poa_children_families

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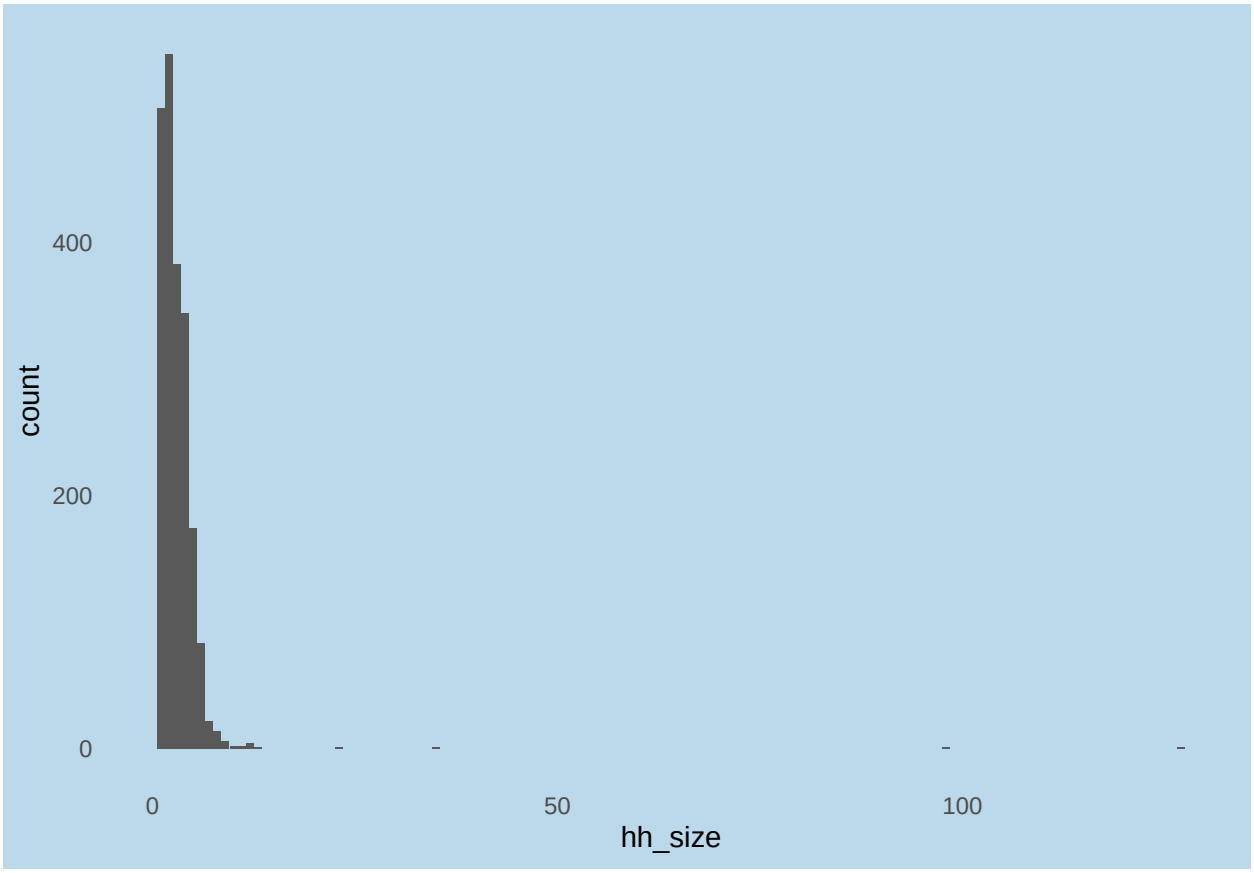
```
wrangled %>%
  ggplot(aes(x = hh_size, group = hh_ch_0_17_bi)) + geom_bar()
```




```
range(wrangled$hh_size, na.rm = TRUE)
```

```
## [1]   1 127
```

```
wrangled %>% select(hh_size, hh_sn_65, hh_ad_18_64, hh_ch_4_17, hh_ch_0_4) %>% filter(hh_size > 20)
```

```
## # A tibble: 4 x 5
##   hh_size hh_sn_65 hh_ad_18_64 hh_ch_4_17 hh_ch_0_4
##     <dbl>    <dbl>       <dbl>      <int>     <int>
```

```
## 1     127        2          18         43        64
## 2      23        0          23          0         0
## 3      98       46          38         11         3
## 4      35        1          34          0         0
```

```
df_ch <- wrangled %>% filter(hh_ch_0_17_bi == 1)
```

3.1)People who had difficulties accessing childcare in the past year [21]

1. Run distribution over population
2. Run distribution by sub-demographics (a-n)

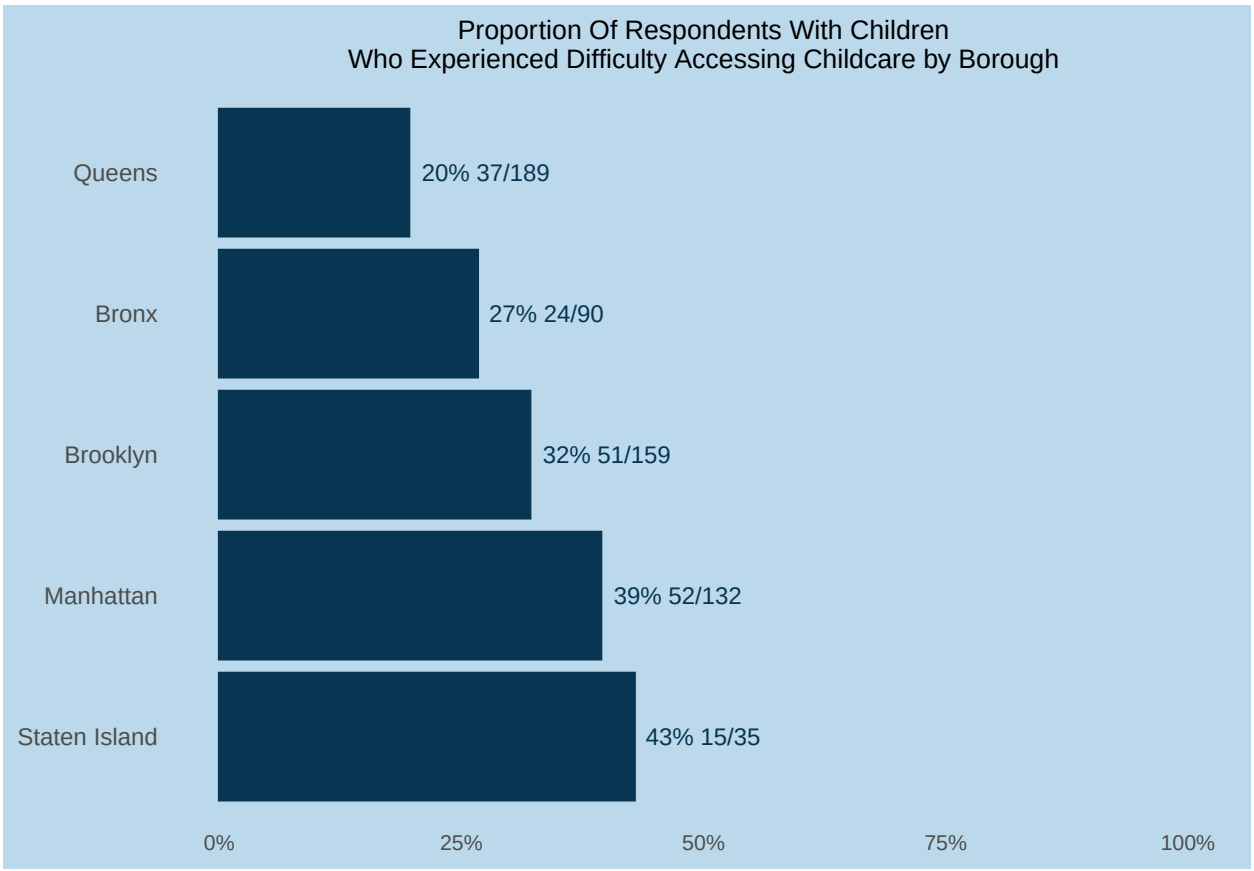
a. Compare and find gaps (test unequal proportions)

```
mean(wrangled$diff_cc, na.rm = TRUE)
```

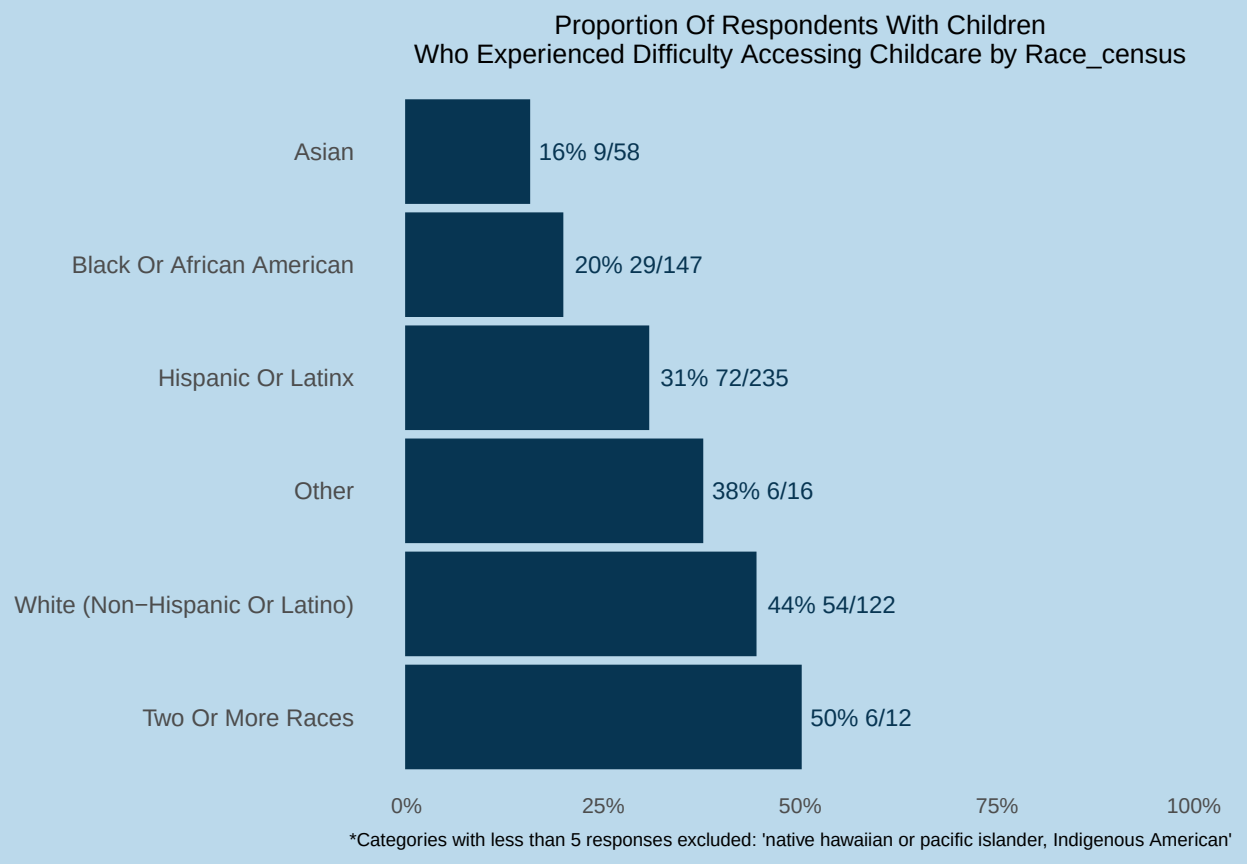
```
## [1] 0.1394865
```

```
make_plots(df_ch, demographics, "diff_cc", title = "Proportion of Respondents With Children\nwho experi
```

```
## $borough
## $borough$plot
```

