex' was built under R version 4.1.2
```

```
library(RColorBrewer)
library(ggdist)
```

```
## Warning: package 'ggdist' was built under R version 4.1.2
```

```
library(waffle)
```

```
## Warning: package 'waffle' was built under R version 4.1.2
```

```
library(dplyr)
```

Load in data set that I downloaded from the link above(and which I placed into a "data" folder within the project folder) and check that it imported properly

```
dfog <- read_excel("data/Nature_PhD survey_Anon_v1.xlsx")
```

This is meant to ensure that it all was imported properly

```
glimpse(dfog)
```

```
## Rows: 6,813
## Columns: 274
## $ ID.format    <chr> "The published format which was employed", "SNAP 2015 SHI~
## $ ID.completed <chr> "Case completed in Snap Interviewer", "completed", "compl~
## $ ID.language  <chr> "What language would you like to complete the survey in?"~
## $ ID.site      <chr> "Questionnaire location", NA, NA, NA, NA, NA, NA, NA, NA,~
## $ ID.date      <chr> "Date of interview", "06/14/2019", "06/14/2019", "06/14/2~
## $ ID.start     <chr> "Time interview started", "0.69908564814814811", "0.71530~
## $ ID.endDate   <chr> "Completion date of interview", "06/14/2019", "06/14/2019~
## $ ID.end       <chr> "Time interview ended", "0.73346064814814815", "0.7350115~
## $ ID.time      <chr> "Duration of interview", "49.5", "28.38", "23.87", "55.5"~
## $ Q1           <chr> "Which, if any, of the following degrees are you currentl~
## $ Q1.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q2           <chr> "Hidden", NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA,~
## $ Q3           <chr> "Which was the most important reason you decided to enrol~
## $ Q3.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q4           <chr> "Are you studying in the country you grew up in?  ", "Yes~
## $ Q5           <chr> "Where do you currently live?", "North or Central America~
## $ Q6           <chr> "Which region in Asia?", NA, NA, NA, NA, NA, NA, "India",~
## $ Q6.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q7           <chr> "Which country in Australasia?", NA, NA, NA, NA, NA, NA, ~
## $ Q7.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q8           <chr> "Which country in Africa?", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q8.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q9           <chr> "Which country in Europe?", NA, NA, NA, NA, NA, NA, NA, "~
## $ Q9.a         <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q10          <chr> "Which country in North or Central America?", "Mexico", "~
## $ Q10.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q11          <chr> "Which country in South America?", NA, NA, NA, NA, NA, NA~
## $ Q11.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ `Q12:1`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:2`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:3`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:4`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:5`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:6`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:7`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:8`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:9`      <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:10`     <chr> "What prompted you to study outside your country of upbri~
## $ `Q12:11`     <chr> "What prompted you to study outside your country of upbri~
## $ Q12.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q13          <chr> "Do you have a job alongside your studies?", "No", "No", ~
## $ Q14          <chr> "What is your main reason for having a job?", NA, NA, NA,~
## $ Q14.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q15.a        <chr> "The difficulty of getting funding / low success rates fo~
## $ Q15.b        <chr> "Inability to finish my studies in the time period I had ~
```

```
## $ Q15.c        <chr> "Impact of a poor relationship with my supervisor/PI", NA~
## $ Q15.d        <chr> "The number of available faculty research jobs beyond pos~
## $ Q15.e        <chr> "The high numbers of PhD holders who are doing or have do~
## $ Q15.f        <chr> "The difficulty of maintaining a work/life balance", "3rd~
## $ Q15.g        <chr> "Uncertainty about the value of a PhD", "4th", "2nd", NA,~
## $ Q15.h        <chr> "Uncertainty about my job/career prospects", NA, "1st", N~
## $ Q15.i        <chr> "Student debt during my PhD", NA, NA, NA, NA, "1st", "14t~
## $ Q15.j        <chr> "Financial worries after my PhD (cost of living, inabilit~
## $ Q15.k        <chr> "Political landscape", NA, "3rd", NA, NA, NA, "12th", "6t~
## $ Q15.l        <chr> "Impostor syndrome", "2nd", NA, NA, NA, "6th", "10th", "8~
## $ Q15.m        <chr> "Concern about my mental health as a result of PhD study"~
## $ Q15.n        <chr> "Poor support and acknowledgement of my parenting/elder c~
## $ Q16          <chr> "Is there anything else not mentioned that has concerned ~
## $ Q17          <chr> "Overall, what do you enjoy most about life as a PhD stud~
## $ Q17.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q18.a        <chr> "How satisfied are you with your decision to pursue a PhD~
## $ Q19.a        <chr> "How satisfied are you with your PhD experience?", "5", "~
## $ Q20          <chr> "Since the very start of your graduate school experience,~
## $ Q21.a        <chr> "Availability of funding", "6", "7 = Extremely satisfied"~
## $ Q21.b        <chr> "Hours worked", "1 = Not at all satisfied", "7 = Extremel~
## $ Q21.c        <chr> "Social environment", "2", "5", "6", "5", "4 = Neither sa~
## $ Q21.d        <chr> "Degree of independence", "6", "7 = Extremely satisfied",~
## $ Q21.e        <chr> "Recognition from supervisor/PI", "4 = Neither satisfied ~
## $ Q21.f        <chr> "Overall relationship with supervisor/PI", "5", "7 = Extr~
## $ Q21.g        <chr> "Opportunities to collaborate", "6", "6", "6", "4 = Neith~
## $ Q21.h        <chr> "Number of publications", "1 = Not at all satisfied", "7 ~
## $ Q21.i        <chr> "Stipend / financial support", "6", "5", "3", "2", "1 = N~
## $ Q22.a        <chr> "Vacation time", "1 = Not at all satisfied", "3", "6", "3~
## $ Q22.b        <chr> "Benefits (health care, leave, etc.)", "1 = Not at all sa~
## $ Q22.c        <chr> "Teaching duties", "4 = Neither satisfied nor dissatisfie~
## $ Q22.d        <chr> "Guidance received from adviser in lab/research", "5", "5~
## $ Q22.e        <chr> "Guidance received from other mentors in lab/research", "~
## $ Q22.f        <chr> "Ability to attend meetings and conferences", "3", "7 = E~
## $ Q22.g        <chr> "Ability to present research at conferences", "3", "7 = E~
## $ Q22.h        <chr> "Work-life balance", "1 = Not at all satisfied", "6", "4 ~
## $ Q22.i        <chr> "Career pathway guidance and advice", "3", "5", "5", "2",~
## $ Q23          <chr> "To what extent does your PhD programme compare to your o~
## $ Q24          <chr> "On average, how many hours a week do you typically spend~
## $ Q25          <chr> "On average, how much one-on-one contact time do you spen~
## $ Q25.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q26          <chr> "Overall, how would you describe the academic system, bas~
## $ Q27.a        <chr> "Members of my department make time for frank conversatio~
## $ Q27.b        <chr> "Members of my department are open to the idea of me purs~
## $ Q27.c        <chr> "Members of my department have useful advice for careers ~
## $ Q27.d        <chr> "Members of my department have contacted potential employ~
## $ Q27.e        <chr> "Members of my department have encouraged me to attend ca~
## $ Q27.f        <chr> "Members of my department have discouraged me from attend~
## $ Q28          <chr> "Have you ever sought help for anxiety or depression caus~
## $ Q29          <chr> "Did you seek help for anxiety or depression within your ~
## $ Q29.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q30.a        <chr> "Mental health and wellbeing services in my university ar~
## $ Q30.b        <chr> "My supervisor/PI has a good awareness of support service~
## $ Q30.c        <chr> "My university offers adequate one-to-one mental health s~
## $ Q30.d        <chr> "My university offers  different types of support to prom~
```