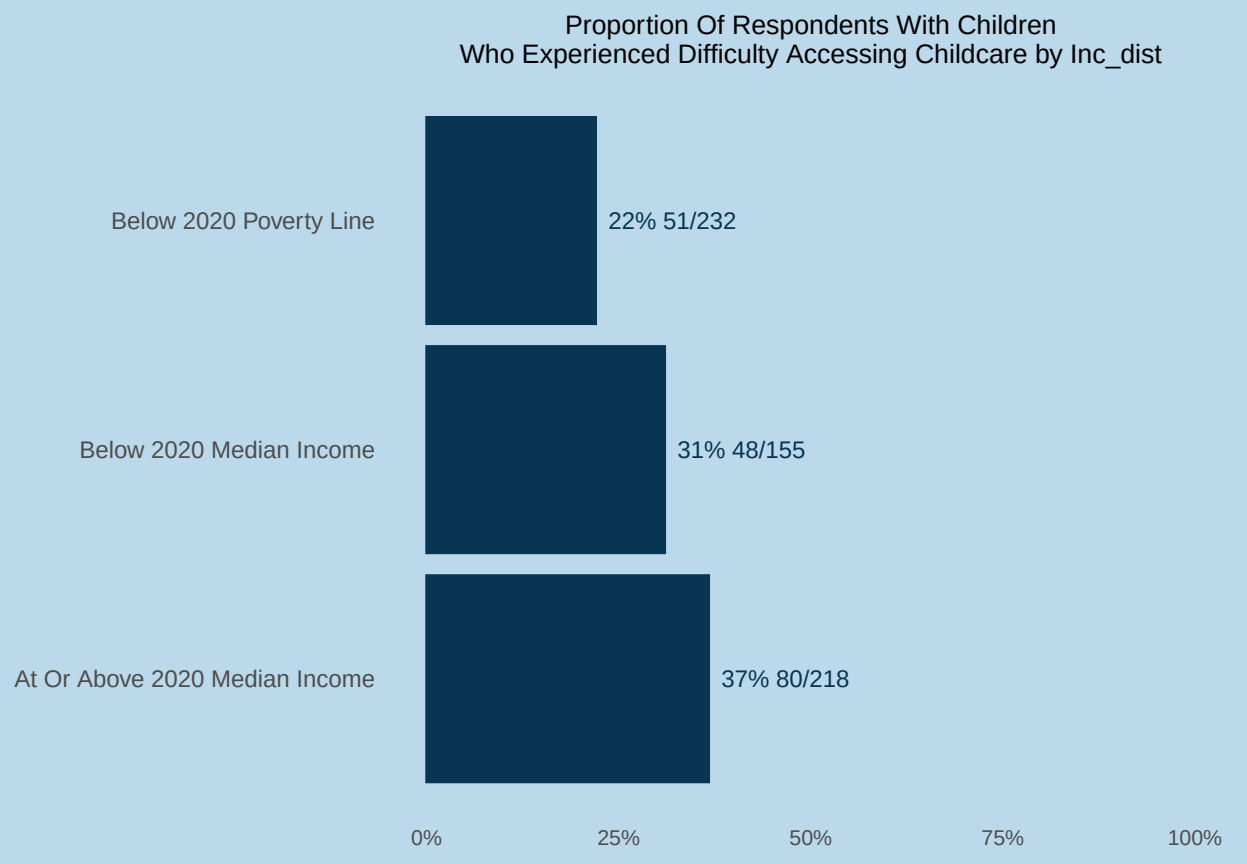


```
##
## $borough$p.values
## $borough$p.values$diff_cc
##                queens bronx brooklyn manhattan staten island
## queens             NA    NA       NA   0.00016        0.0055
## bronx              NA    NA       NA        NA            NA
## brooklyn           NA    NA       NA        NA            NA
## manhattan     0.00016    NA       NA        NA            NA
## staten island 0.00550    NA       NA        NA            NA
##
##
##
## $gen
## NULL
##
## $race_census
## $race_census$plot
```




```
##
## $race_census$p.values
## $race_census$p.values$diff_cc
##                                asian black or african american
## asian                             NA                        NA
## black or african american         NA                        NA
## hispanic or latinx                NA                        NA
```

```
## other                              NA                       NA
## white (non-hispanic or latino) 3e-04                   2.6e-05
## two or more races                  NA                       NA
##                                hispanic or latinx other
## asian                                          NA    NA
## black or african american                      NA    NA
## hispanic or latinx                             NA    NA
## other                                          NA    NA
## white (non-hispanic or latino)                 NA    NA
## two or more races                              NA    NA
##                                white (non-hispanic or latino) two or more races
## asian                                                 3.0e-04                NA
## black or african american                             2.6e-05                NA
## hispanic or latinx                                         NA                NA
## other                                                      NA                NA
## white (non-hispanic or latino)                             NA                NA
## two or more races                                          NA                NA
##
##
##
## $hh_ch_0_17_bi
## NULL
##
## $hh_sn_65_bi
## NULL
##
## $inc_dist
## $inc_dist$plot
```




```
##
## $inc_dist$p.values
## $inc_dist$p.values$diff_cc
##                                 below 2020 poverty line below 2020 median income
## below 2020 poverty line                              NA                       NA
## below 2020 median income                             NA                       NA
## at or above 2020 median income                  0.00087                       NA
##                                 at or above 2020 median income
## below 2020 poverty line                                 0.00087
## below 2020 median income                                     NA
## at or above 2020 median income                               NA
```

3.2)People who need childcare, but cannot afford it [30]

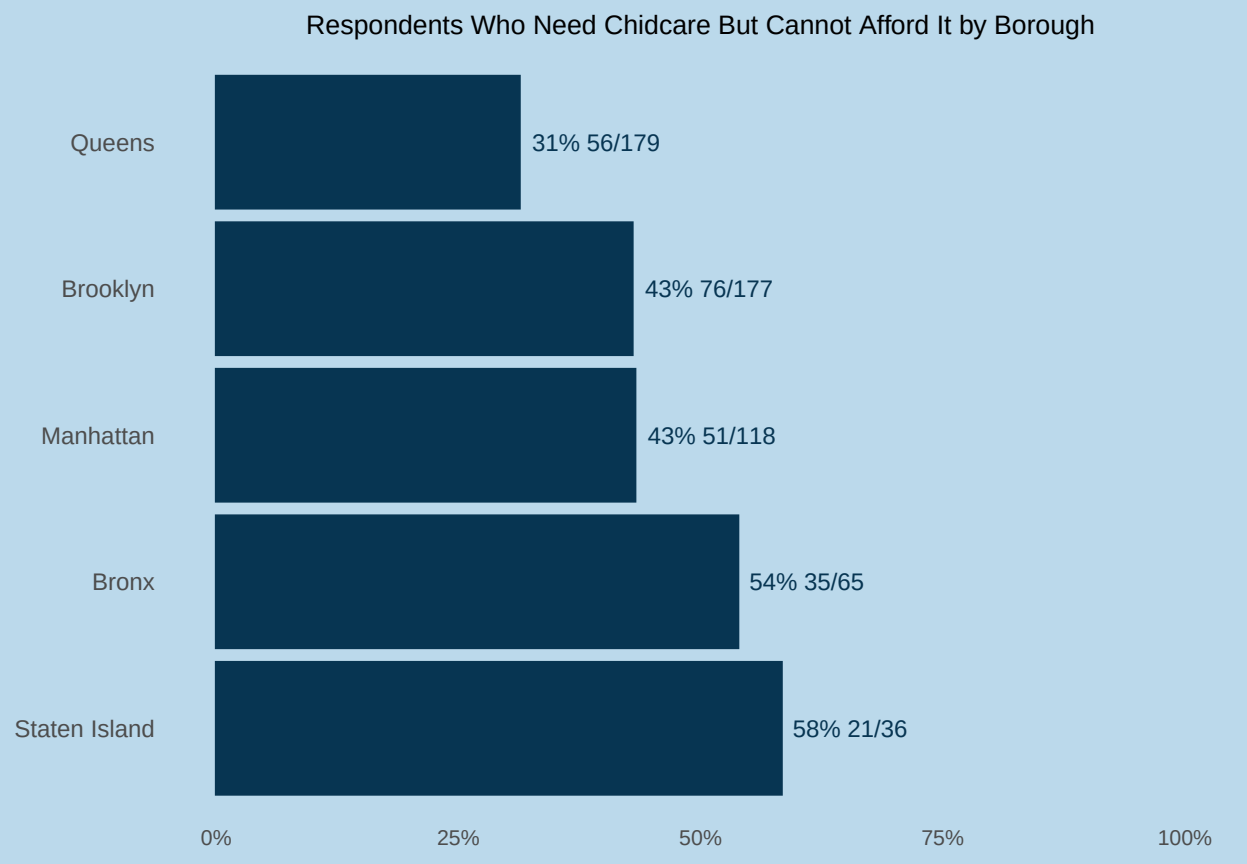
1. Run distribution over population
2. Run distribution over sub-demographics, specifically race, location/borough, and income
3. Run distribution over size of household [30]

```
mean(df_ch$need_cc_bi, na.rm = TRUE)
```

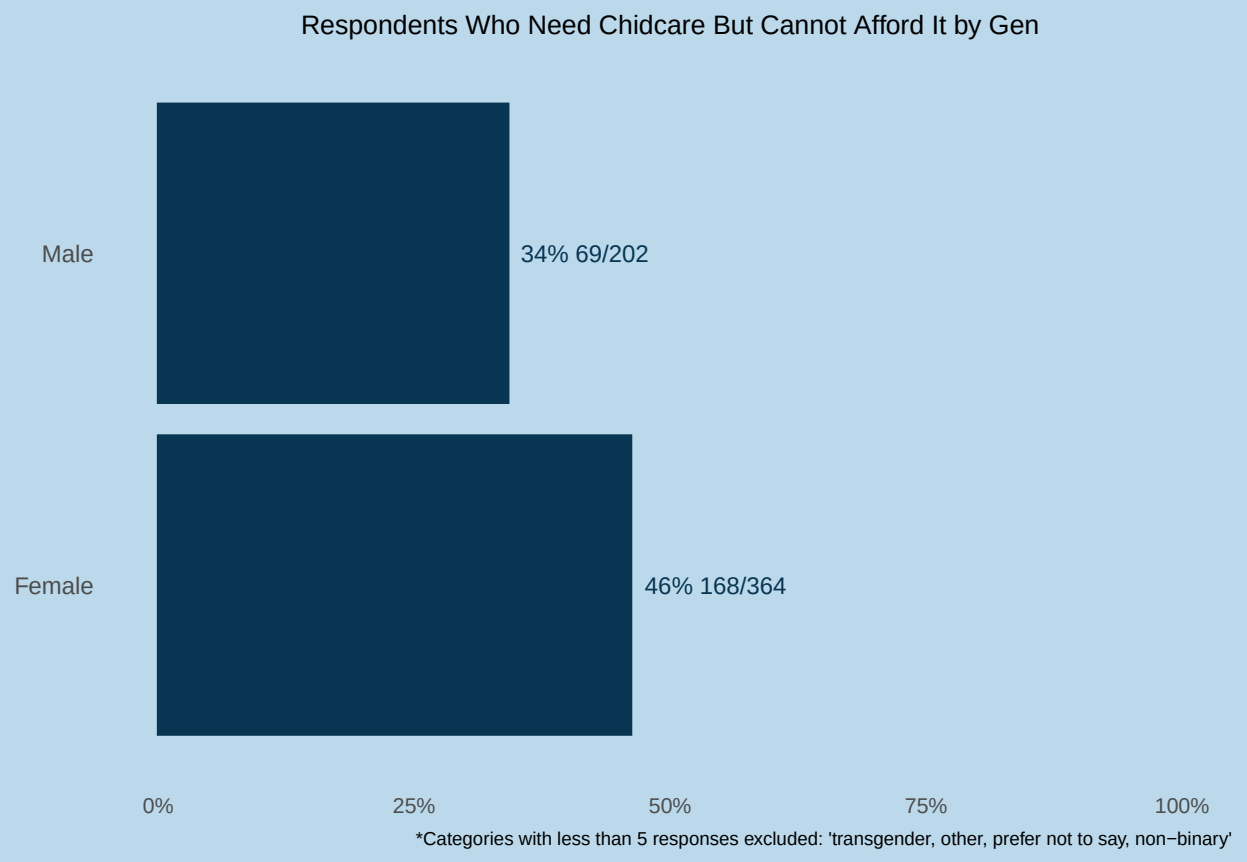
```
## [1] 0.4156522
```

```
make_plots(df_ch,
           c(demographics, "hh_size"), "need_cc_bi",
           title = "Respondents who Need Chidcare but cannot afford it", show = TRUE)
```