```
## $ Q30.e       <chr> "My university supports good work-life balance", "Strongl~
## $ Q30.f       <chr> "There is a long-hours culture at my university, includin~
## $ Q31         <chr> "Do you feel that you have experienced bullying in your P~
## $ `Q32:1`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:2`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:3`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:4`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:5`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:6`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ `Q32:7`     <chr> "Who was the perpetrator(s)?", NA, NA, NA, NA, NA, NA, NA~
## $ Q32.a       <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q33         <chr> "Do you feel able to speak out about your experiences of ~
## $ Q34         <chr> "Do you feel that you have experienceddiscrimination or h~
## $ `Q35:1`     <chr> "Which of the following have you experienced?", NA, "Raci~
## $ `Q35:2`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:3`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:4`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:5`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:6`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:7`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ `Q35:8`     <chr> "Which of the following have you experienced?", "Other, p~
## $ `Q35:9`     <chr> "Which of the following have you experienced?", NA, NA, N~
## $ Q35.a       <chr> "If other, please specify", "Por pertenecer a un programa~
## $ Q36.a       <chr> NA, "Unsure", "Somewhat", "Dramatically", "Substantially"~
## $ Q37.a       <chr> "Academia", "4th", "1st", "1st", NA, "5th", "2nd", "1st",~
## $ Q37.b       <chr> "Industry", "1st", "5th", "4th", "2nd", "4th", "4th", "3r~
## $ Q37.c       <chr> "Government", "5th", "2nd", "2nd", NA, "3rd", "3rd", "2nd~
## $ Q37.d       <chr> "Non-profit", "2nd", "3rd", NA, "1st", "2nd", "5th", "5th~
## $ Q37.e       <chr> "Medical", "3rd", "4th", "3rd", NA, "1st", "1st", "4th", ~
## $ Q38.a       <chr> "Research in academia", "Not very likely", "Very Likely",~
## $ Q38.b       <chr> "Research in industry", "Neither likely nor unlikely", "L~
## $ Q38.c       <chr> "Research within government or non-profit", "Not very lik~
## $ Q38.d       <chr> "Non-research in academia", "Not likely at all", "Likely"~
## $ Q38.e       <chr> "Medical research", "Likely", "Unsure", "Likely", "Not ve~
## $ Q38.f       <chr> "Non-research in industry", "Very Likely", "Unsure", "Not~
## $ Q38.g       <chr> "Non-research in government or non-profit", "Not likely a~
## $ `Q39:1`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:2`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:3`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:4`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:5`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:6`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:7`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:8`     <chr> "If you're unlikely to pursue an academic research career~
## $ `Q39:9`     <chr> "If you're unlikely to pursue an academic research career~
## $ Q39.a       <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q40         <chr> "What position do you most expect to occupy immediately a~
## $ Q40.a       <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q41         <chr> "What type of career you are interested in pursuing after~
## $ Q42         <chr> "After completing your PhD, how long do you think it will~
## $ Q43.a       <chr> "How much more likely are you now to pursue a research ca~
## $ Q44         <chr> "What is the main reason why you are more likely to pursu~
## $ Q44.a       <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ `Q45:1`     <chr> "How did you arrive at your current career decision?  Ple~
```

```
## $ `Q45:2`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:3`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:4`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:5`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:6`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:7`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:8`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:9`      <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:10`     <chr> "How did you arrive at your current career decision?  Ple~
## $ `Q45:11`     <chr> "How did you arrive at your current career decision?  Ple~
## $ Q45.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ `Q46:1`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:2`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:3`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:4`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:5`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:6`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:7`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:8`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:9`      <chr> "How do you learn about available career opportunities th~
## $ `Q46:10`     <chr> "How do you learn about available career opportunities th~
## $ `Q46:11`     <chr> "How do you learn about available career opportunities th~
## $ `Q46:12`     <chr> "How do you learn about available career opportunities th~
## $ `Q46:13`     <chr> "How do you learn about available career opportunities th~
## $ `Q46:14`     <chr> "How do you learn about available career opportunities th~
## $ Q46.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ `Q47:1`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:2`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:3`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:4`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:5`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:6`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:7`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:8`      <chr> "Which of the following 3 things would you say are the mo~
## $ `Q47:9`      <chr> "Which of the following 3 things would you say are the mo~
## $ Q47.a        <chr> "If other, please specify", NA, "Finding career opportuni~
## $ `Q48:1`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:2`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:3`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:4`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:5`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:6`      <chr> "Which of the following would you say are the most diffic~
## $ `Q48:7`      <chr> "Which of the following would you say are the most diffic~
## $ Q48.a        <chr> "If other, please specify", NA, "Finding career opportuni~
## $ `Q49:1`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:2`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:3`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:4`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:5`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:6`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:7`      <chr> "Which of the following resources do you think PhD studen~
## $ `Q49:8`      <chr> "Which of the following resources do you think PhD studen~
## $ Q49.a        <chr> "If other, please specify", NA, "merit based selections r~
## $ Q50.a        <chr> "Collecting data", "Well", "Well", "Very well", "Well", "~
```

```
## $ Q50.b        <chr> "Analysing data", "Well", "Well", "Well", "Well", "Very w~
## $ Q50.c        <chr> "Designing robust reproducible experiments", "Well", "Nei~
## $ Q50.d        <chr> "Writing a paper for publication in a peer-reviewed journ~
## $ Q50.e        <chr> "Developing  resilience to manage rejection by a peer rev~
## $ Q50.f        <chr> "Presenting findings to a specialist audience", "Well", "~
## $ Q50.g        <chr> "Presenting findings to a non-specialist (public) audienc~
## $ Q50.h        <chr> "Applying for funding", "Neither well nor badly", "Neithe~
## $ Q50.i        <chr> "Finding a satisfying career", "Badly", "Badly", "Well", ~
## $ Q50.j        <chr> "Managing complex projects", "Badly", "Badly", "Well", "W~
## $ Q50.k        <chr> "Developing a business plan", "Neither well nor badly", "~
## $ Q50.l        <chr> "Managing people", "Very badly", "Badly", "Badly", "Well"~
## $ Q50.m        <chr> "Managing a large operational budget", "Very badly", "Bad~
## $ Q51.a        <chr> "I feel that my programme is preparing me well for a rese~
## $ Q51.b        <chr> "I feel that my programme is preparing me well for a non-~
## $ Q51.c        <chr> "I feel that my programme is preparing me well for a care~
## $ `Q52:1`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:2`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:3`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:4`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:5`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:6`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:7`      <chr> "Which, if any, of the following activities have you done~
## $ `Q52:8`      <chr> "Which, if any, of the following activities have you done~
## $ Q52.a        <chr> "If other, please specify", "Escuché tutoriales acerca de~
## $ `Q53:1`      <chr> "Which of the following social media networks have you us~
## $ `Q53:2`      <chr> "Which of the following social media networks have you us~
## $ `Q53:3`      <chr> "Which of the following social media networks have you us~
## $ `Q53:4`      <chr> "Which of the following social media networks have you us~
## $ `Q53:5`      <chr> "Which of the following social media networks have you us~
## $ `Q53:6`      <chr> "Which of the following social media networks have you us~
## $ `Q53:7`      <chr> "Which of the following social media networks have you us~
## $ Q53.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ `Q54:1`      <chr> "What would you do differently right now if you were star~
## $ `Q54:2`      <chr> "What would you do differently right now if you were star~
## $ `Q54:3`      <chr> "What would you do differently right now if you were star~
## $ `Q54:4`      <chr> "What would you do differently right now if you were star~
## $ `Q54:5`      <chr> "What would you do differently right now if you were star~
## $ Q54.a        <chr> "If other, please specify", "Trataría de organizar mejor ~
## $ Q55          <chr> "With the benefit of hindsight, what one thing do you kno~
## $ Q56          <chr> "What is your age?", "25 - 34", "25 - 34", "25 - 34", "25~
## $ Q57          <chr> "Are you...", "Female (including trans female)", "Male (inc~
## $ `Q58:1`      <chr> "Which of the following best describes you?", NA, NA, "Ca~
## $ `Q58:2`      <chr> "Which of the following best describes you?", "Latino/His~
## $ `Q58:3`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:4`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:5`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:6`      <chr> "Which of the following best describes you?", NA, "South ~
## $ `Q58:7`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:8`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:9`      <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:10`     <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:11`     <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ `Q58:12`     <chr> "Which of the following best describes you?", NA, NA, NA,~
## $ Q58.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
```

```
## $ `Q59:1`      <chr> "Do you have any caring responsibilities?", NA, NA, NA, N~
## $ `Q59:2`      <chr> "Do you have any caring responsibilities?", NA, NA, NA, N~
## $ `Q59:3`      <chr> "Do you have any caring responsibilities?", "Yes, to an a~
## $ `Q59:4`      <chr> "Do you have any caring responsibilities?", NA, "No", "No~
## $ `Q59:5`      <chr> "Do you have any caring responsibilities?", NA, NA, NA, N~
## $ Q59.a        <chr> "If other, please specify", NA, NA, NA, NA, NA, NA, NA, N~
## $ Q60          <chr> "Thank you for taking part in the survey. Are there any m~
## $ Q61          <chr> "Would you like to be entered into the prize draw to win ~
## $ Q62          <chr> "Nature may want to contact you again to ask for more inf~
## $ Q63          <chr> "Springer Nature is keen to update PhD students with advi~
## $ Q64          <chr> "Shift Learning carry out paid research in the education ~
## $ Q65.a        <chr> "Name:", "1", "2", "3", "4", "5", "6", "7", "8", "9", "10~
## $ Q65.b        <chr> "Email address:", NA, NA, NA, NA, NA, NA, NA, NA, NA, NA,~
```

Just to check that the top line has been preserved.

```
head(dfog)
```

```
## # A tibble: 6 x 274
##   ID.format  ID.completed ID.language ID.site ID.date ID.start ID.endDate ID.end
##   <chr>      <chr>        <chr>       <chr>   <chr>   <chr>    <chr>      <chr>
## 1 The publi~ Case comple~ What langu~ Questi~ Date o~ Time in~ Completio~ Time ~
## 2 SNAP 2015~ completed    Spanish     <NA>    06/14/~ 0.69908~ 06/14/2019 0.733~
## 3 SNAP 2015~ completed    English     <NA>    06/14/~ 0.71530~ 06/14/2019 0.735~
## 4 SNAP 2015~ completed    English     <NA>    06/14/~ 0.71899~ 06/14/2019 0.735~
## 5 SNAP 2015~ completed    English     <NA>    06/14/~ 0.70240~ 06/14/2019 0.740~
## 6 SNAP 2015~ completed    English     <NA>    06/14/~ 0.73562~ 06/14/2019 0.745~
## # ... with 266 more variables: ID.time <chr>, Q1 <chr>, Q1.a <chr>, Q2 <chr>,
## #   Q3 <chr>, Q3.a <chr>, Q4 <chr>, Q5 <chr>, Q6 <chr>, Q6.a <chr>, Q7 <chr>,
## #   Q7.a <chr>, Q8 <chr>, Q8.a <chr>, Q9 <chr>, Q9.a <chr>, Q10 <chr>,
## #   Q10.a <chr>, Q11 <chr>, Q11.a <chr>, Q12:1 <chr>, Q12:2 <chr>, Q12:3 <chr>,
## #   Q12:4 <chr>, Q12:5 <chr>, Q12:6 <chr>, Q12:7 <chr>, Q12:8 <chr>,
## #   Q12:9 <chr>, Q12:10 <chr>, Q12:11 <chr>, Q12.a <chr>, Q13 <chr>, Q14 <chr>,
## #   Q14.a <chr>, Q15.a <chr>, Q15.b <chr>, Q15.c <chr>, Q15.d <chr>, ...
```

DATA WRANGLIN' AN' CLEANIN' So there are alot of NA's here, I am removing those by combining bits that perhaps ought not have been separated out. The demographic data, for example, appears to have only one value per row(individual) and yet is scattered across multiple columns. I will combine Q58:1 to Q58.Am while excluding Q58:11, as that one is just specifying that a person is another ethnicity, which they then typed out by hand. First, I will remove the column Q58:11, and then combine the aforementioned sections. To remove Q58:11 I will have to rename it, as the ":" in the name causes issues in function"select".

```
df1 <- dfog
df2 <- df1 #%>% dplyr::rename(delete = 259)
df3 <- df2 #%>% select(-delete)
```

In hindsight, why not just remove the top row and use the second row (the questions themselves) as the column identifier? That would make this easier, no?