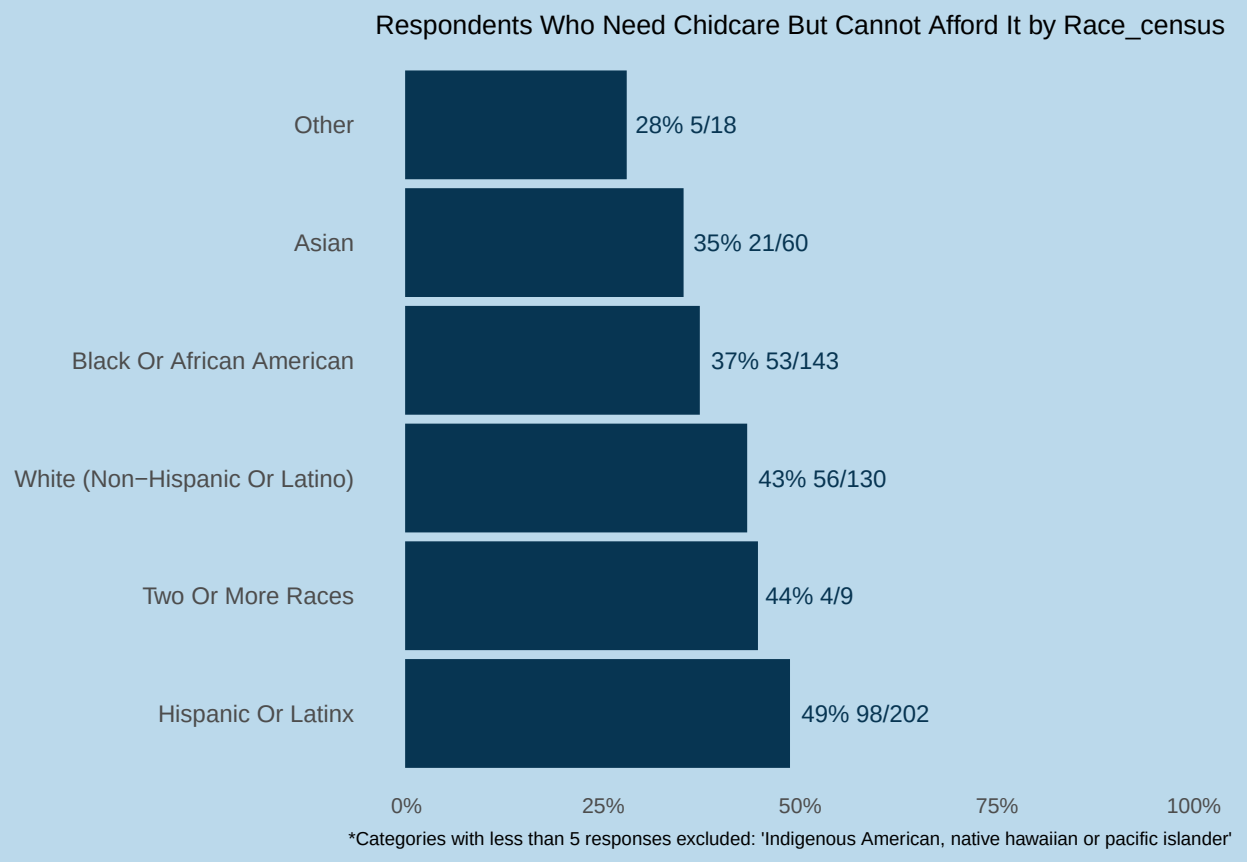
```
## $borough
## $borough$plot
```




```
##
## $borough$p.values
## $borough$p.values$need_cc_bi
##               queens brooklyn manhattan  bronx staten island
## queens            NA       NA        NA 0.0021        0.0038
## brooklyn          NA       NA        NA     NA            NA
## manhattan         NA       NA        NA     NA            NA
## bronx         0.0021       NA        NA     NA            NA
## staten island 0.0038       NA        NA     NA            NA
##
##
##
## $gen
## $gen$plot
```

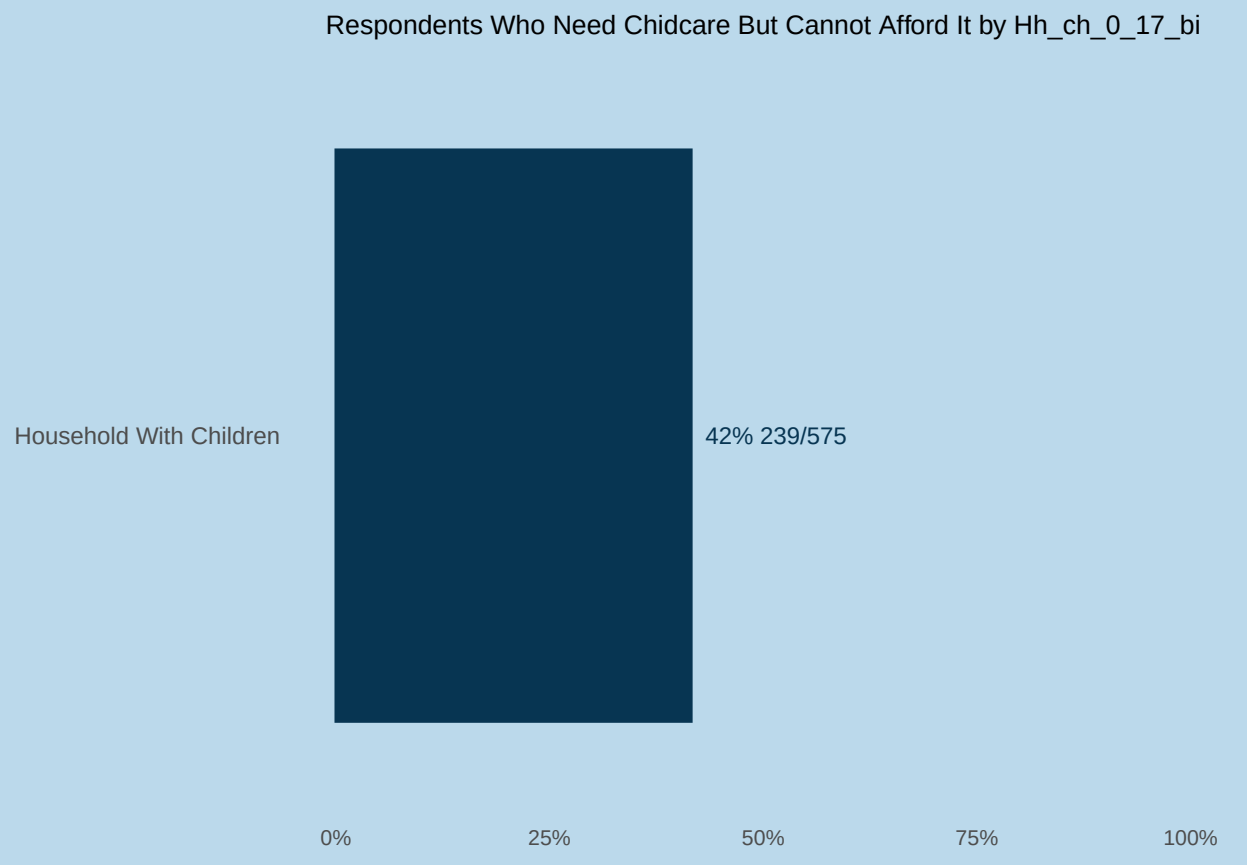



```
##
## $gen$p.values
## $gen$p.values$need_cc_bi
##          male female
## male       NA 0.0073
## female 0.0073     NA
##
##
##
## $race_census
## $race_census$plot
```