```
df4<-df3
names(df4) <- as.matrix(df4[1, ])
```

```
## Warning: The ‘value‘ argument of ‘names<-‘ can’t be empty as of tibble 3.0.0.
## Column 123 must be named.
```

```
df4 <- df4[-1, ]
df4[] <- lapply(df4, function(x) type.convert(as.character(x)))
```

```
## Warning in type.convert.default(as.character(x)): 'as.is' should be specified by
## the caller; using TRUE

## Warning in type.convert.default(as.character(x)): 'as.is' should be specified by
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```

remove all columns where all values are NA

```
df5 <- df4
df6a <- df5[ , colSums(is.na(df4)) < nrow(df4)]
```

I have to rename columns that currently have the same name. I swear this data set was meant to frustrate me. Also I have to rename column 117 in df6a, because the column name is blank. Not sure how the bottom bit works with attributing df6 to df6a after I declared df6, but it does. I tried it other ways and it didn't output a df6. comment out df6 <- df6a and test yourself if ya like. I use this work flow to rename all repeated bits, because doing it any other way wont work, I tried dplyr's tools, didnt work. Only with base r.

```
df6 <- df6a
df6 <- names(df6a)[117] <- "How much do you expect your PhD to improve your job prospects?"     ###AV C


###AV Rename all duplicates of "If other, please specify" and make unique
df6 <- names(df6a)[12] <- "specified1"
df6 <- names(df6a)[16] <- "specified2"
df6 <- names(df6a)[22] <- "specified3"

df6 <- names(df6a)[34] <- "specified4"
df6 <- names(df6a)[37] <- "specified5"
df6 <- names(df6a)[54] <- "specified6"
df6 <- names(df6a)[79] <- "specified7"
df6 <- names(df6a)[89] <- "specified8"

df6 <- names(df6a)[104] <- "specified9"
df6 <- names(df6a)[116] <- "specified10"
df6 <- names(df6a)[139] <- "specified11"
df6 <- names(df6a)[141] <- "specified12"
df6 <- names(df6a)[146] <- "specified13"

df6 <- names(df6a)[158] <- "specified14"
df6 <- names(df6a)[173] <- "specified15"
```

```r
df6 <- names(df6a)[183] <- "specified16"
df6 <- names(df6a)[191] <- "specified17"
df6 <- names(df6a)[200] <- "specified18"

df6 <- names(df6a)[225] <- "specified19"
df6 <- names(df6a)[233] <- "specified20"
df6 <- names(df6a)[239] <- "specified21"
df6 <- names(df6a)[255] <- "specified22"
df6 <- names(df6a)[261] <- "specified23"



###AV Rename all duplicates of "What prompted you to study outside your country of upbringing" and make
df6 <- names(df6a)[23] <- "prompt to study outside country of upbringing1"
df6 <- names(df6a)[24] <- "prompt to study outside country of upbringing2"
df6 <- names(df6a)[25] <- "prompt to study outside country of upbringing3"
df6 <- names(df6a)[26] <- "prompt to study outside country of upbringing4"
df6 <- names(df6a)[27] <- "prompt to study outside country of upbringing5"
df6 <- names(df6a)[28] <- "prompt to study outside country of upbringing6"
df6 <- names(df6a)[29] <- "prompt to study outside country of upbringing7"
df6 <- names(df6a)[30] <- "prompt to study outside country of upbringing8"
df6 <- names(df6a)[31] <- "prompt to study outside country of upbringing9"
df6 <- names(df6a)[32] <- "prompt to study outside country of upbringing10"
df6 <- names(df6a)[33] <- "prompt to study outside country of upbringing11"


###AV Rename all duplicates of "Who was the perpetrator(s)" and make unique
df6 <- names(df6a)[97] <-  "positionOfPerpetrator1"
df6 <- names(df6a)[98] <-  "positionOfPerpetrator2"
df6 <- names(df6a)[99] <-  "positionOfPerpetrator3"
df6 <- names(df6a)[100] <- "positionOfPerpetrator4"
df6 <- names(df6a)[101] <- "positionOfPerpetrator5"
df6 <- names(df6a)[102] <- "positionOfPerpetrator6"
df6 <- names(df6a)[103] <- "positionOfPerpetrator7"


###AV Rename all duplicates of "Which of the following have you experienced?" and make unique
df6 <- names(df6a)[107] <- "experience1"
df6 <- names(df6a)[108] <- "experience2"
df6 <- names(df6a)[109] <- "experience3"
df6 <- names(df6a)[110] <- "experience4"
df6 <- names(df6a)[111] <- "experience5"
df6 <- names(df6a)[112] <- "experience6"
df6 <- names(df6a)[113] <- "experience7"
df6 <- names(df6a)[114] <- "experience8"
df6 <- names(df6a)[115] <- "experience9"


###AV Rename all duplicates of "If you're unlikely to pursue an academic research career, what are the r
df6 <- names(df6a)[130] <- "reasonUnlikelyAcademicCarreerPursuit1"
df6 <- names(df6a)[131] <- "reasonUnlikelyAcademicCarreerPursuit2"
df6 <- names(df6a)[132] <- "reasonUnlikelyAcademicCarreerPursuit3"
df6 <- names(df6a)[133] <- "reasonUnlikelyAcademicCarreerPursuit4"
```

```
df6 <- names(df6a)[134] <- "reasonUnlikelyAcademicCarreerPursuit5"
df6 <- names(df6a)[135] <- "reasonUnlikelyAcademicCarreerPursuit6"
df6 <- names(df6a)[136] <- "reasonUnlikelyAcademicCarreerPursuit7"
df6 <- names(df6a)[137] <- "reasonUnlikelyAcademicCarreerPursuit8"
df6 <- names(df6a)[138] <- "reasonUnlikelyAcademicCarreerPursuit9"

###AV Rename all duplicates of "How did you arrive at your current career decision? Plea..." and make u
df6 <- names(df6a)[147] <- "HowArriveAtCareerDecision1"
df6 <- names(df6a)[148] <- "HowArriveAtCareerDecision2"
df6 <- names(df6a)[149] <- "HowArriveAtCareerDecision3"
df6 <- names(df6a)[151] <- "HowArriveAtCareerDecision4"
df6 <- names(df6a)[152] <- "HowArriveAtCareerDecision5"
df6 <- names(df6a)[153] <- "HowArriveAtCareerDecision6"
df6 <- names(df6a)[154] <- "HowArriveAtCareerDecision7"
df6 <- names(df6a)[155] <- "HowArriveAtCareerDecision8"
df6 <- names(df6a)[156] <- "HowArriveAtCareerDecision9"
df6 <- names(df6a)[157] <- "HowArriveAtCareerDecision10"

###AV Rename all duplicates of "How do you learn about available career opportunities that are beyond a
df6 <- names(df6a)[159] <- "HowLearnCareerNotAcademia1"
df6 <- names(df6a)[160] <- "HowLearnCareerNotAcademia2"
df6 <- names(df6a)[161] <- "HowLearnCareerNotAcademia3"
df6 <- names(df6a)[162] <- "HowLearnCareerNotAcademia4"
df6 <- names(df6a)[163] <- "HowLearnCareerNotAcademia5"
df6 <- names(df6a)[164] <- "HowLearnCareerNotAcademia6"
df6 <- names(df6a)[165] <- "HowLearnCareerNotAcademia7"
df6 <- names(df6a)[166] <- "HowLearnCareerNotAcademia8"
df6 <- names(df6a)[167] <- "HowLearnCareerNotAcademia9"
df6 <- names(df6a)[168] <- "HowLearnCareerNotAcademia10"
df6 <- names(df6a)[169] <- "HowLearnCareerNotAcademia11"
df6 <- names(df6a)[170] <- "HowLearnCareerNotAcademia12"
df6 <- names(df6a)[171] <- "HowLearnCareerNotAcademia13"
df6 <- names(df6a)[172] <- "HowLearnCareerNotAcademia14"

###AV Rename all duplicates of "Which of the following 3 things would you say are the most difficult fo
df6 <- names(df6a)[174] <- "DifficultInDiscipline1"
df6 <- names(df6a)[175] <- "DifficultInDiscipline2"
df6 <- names(df6a)[176] <- "DifficultInDiscipline3"
df6 <- names(df6a)[177] <- "DifficultInDiscipline4"
df6 <- names(df6a)[178] <- "DifficultInDiscipline5"
df6 <- names(df6a)[179] <- "DifficultInDiscipline6"
df6 <- names(df6a)[180] <- "DifficultInDiscipline7"
df6 <- names(df6a)[181] <- "DifficultInDiscipline8"
df6 <- names(df6a)[182] <- "DifficultInDiscipline9"


###AV Rename all duplicates of "Which of the following would you say are the most difficult for PhD stu
df6 <- names(df6a)[184] <- "DifficultInCountry1"
df6 <- names(df6a)[185] <- "DifficultInCountry2"
df6 <- names(df6a)[186] <- "DifficultInCountry3"
df6 <- names(df6a)[187] <- "DifficultInCountry4"
df6 <- names(df6a)[188] <- "DifficultInCountry5"
df6 <- names(df6a)[189] <- "DifficultInCountry6"
```

```
df6 <- names(df6a)[190] <- "DifficultInCountry7"

###AV Rename all duplicates of "Which of the following resources do you think PhD students need the mos
df6 <- names(df6a)[192] <- "ResourcesForSatisfyingCareer1"
df6 <- names(df6a)[193] <- "ResourcesForSatisfyingCareer2"
df6 <- names(df6a)[194] <- "ResourcesForSatisfyingCareer3"
df6 <- names(df6a)[195] <- "ResourcesForSatisfyingCareer4"
df6 <- names(df6a)[196] <- "ResourcesForSatisfyingCareer5"

df6 <- names(df6a)[197] <- "ResourcesForSatisfyingCareer6"
df6 <- names(df6a)[198] <- "ResourcesForSatisfyingCareer7"
df6 <- names(df6a)[199] <- "ResourcesForSatisfyingCareer8"

###AV Rename all duplicates of "Which, if any, of the following activities have you done to advance you
df6 <- names(df6a)[217] <- "ActivitiesToAdvanceCareer1"
df6 <- names(df6a)[218] <- "ActivitiesToAdvanceCareer2"
df6 <- names(df6a)[219] <- "ActivitiesToAdvanceCareer3"
df6 <- names(df6a)[220] <- "ActivitiesToAdvanceCareer4"
df6 <- names(df6a)[221] <- "ActivitiesToAdvanceCareer5"

df6 <- names(df6a)[222] <- "ActivitiesToAdvanceCareer6"
df6 <- names(df6a)[223] <- "ActivitiesToAdvanceCareer7"
df6 <- names(df6a)[224] <- "ActivitiesToAdvanceCareer8"


###AV Rename all duplicates of "Which of the following social media networks have you used to build you
df6 <- names(df6a)[226] <- "SocialMediaToBuildNetwork1"
df6 <- names(df6a)[227] <- "SocialMediaToBuildNetwork2"
df6 <- names(df6a)[228] <- "SocialMediaToBuildNetwork3"
df6 <- names(df6a)[229] <- "SocialMediaToBuildNetwork4"
df6 <- names(df6a)[230] <- "SocialMediaToBuildNetwork5"
df6 <- names(df6a)[231] <- "SocialMediaToBuildNetwork6"
df6 <- names(df6a)[232] <- "SocialMediaToBuildNetwork7"

###AV Rename all duplicates of "What would you do differently right now if you were starting your progr
df6 <- names(df6a)[234] <- "DoDifferently1"
df6 <- names(df6a)[235] <- "DoDifferently2"
df6 <- names(df6a)[236] <- "DoDifferently3"
df6 <- names(df6a)[237] <- "DoDifferently4"
df6 <- names(df6a)[238] <- "DoDifferently5"


###AV Rename all duplicates of "Which of the following best describes you?" and make unique
df6 <- names(df6a)[243] <- "BestDescribes1"
df6 <- names(df6a)[244] <- "BestDescribes2"
df6 <- names(df6a)[245] <- "BestDescribes3"
df6 <- names(df6a)[246] <- "BestDescribes4"
df6 <- names(df6a)[247] <- "BestDescribes5"

df6 <- names(df6a)[248] <- "BestDescribes6"
df6 <- names(df6a)[249] <- "BestDescribes7"
df6 <- names(df6a)[250] <- "BestDescribes8"
df6 <- names(df6a)[251] <- "BestDescribes9"
```

```
df6 <- names(df6a)[252] <- "BestDescribes10"

df6 <- names(df6a)[253] <- "BestDescribes11"
df6 <- names(df6a)[254] <- "BestDescribes12"


###AV Rename all duplicates of "Do you have any caring responsibilities" and make unique
df6 <- names(df6a)[256] <- "CaringResponsibilities1"
df6 <- names(df6a)[257] <- "CaringResponsibilities2"
df6 <- names(df6a)[258] <- "CaringResponsibilities3"
df6 <- names(df6a)[259] <- "CaringResponsibilities4"
df6 <- names(df6a)[260] <- "CaringResponsibilities5"

df6 <- names(df6a)[242] <- "Gender"

#df6 <- names(df5)[20] <- "delete2"
#df6 <- names(df6a)[] <- ""
df6 <- df6a

#code adapted from https://www.statology.org/how-to-rename-data-frame-columns-in-r/ and https://www.sha
#df6 <- names(df5) <- c("miles_gallon", "cylinders", "display", "horsepower")

###AV This bottom bit told me what I am missing to rename and make not identical
###rename(df6, combine1 = 150)


###df6 <- rename(df5, xyz=1) ###AV Didnt Work. Will use something other than rename

###df6 %>% unite("ethnicity", 251:259, remove = FALSE)

###AV Template for above
####AV Rename all duplicates of "" and make unique
#df6 <- names(df6a)[] <- ""
#df6 <- names(df6a)[] <- ""
#df6 <- names(df6a)[] <- ""
#df6 <- names(df6a)[] <- ""
#df6 <- names(df6a)[] <- ""

###Finished Product: df7
df7 <- df6
```