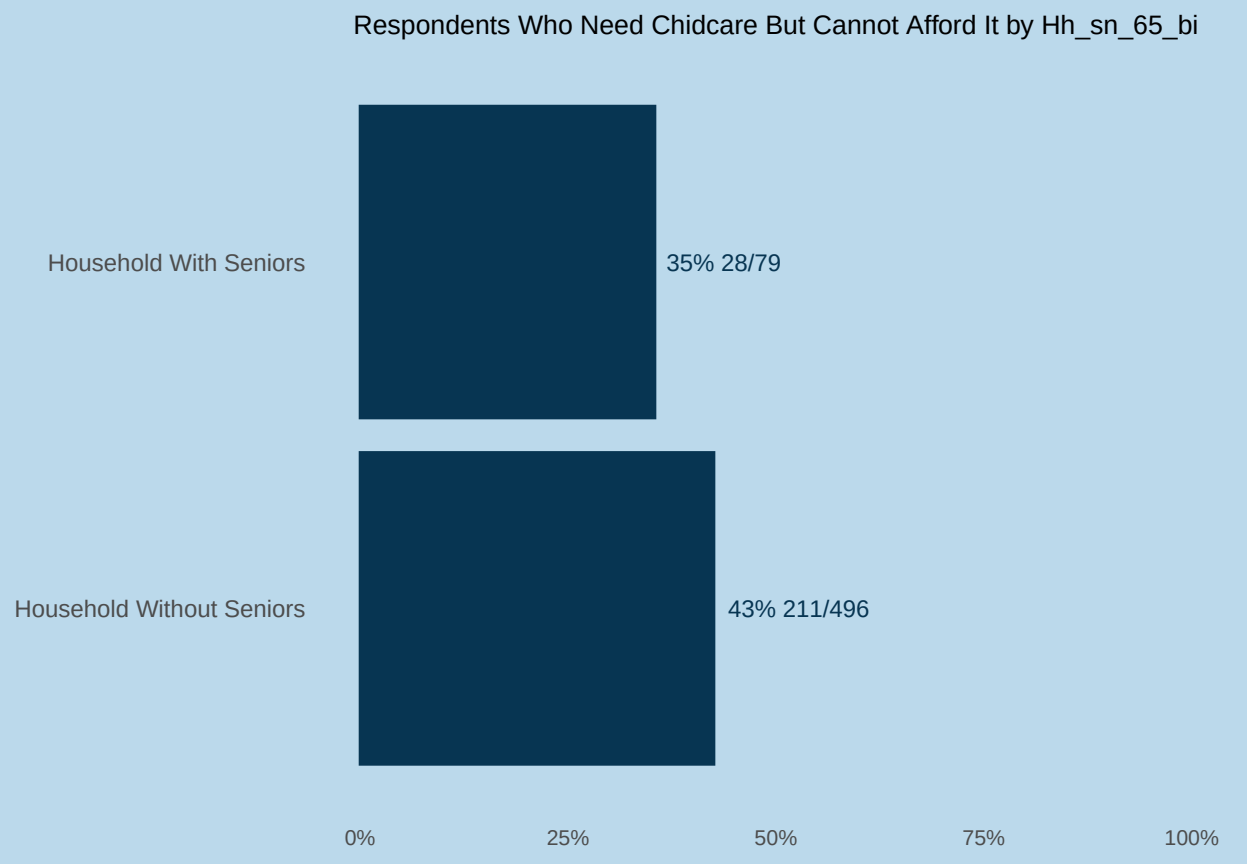



```
##
## $race_census$p.values
## $race_census$p.values$need_cc_bi
##                                other asian black or african american
## other                             NA    NA                        NA
## asian                             NA    NA                        NA
## black or african american         NA    NA                        NA
## white (non-hispanic or latino)    NA    NA                        NA
## two or more races                 NA    NA                        NA
## hispanic or latinx                NA    NA                        NA
##                                white (non-hispanic or latino) two or more races
## other                                                      NA                NA
## asian                                                      NA                NA
## black or african american                                  NA                NA
## white (non-hispanic or latino)                             NA                NA
## two or more races                                          NA                NA
## hispanic or latinx                                         NA                NA
##                                hispanic or latinx
## other                                          NA
## asian                                          NA
## black or african american                      NA
## white (non-hispanic or latino)                 NA
## two or more races                              NA
## hispanic or latinx                             NA
##
##
```

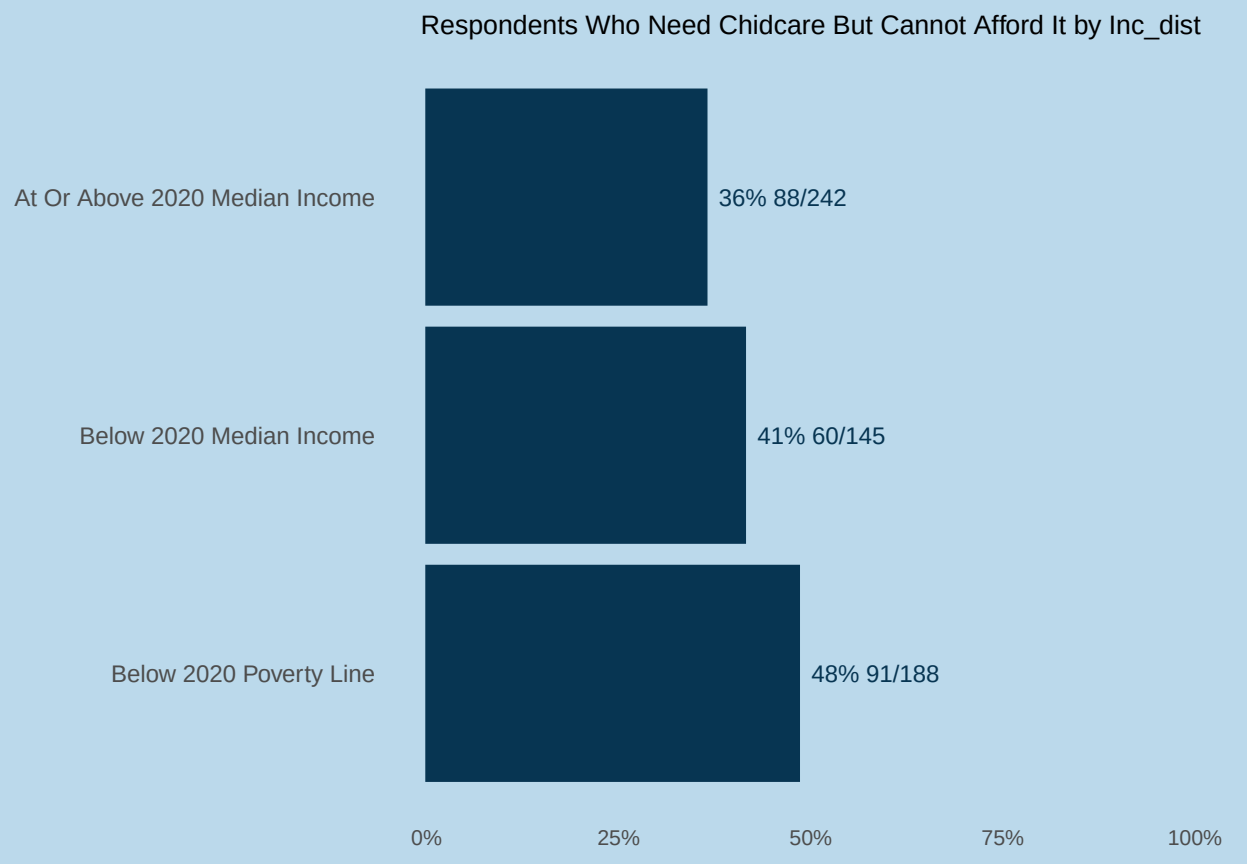
```
##
## $hh_ch_0_17_bi
## $hh_ch_0_17_bi$plot
```



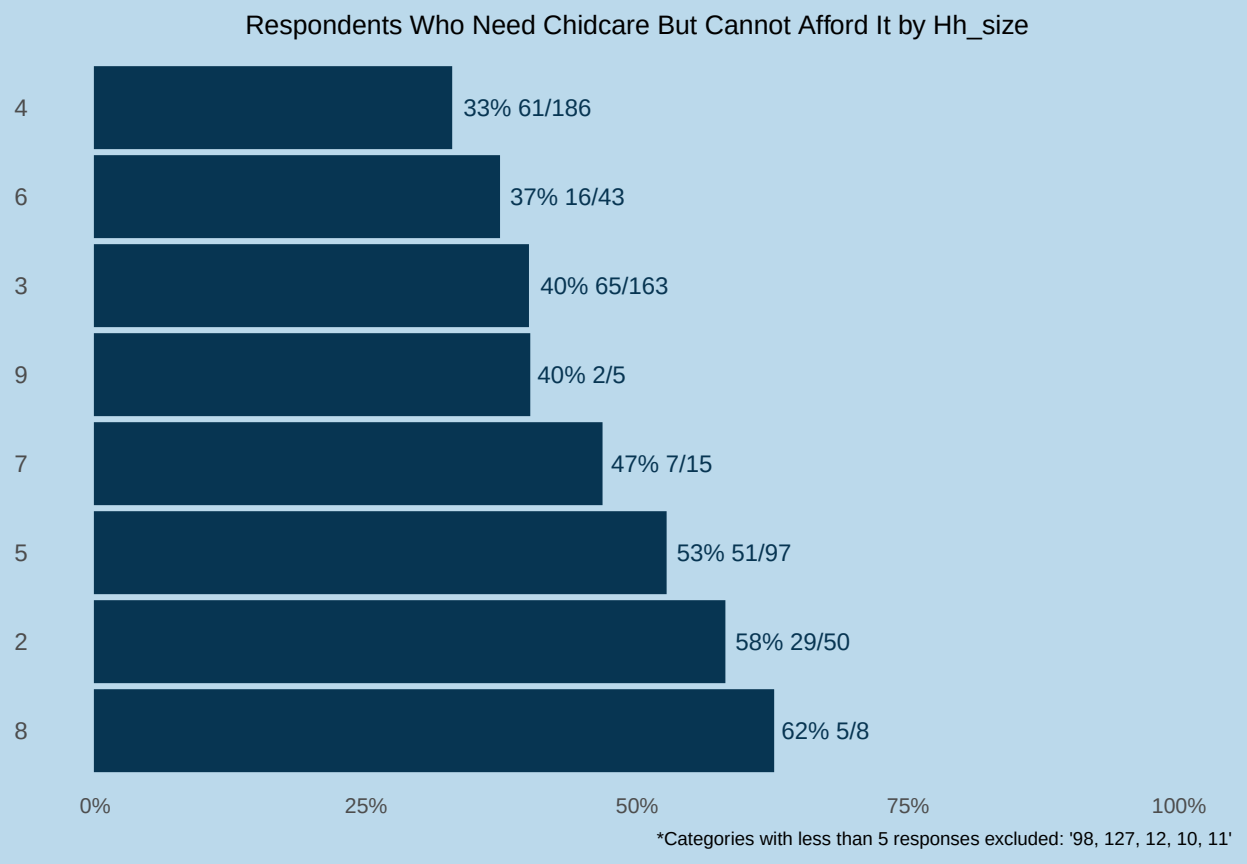

```
##
## $hh_ch_0_17_bi$p.values
## $hh_ch_0_17_bi$p.values$need_cc_bi
##                          household with children
## household with children                      NA
##
##
##
## $hh_sn_65_bi
## $hh_sn_65_bi$plot
```




```
##
## $hh_sn_65_bi$p.values
## $hh_sn_65_bi$p.values$need_cc_bi
##                            household with seniors household without seniors
## household with seniors                         NA                        NA
## household without seniors                      NA                        NA
##
##
##
## $inc_dist
## $inc_dist$plot
```




```
##
## $inc_dist$p.values
## $inc_dist$p.values$need_cc_bi
##                                 at or above 2020 median income
## at or above 2020 median income                              NA
## below 2020 median income                                    NA
## below 2020 poverty line                                     NA
##                                 below 2020 median income below 2020 poverty line
## at or above 2020 median income                       NA                      NA
## below 2020 median income                             NA                      NA
## below 2020 poverty line                              NA                      NA
##
##
##
## $hh_size
## $hh_size$plot
```