Combine demographic data

```
df8 <- unite(df7, "ethnicityGroupedOther",  243:254, remove = FALSE, na.rm = TRUE)
#df7 %>% unite("ethnicityOtherWriteInIncluded", 2,remove= FALSE) specified22 is variable that has the w
df9 <- unite(df8, "ethnicityOtherWriteInNotYetIncluded", 244:252, remove = FALSE, na.rm = TRUE)
###AV Ensure that all NA values remain as NA, as the above unite processes seem to convert NA to blanks
df10 <- df9
df10[df10 == ""] <- NA
###AV finally combine them all
df11 <- unite(df10, "ethnicityOtherWriteInIncluded", c('ethnicityOtherWriteInNotYetIncluded', 'specifie
```

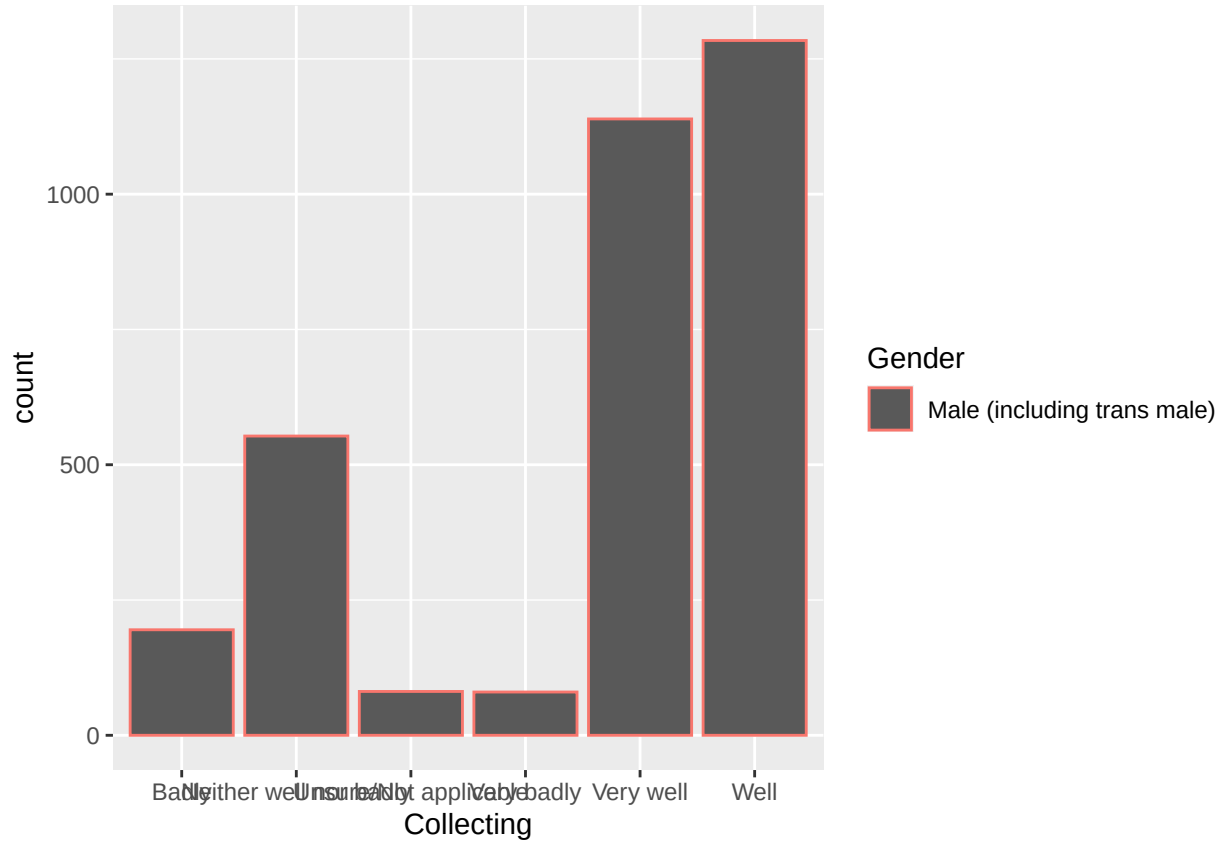
Well, doing that wasn't quite useful, because now I will focus on PEOPLE WHO MOVED INTO A COUNTRY FROM ELSEWHERE. Not on ethnicity. But this is EDA, so the clear and distinct lack of direction is

a feature, not a bug.

```
#df12 <- df11[c(201:216)]
#df13 <- df11[c(242)]
#df14 <- merge(df12,df13) ###running this causes an error *** recursive gc invocation... which then cau
#df[df$var1 == 'value', ]

###df12 contains gender,
df12 <- df11[c(201,202,203,204,205,206,207,208,209,210,211,212,213,214,215,216,242)]

df12Male <- df12[df12$'Gender' == 'Male (including trans male)',]
df12Female <- df12[df12$'Gender' == 'Female (including trans female)',]
df12GenderQueerandorNonBinary <- df12[df12$'Gender' == 'Gender queer / Non binary',]
```

the actual analysis to be graphed! Woo!!! Also, unfortunately I cannot name things with spaces, as that seems to break things.

```
df13 <- df12Male

df14 <- names(df13)[1] <- "Collecting"
ggplot(df13, aes( Collecting, colour = Gender)) +
  geom_bar()
```



```
dfgender <- table(df12['Gender'])
df15<- as.data.frame(dfgender)


table(df12$Gender)/length(df12$Gender)
```

```
##
## Female (including trans female)       Gender queer / Non binary
##                       0.499706400                     0.004697592
##     Male (including trans male)               Prefer not to say
##                       0.489136817                     0.006459190
```