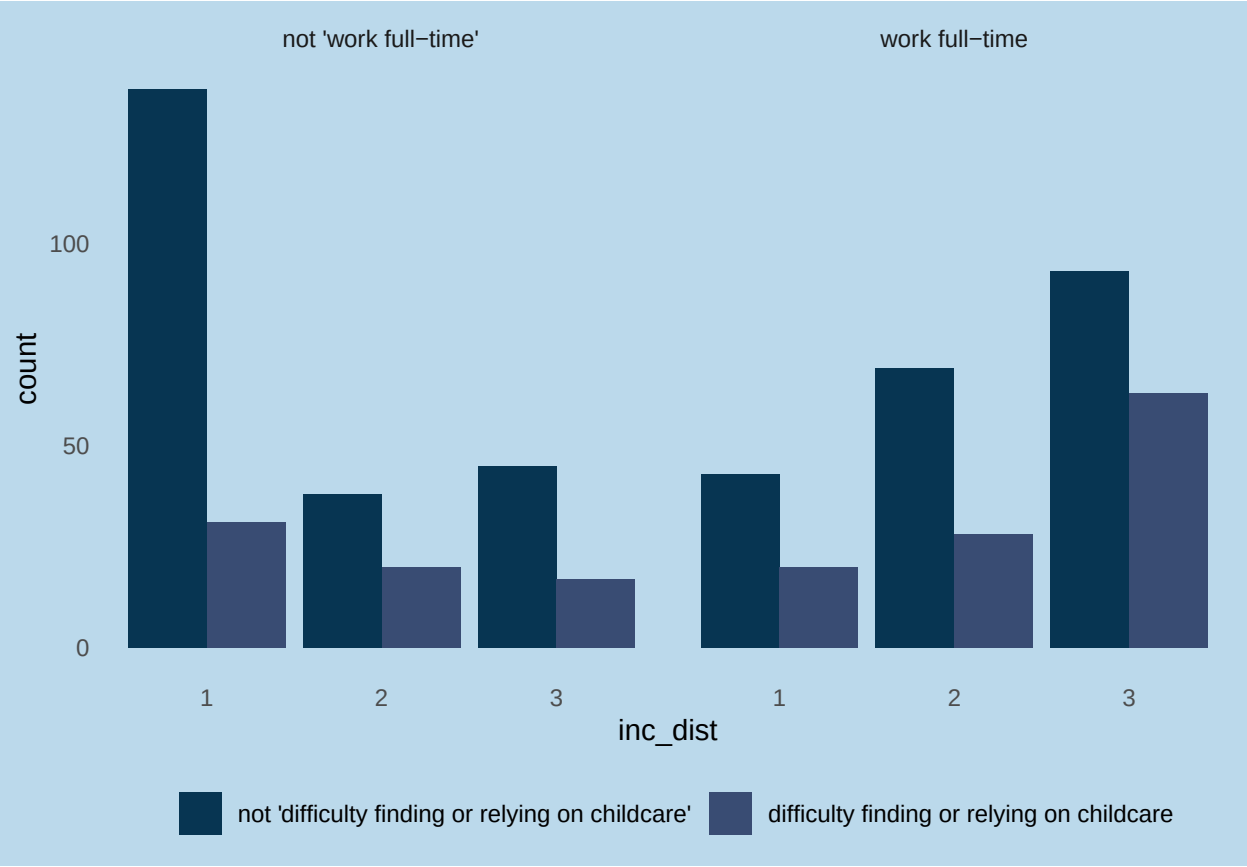

```
##
## $hh_size$p.values
## $hh_size$p.values$need_cc_bi
##        4  6  3  9  7      5     2  8
## 4     NA NA NA NA NA 0.0019 0.002 NA
## 6     NA NA NA NA NA     NA    NA NA
## 3     NA NA NA NA NA     NA    NA NA
## 9     NA NA NA NA NA     NA    NA NA
## 7     NA NA NA NA NA     NA    NA NA
## 5 0.0019 NA NA NA NA     NA    NA NA
## 2 0.0020 NA NA NA NA     NA    NA NA
## 8     NA NA NA NA NA     NA    NA NA
```

3.3)People who have had full-time jobs pre-pandemic and currently are more likely to have or have had difficulties finding childcare [14, 29]

1. Find respondents who indicated they work full-time [14]

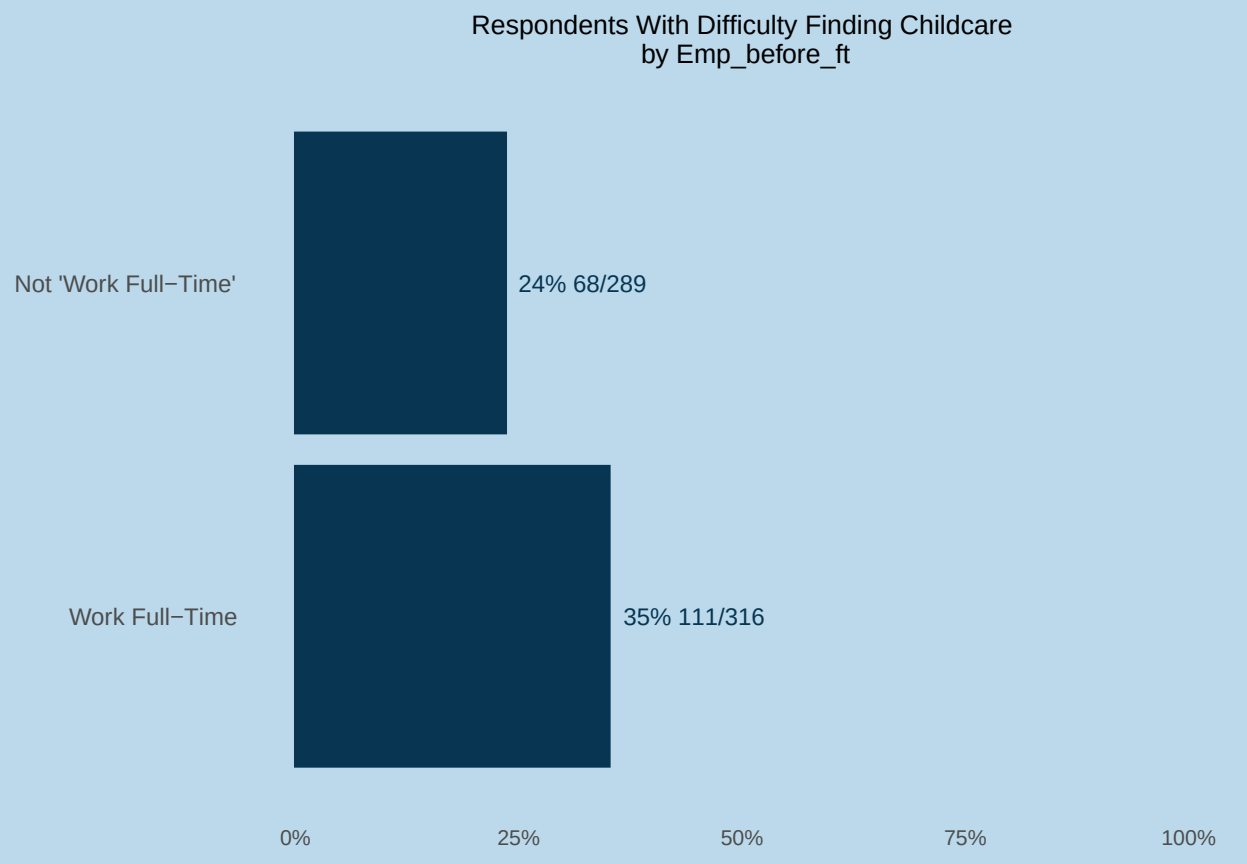
a. Find proportion of subset who reported having difficulty accessing childcare currently and/or in the past year [21] [29] [29]
b. Find proportion not in subset who reported having difficulty accessing childcare currently and/or in the past year and compare (test unequal proportions)

```
ggplot(df_ch %>% filter(!is.na(diff_cc)),
       aes(x = inc_dist, fill = labelled::to_factor(diff_cc))) + geom_bar(position = position_dodge()) +
  facet_wrap(. ~ labelled::to_factor(emp_before_ft)) +
  scale_fill_manual(NULL, values = project_pal) +
  theme(legend.position = "bottom")
```

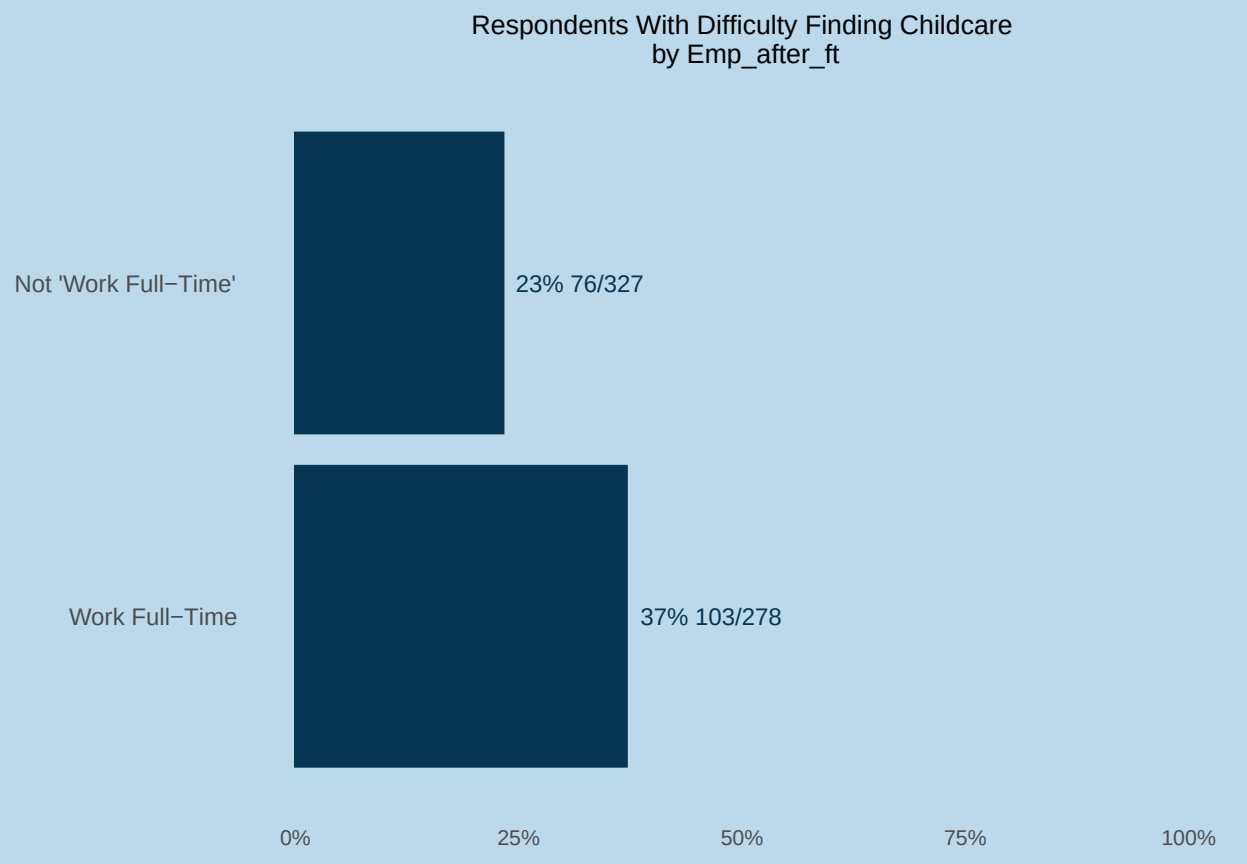



```
make_plots(df_ch, c("emp_before_ft", "emp_after_ft"), "diff_cc",
           title = "Respondents with difficulty finding childcare\n")
```

```
## $emp_before_ft
## $emp_before_ft$plot
```




```
##
## $emp_before_ft$p.values
## $emp_before_ft$p.values$diff_cc
##                       not 'work full-time' work full-time
## not 'work full-time'                    NA         0.0024
## work full-time                      0.0024             NA
##
##
##
## $emp_after_ft
## $emp_after_ft$plot
```




```
##
## $emp_after_ft$p.values
## $emp_after_ft$p.values$diff_cc
##                       not 'work full-time' work full-time
## not 'work full-time'                    NA          3e-04
## work full-time                       3e-04             NA
```

3.4, 3.11, 3.13, 3.14

3.4)People who returned to work in-person are more likely to have difficulties finding childcare

1. Find respondents who indicated they returned to work in-person [19]

a. Find proportion of subset who reported having difficulty accessing child care currently and/or in the past year [21]
b. Find proportion not in subset who reported having difficulty accessing childcare currently and/or in the past year and compare (test unequal proportions)