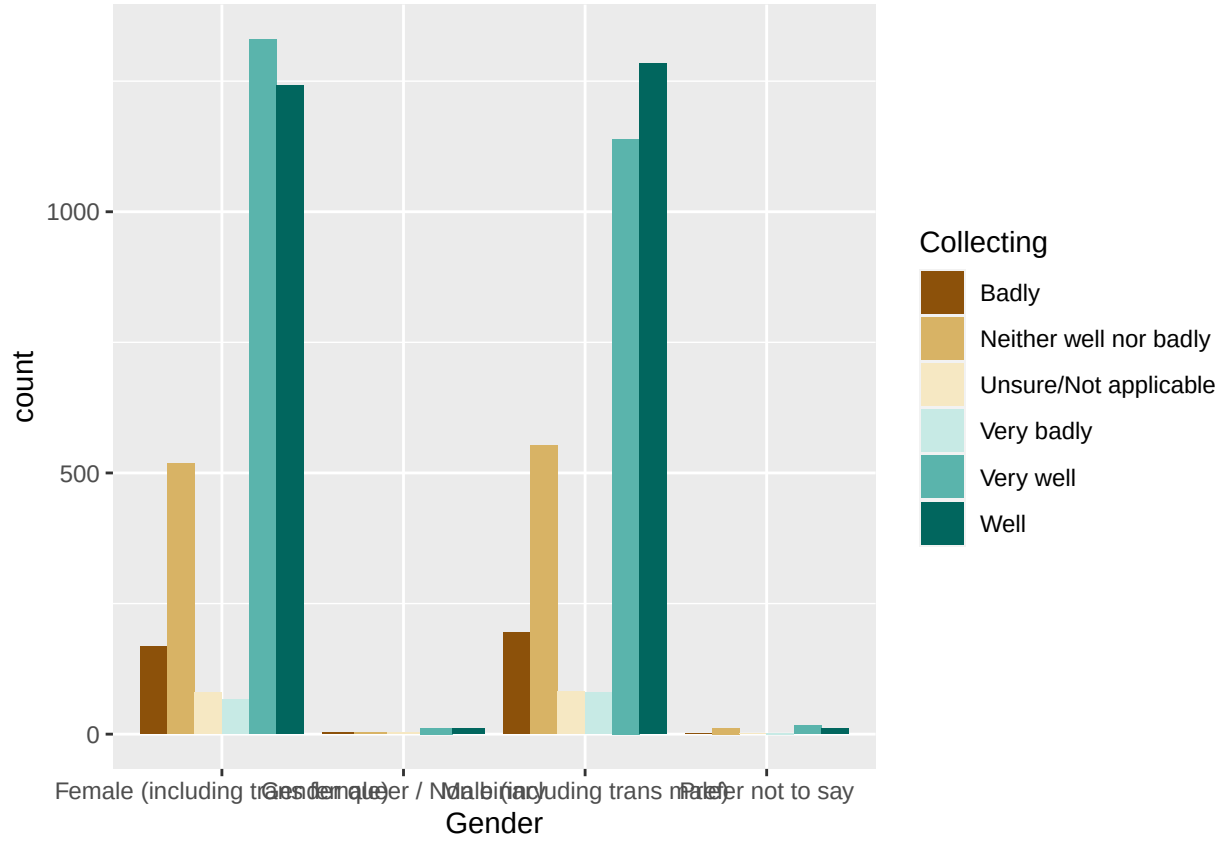
Some more data transformations and another rename.

```
df15 <- names(df12)[1] <- "Collecting"
df15 <- df12
df <- df15
```

Graphs!!! first graph, not incredibly interesting and also hampered by small sample size of Gender Queer/Non Binary and Prefer Not To Say

```
ggplot(data = df) +
  geom_bar(mapping = aes(x = Gender, fill = Collecting), position = "dodge")+
  scale_colour_brewer(palette = "BrBg") +
  scale_fill_brewer(palette = "BrBG")
```

```
## Warning in pal_name(palette, type): Unknown palette BrBg
```

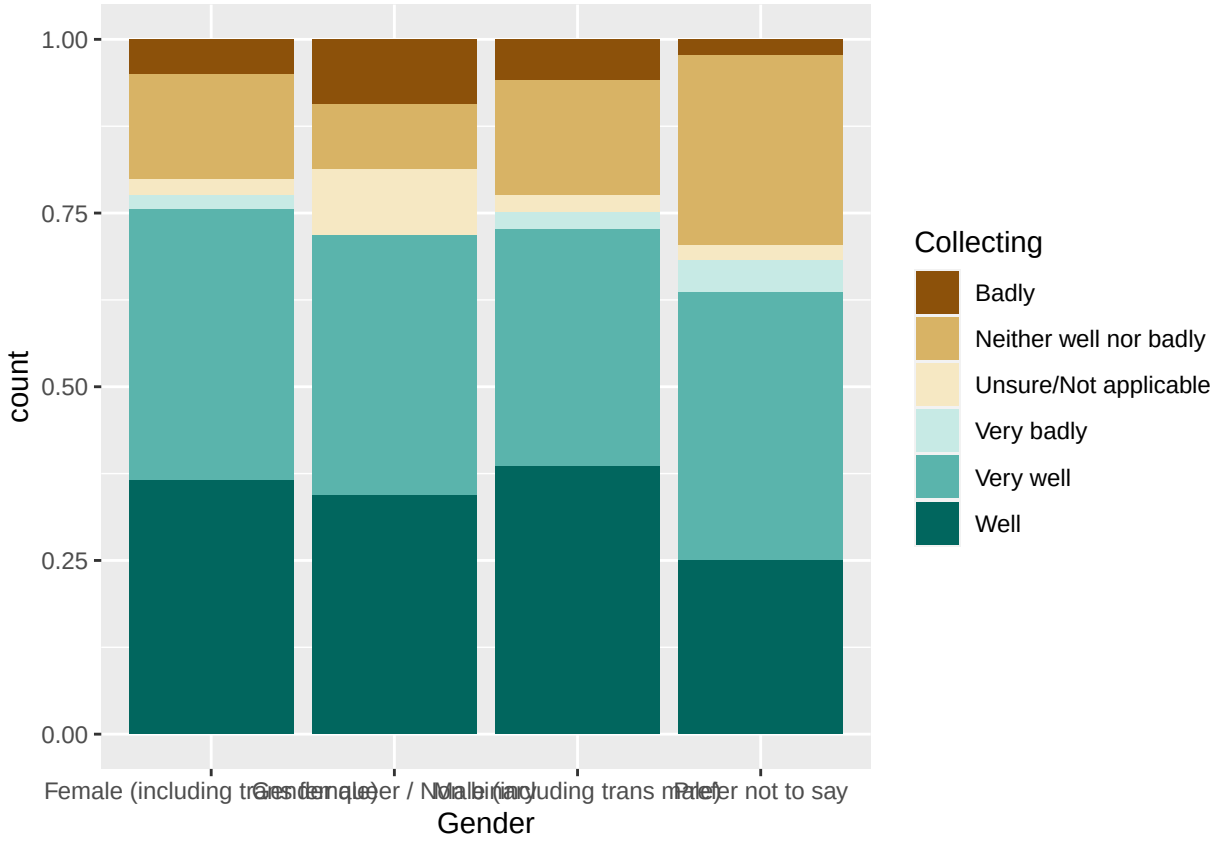



```
#dodge <- position_dodge(width = 0.9)+

#gg <- ggplot(df)
#gg <- gg + geom_bar(aes(x = Gender, y = Collecting, fill = Gender),
  #                  position="dodge", stat = "identity")


#print(gg)

#ggplot(df, aes(x = interaction(Gender,Collecting), y = yield, fill = factor(geno))) +
 # geom_bar(stat = "identity", position = position_dodge()) +
  #geom_errorbar(aes(ymax = yield + SE, ymin = yield - SE), position = dodge, width = 0.2)
```