3.11)Households in Bronx and Queens are more likely to not be able to afford childcare/had difficulty with childcare

1. Find proportions of households who could not afford childcare/had difficulty with childcare who are from Bronx/Queens

2. Compare with families from other boroughs

3.13)Households that had difficulty accessing childcare during the pandemic are more likely to be concerned about their students' academic level

1. Find households that indicated they are concerned about their children's academic level [28]

a. Find proportion of subset that had difficulty accessing childcare over the past year [21]
b. Find proportion not in subset and compare (test unequal proportions)

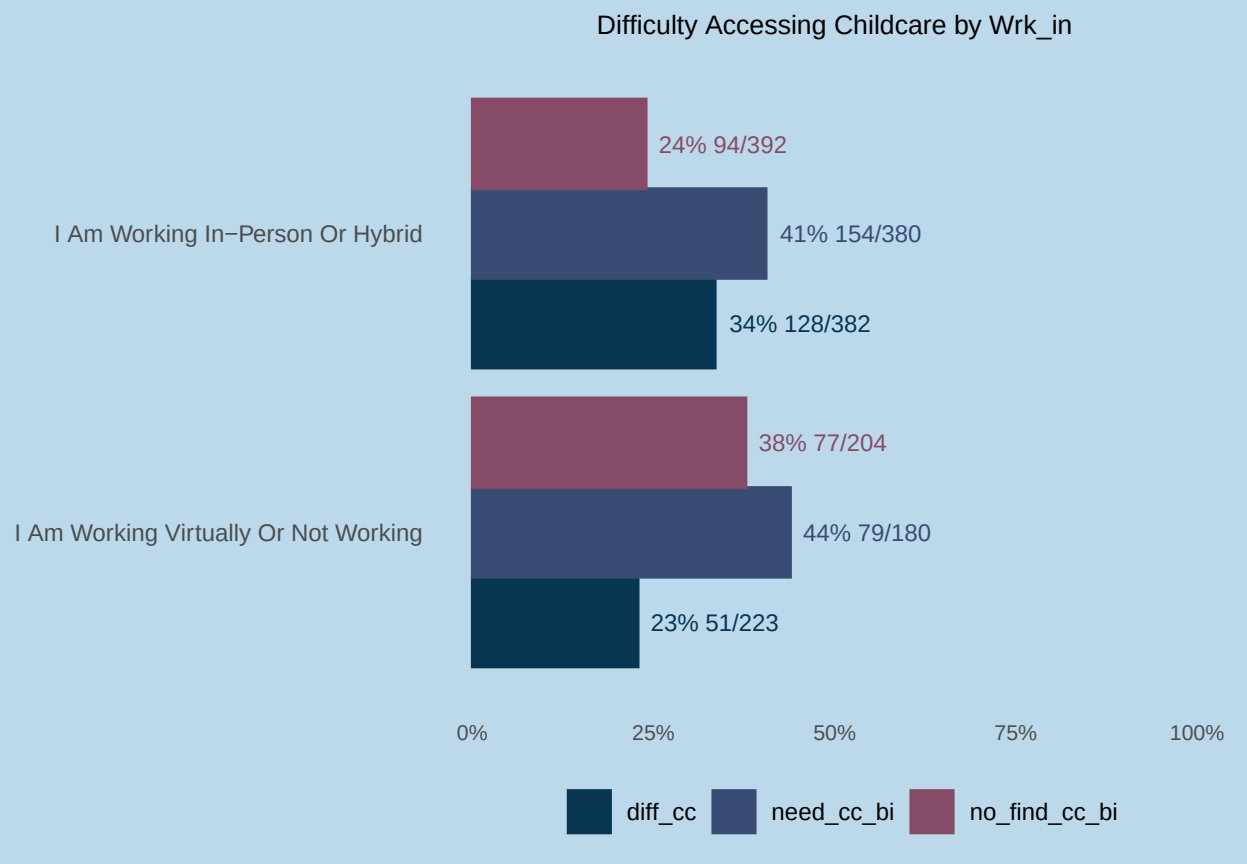
3.14)Households that had difficulty accessing childcare during the pandemic are more likely to be concerned about their students' comfort around other students

2. Find households that indicated they are concerned about their children's comfort around other students [28]

a. Find proportion of subset that had difficulty accessing childcare over the past year [21]
b. Find proportion not in subset and compare (test unequal proportions)

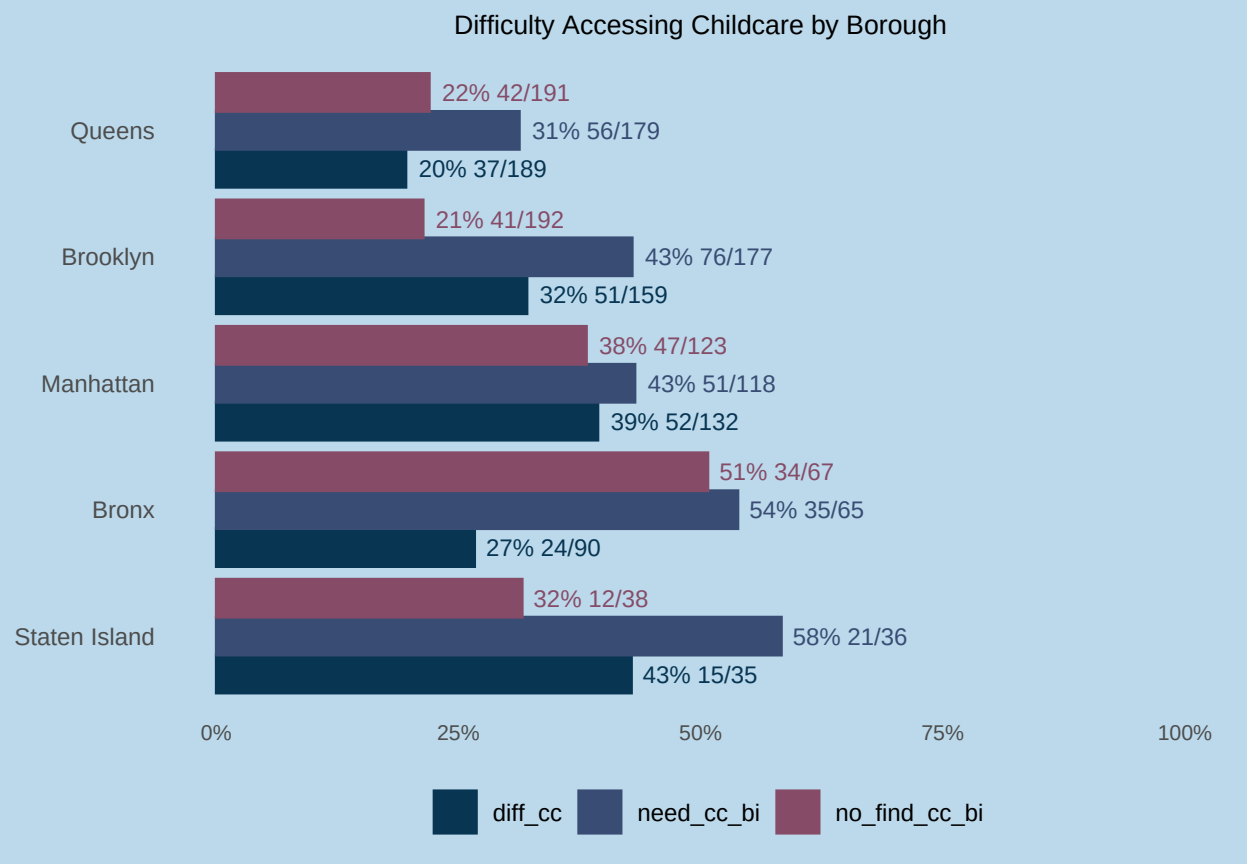
```
make_plots(df_ch, c("wrk_in", "borough", "att_con_acad", "att_con_comf"),
           c("diff_cc", "need_cc_bi", "no_find_cc_bi"),
           title = "Difficulty Accessing Childcare")
```

```
## $wrk_in
## $wrk_in$plot
```




```
##
## $wrk_in$p.values
## $wrk_in$p.values$diff_cc
##                                       I am working virtually or not working
## I am working virtually or not working                                    NA
## I am working in-person or hybrid                                     0.0075
##                                       I am working in-person or hybrid
## I am working virtually or not working                               0.0075
## I am working in-person or hybrid                                        NA
##
## $wrk_in$p.values$need_cc_bi
##                                       I am working in-person or hybrid
## I am working in-person or hybrid                                        NA
## I am working virtually or not working                                   NA
##                                       I am working virtually or not working
## I am working in-person or hybrid                                        NA
## I am working virtually or not working                                   NA
##
## $wrk_in$p.values$no_find_cc_bi
##                                       I am working in-person or hybrid
## I am working in-person or hybrid                                        NA
## I am working virtually or not working                                 6e-04
##                                       I am working virtually or not working
## I am working in-person or hybrid                                      6e-04
## I am working virtually or not working                                   NA
##
```

```
##
##
## $borough
## $borough$plot
```




```
##
## $borough$p.values
## $borough$p.values$diff_cc
##                queens bronx brooklyn manhattan staten island
## queens             NA    NA       NA   0.00016        0.0055
## bronx              NA    NA       NA        NA            NA
## brooklyn           NA    NA       NA        NA            NA
## manhattan     0.00016    NA       NA        NA            NA
## staten island 0.00550    NA       NA        NA            NA
##
## $borough$p.values$need_cc_bi
##               queens brooklyn manhattan  bronx staten island
## queens            NA       NA        NA 0.0021        0.0038
## brooklyn          NA       NA        NA     NA            NA
## manhattan         NA       NA        NA     NA            NA
## bronx         0.0021       NA        NA     NA            NA
## staten island 0.0038       NA        NA     NA            NA
##
## $borough$p.values$no_find_cc_bi
##               brooklyn  queens staten island manhattan   bronx
```

```
## brooklyn            NA      NA            NA    0.0018 1.0e-05
## queens              NA      NA            NA    0.0028 1.8e-05
## staten island       NA      NA            NA        NA      NA
## manhattan      0.00180 2.8e-03            NA        NA      NA
## bronx          0.00001 1.8e-05            NA        NA      NA
##
##
##
## $att_con_acad
## NULL
##
## $att_con_comf
## NULL
```

3.5)Single person households with children are more likely to have or have had difficulties accessing childcare [25,21]

1. Find respondents who are single person households [25]

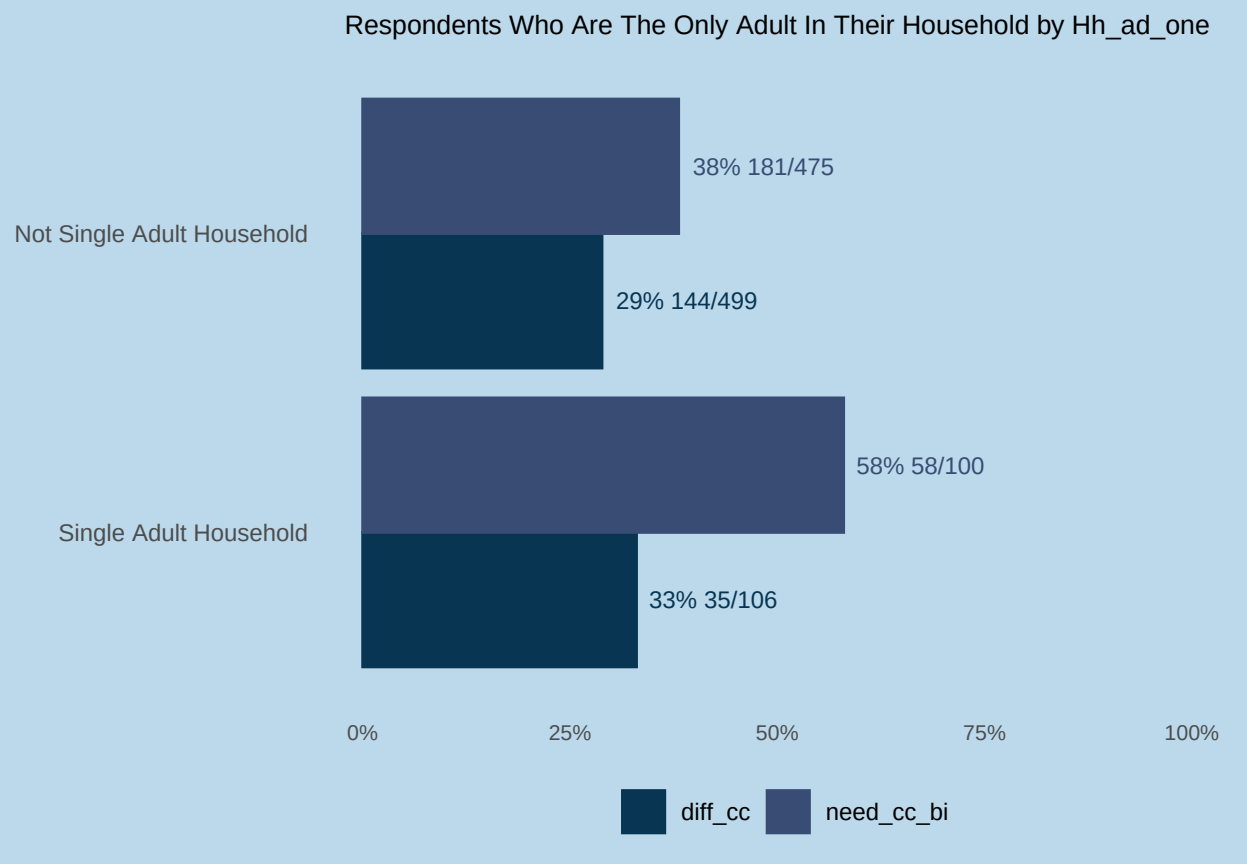
a. Find proportion of subset who reported having difficulty accessing child care currently and/or in the past year [21]
b. Find proportion not in subset who reported having difficulty accessing childcare currently and/or in the past year and compare (test unequal proportions)

2. Find respondents who are single person households [24]

a. Find proportion of of subset who reported that they need childcare but cannot afford it [30]
b. Find proportion not in subset who reported that they need childcare but cannot afford it and compare (test unequal proportions)

```
make_plots(df_ch, "hh_ad_one", c("diff_cc", "need_cc_bi"),
           title = "Respondents Who are the only adult in their household")
```

```
## $hh_ad_one
## $hh_ad_one$plot
```




```
##
## $hh_ad_one$p.values
## $hh_ad_one$p.values$diff_cc
##                            not single adult household single adult household
## not single adult household                         NA                     NA
## single adult household                             NA                     NA
##
## $hh_ad_one$p.values$need_cc_bi
##                            not single adult household single adult household
## not single adult household                         NA                0.00037
## single adult household                        0.00037                     NA
```

3.6)Households with children in public schools were more likely to have difficulty accessing childcare in the past year

1. Find households with children in all public schools and traditional public schools [26]

a. Find proportion of subset (public school, traditional public school - separate tests) that had difficulty accessing childcare in the past six months [21]
b. Find proportion not in subset that had difficulty accessing childcare in the past six months and compare (test unequal proportions) [30]

```r
mean(df_ch$att_sch_pub, na.rm = TRUE)
```

```
## [1] 0.5829016
```

```r
make_plots(df_ch, "att_sch_pub", c("diff_cc", "need_cc_bi"))
```

```
## $att_sch_pub
## NULL
```

3.7)Households above the median income were more likely to look towards friends/families for childcare needs rather than government resources

1. Find respondents who are above median income and have children in the household [13, 25]

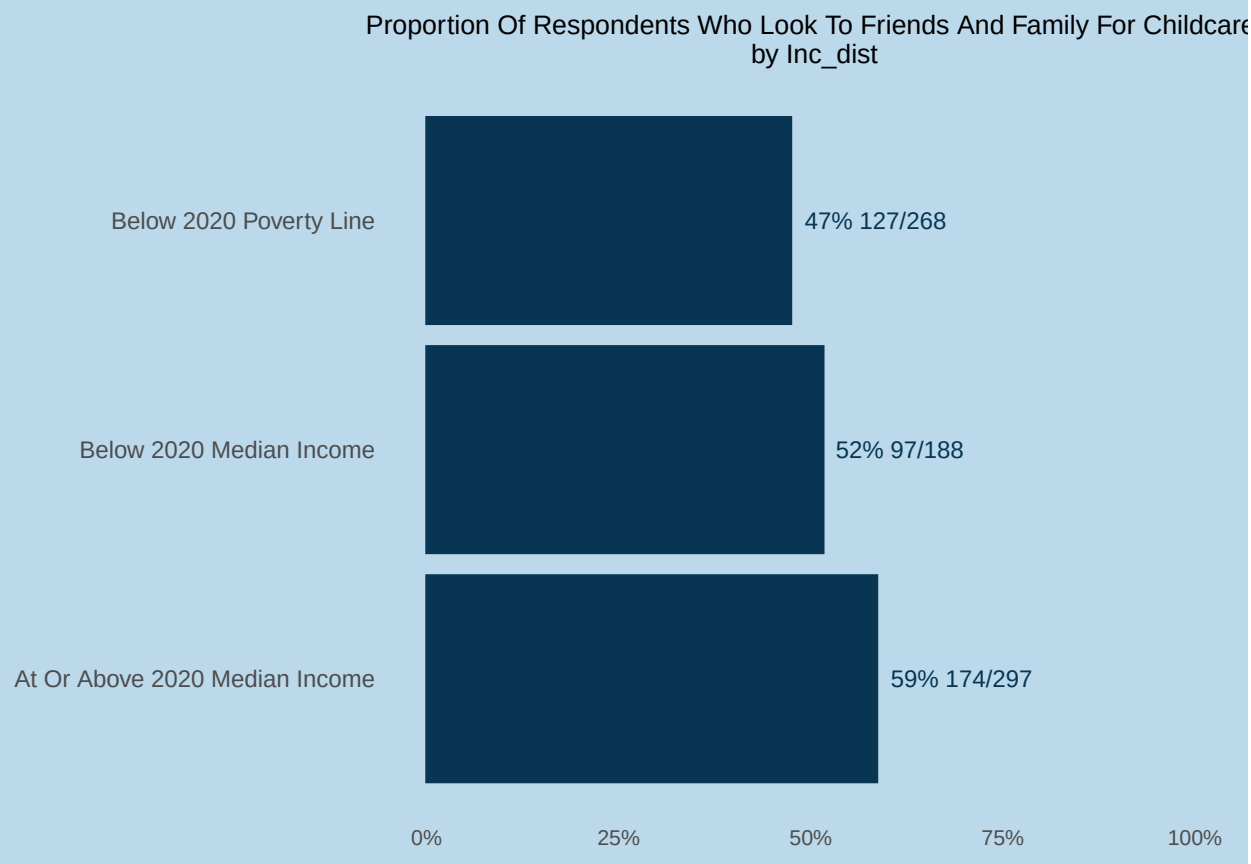
a. Find proportion of subset who looks towards friends and family for childcare needs [33]

2. Find respondents who indicated they are below median income and have children in the household [14, 25]

a. Find proportion of subset who looks towards friends and family for childcare needs [33]
b. Compare both proportions (test unequal proportions)

```r
make_plots(df_ch, "inc_dist", "lr_cc_fam",
           title = "Proportion of Respondents who look to friends and family for childcare\n")
```

```
## $inc_dist
## $inc_dist$plot
```




```
##
## $inc_dist$p.values
## $inc_dist$p.values$lr_cc_fam
##                                 below 2020 poverty line below 2020 median income
## below 2020 poverty line                              NA                        NA
## below 2020 median income                             NA                        NA
## at or above 2020 median income                   0.0099                        NA
##                                 at or above 2020 median income
## below 2020 poverty line                                 0.0099
## below 2020 median income                                    NA
## at or above 2020 median income                              NA
```

3.8)Households at or below median income were more likely to rely on the government for childcare

1. Find households whose reported 2021 income was below below the median [13]

a. Find proportion of subset who rely on government resources for childcare needs [33]
b. Find proportion not in subset and compare (test unequal proportions)

```
make_plots(df_ch, "inc_dist", "lr_cc_gov")
```

```
## $inc_dist
## NULL
```

3.9)Households that did/did not send their children back to in-person school

1. Households that did send their children back to in person school

a. Find proportion of of households that did send their children back to in person school [26]

2. Households that did not send their children back to in person school

a. Run distribution over sub demographics(a-o)
b. Run distribution over reason for not returning to school
c. Run distribution over sub demographics (a-o) for each concern

```
mean(df_ch$att_prsn_bi, na.rm = TRUE)
```