Better plot

```
ggplot(data = df) +
  geom_bar(mapping = aes(x = Gender, fill = Collecting), position = "fill")+
  scale_colour_brewer(palette = "BrBg") +
  scale_fill_brewer(palette = "BrBG")
```

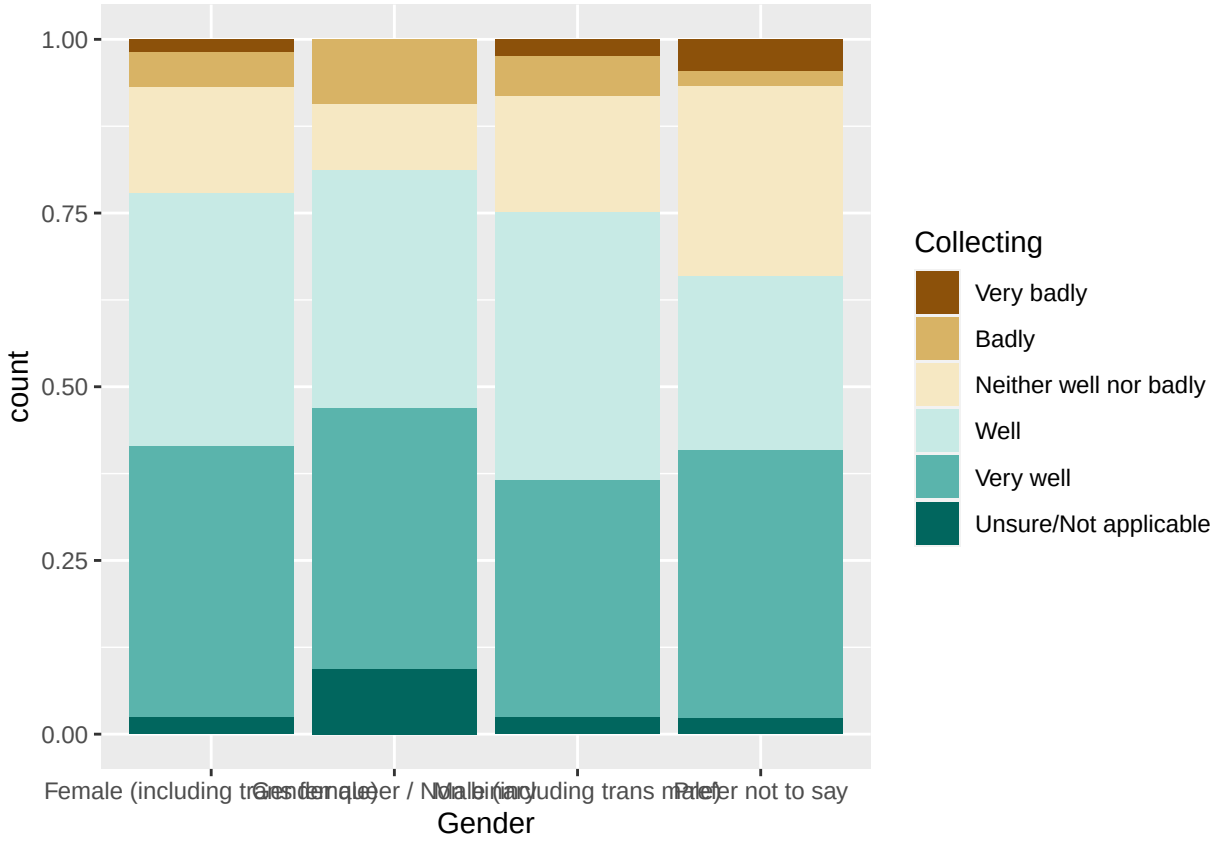
```
## Warning in pal_name(palette, type): Unknown palette BrBg
```



This chunk contains the code to reorder variables manually. Finally figured out how to reorder this stuff. Goodness.

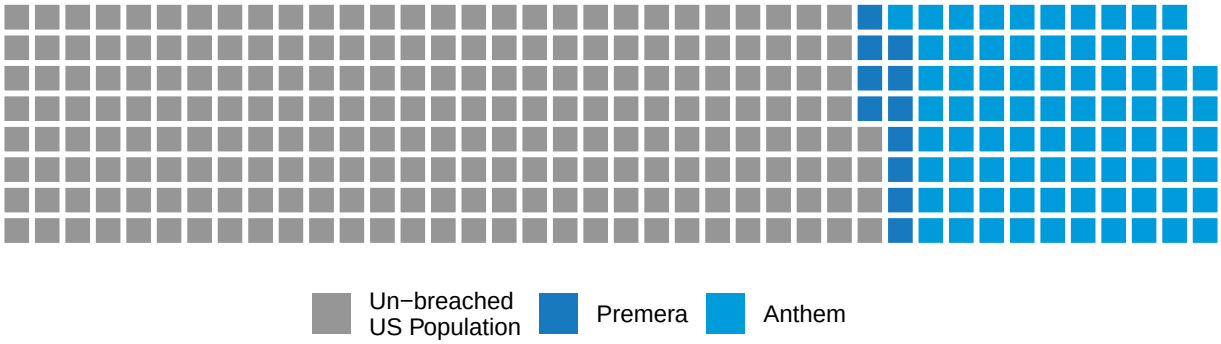
```
data_new <- df
df <- data_new

df$Collecting <- factor(df$Collecting , levels=c("Very badly", "Badly", "Neither well nor badly", "Well

data_new <- df
df <- data_new


ggplot(data = data_new) +
  geom_bar(mapping = aes(x = Gender, fill = Collecting), position = "fill")+
  scale_colour_brewer(palette = "BrBg") +
  scale_fill_brewer(palette = "BrBG")
```

```
## Warning in pal_name(palette, type): Unknown palette BrBg
```



This will be the bread and butter of this assignment. It looks beautiful. Waffle Graph, must have info input manually. Still breautiful.

```
parts <- c(`Un-breached\nUS Population` = (318 - 11 - 79), `Premera` = 11, `Anthem` = 79)

waffle(
  parts, rows = 8, size = 1,
  colors = c("#969696", "#1879bf", "#009bda"), legend_pos = "bottom"
)
```



Analysis that isn't working yet

```
#lm1 <- lm(data = df, Collecting ~ Gender) # the model

#summary(lm1) # summarizes the output of the model
```