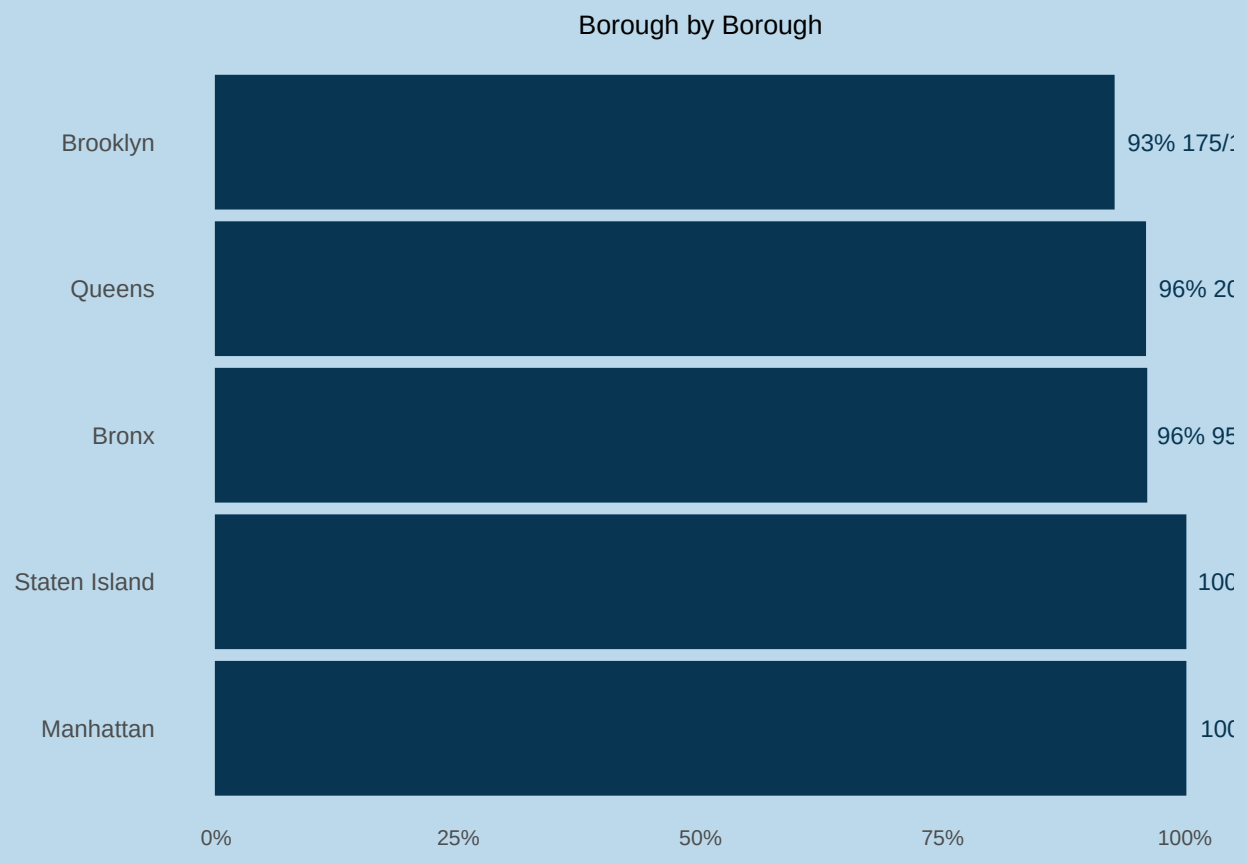
```
## [1] 0.9613181
```

```
df_ch %>% count(att_prsn_bi, att_not) %>% mutate_if(haven::is.labelled, labelled::to_factor)
```

```
## # A tibble: 6 x 3
##   att_prsn_bi att_not                                          n
##   <fct>       <fct>                                        <int>
## 1 no          i am concerned about covid-19                    3
## 2 no          my family has left new york city                 7
## 3 no          i am concerned about academic support for my child    6
## 4 no          other                                           11
## 5 yes         <NA>                                           671
## 6 <NA>        <NA>                                            75
```

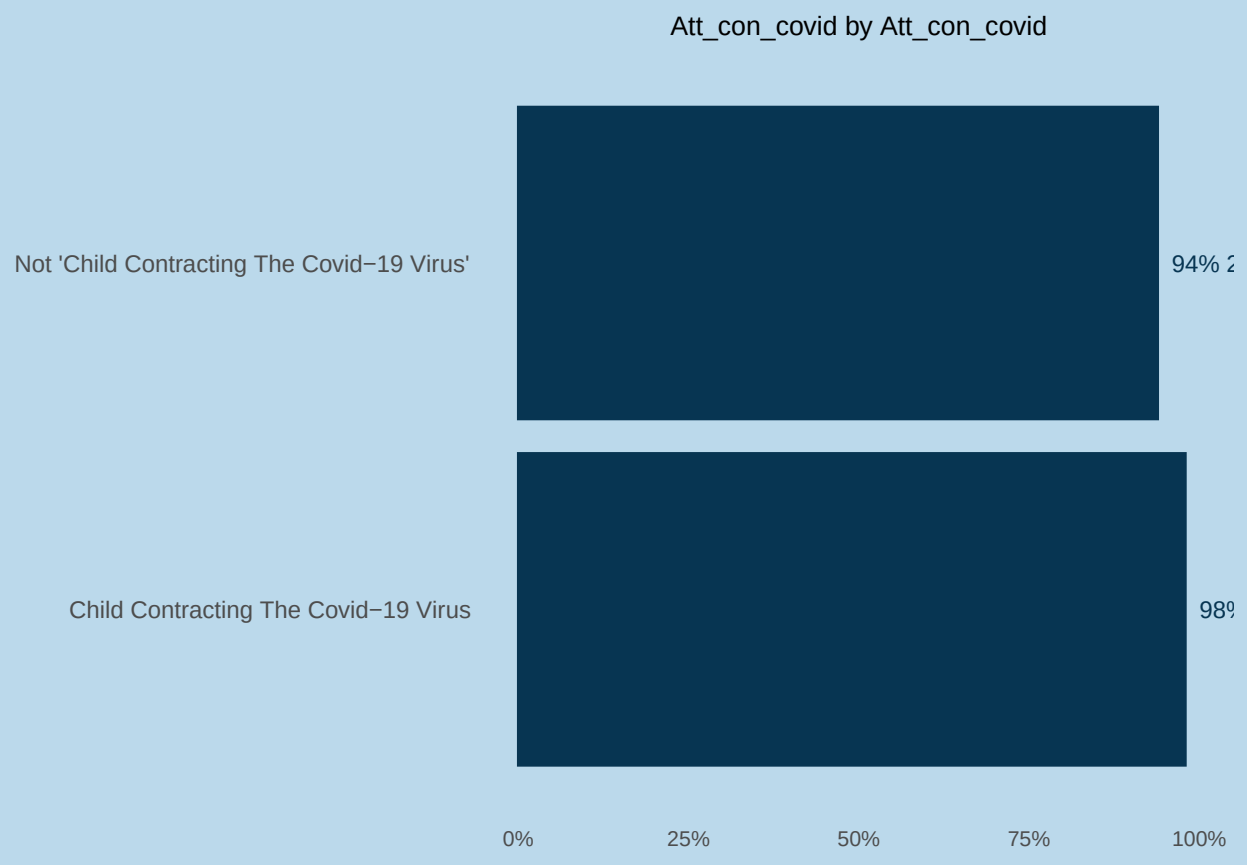
```
concerns <- wrangled %>% select(starts_with("att_con_") & !ends_with("text")) %>% colnames()

lapply(c(demographics, concerns), function(item) {
  make_plots(df_ch, item, "att_prsn_bi", title = item)
})
```

```
## $borough
## $borough$borough
## $borough$borough$plot
```




```
##
## $borough$borough$p.values
## $borough$borough$p.values$att_prsn_bi
##               brooklyn queens bronx manhattan staten island
## brooklyn            NA     NA    NA    0.0017            NA
## queens              NA     NA    NA        NA            NA
## bronx               NA     NA    NA        NA            NA
## manhattan       0.0017     NA    NA        NA            NA
## staten island       NA     NA    NA        NA            NA
##
##
##
##
## $gen
## $gen$gen
## NULL
##
##
## $race_census
## $race_census$race_census
## NULL
##
##
## $hh_ch_0_17_bi
## $hh_ch_0_17_bi$hh_ch_0_17_bi
## NULL
```

```
##
##
## $hh_sn_65_bi
## $hh_sn_65_bi$hh_sn_65_bi
## NULL
##
##
## $inc_dist
## $inc_dist$inc_dist
## NULL
##
##
## [[7]]
## [[7]]$att_con_covid
## [[7]]$att_con_covid$plot
```




```
##
## [[7]]$att_con_covid$p.values
## [[7]]$att_con_covid$p.values$att_prsn_bi
##                                          not 'child contracting the covid-19 virus'
## not 'child contracting the covid-19 virus'                                         NA
## child contracting the covid-19 virus                                             0.01
##                                          child contracting the covid-19 virus
## not 'child contracting the covid-19 virus'                                 0.01
## child contracting the covid-19 virus                                         NA
```

```
##
##
##
##
## [[8]]
## [[8]]$att_con_acad
## NULL
##
##
## [[9]]
## [[9]]$att_con_comf
## NULL
##
##
## [[10]]
## [[10]]$att_con_exp
## NULL
##
##
## [[11]]
## [[11]]$att_con_size
## NULL
##
##
## [[12]]
## [[12]]$att_con_trans
## NULL
##
##
## [[13]]
## [[13]]$att_con_none
## NULL
##
##
## [[14]]
## [[14]]$att_con_other
## NULL
##
##
## [[15]]
## [[15]]$att_con_num
## NULL
```

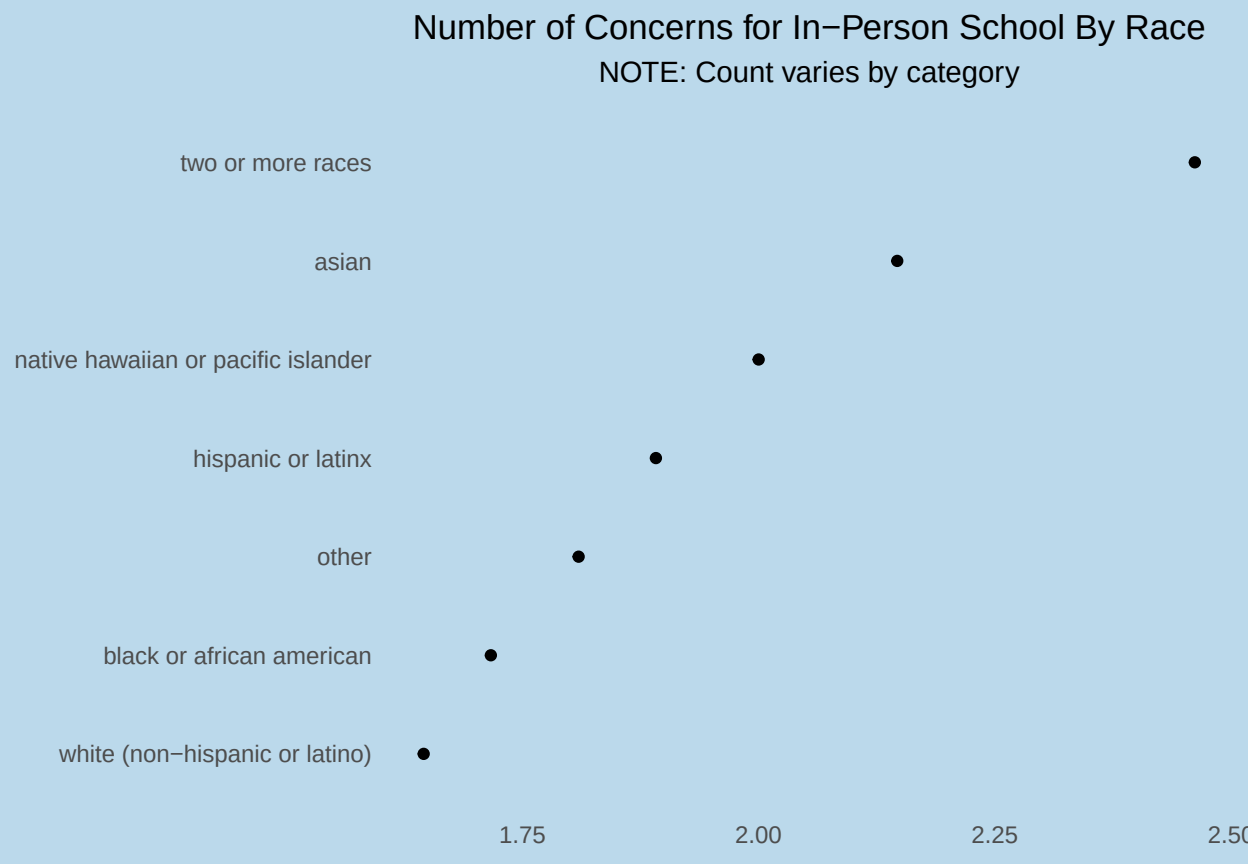
3.10) Summary of all concerns regarding children attending full-time schools [28]

1. Run by population for all responses
2. Run each concern based on all the sub demographic categories

```
mean(df_ch$att_con_num, na.rm = TRUE)
```

```
## [1] 1.836707
```

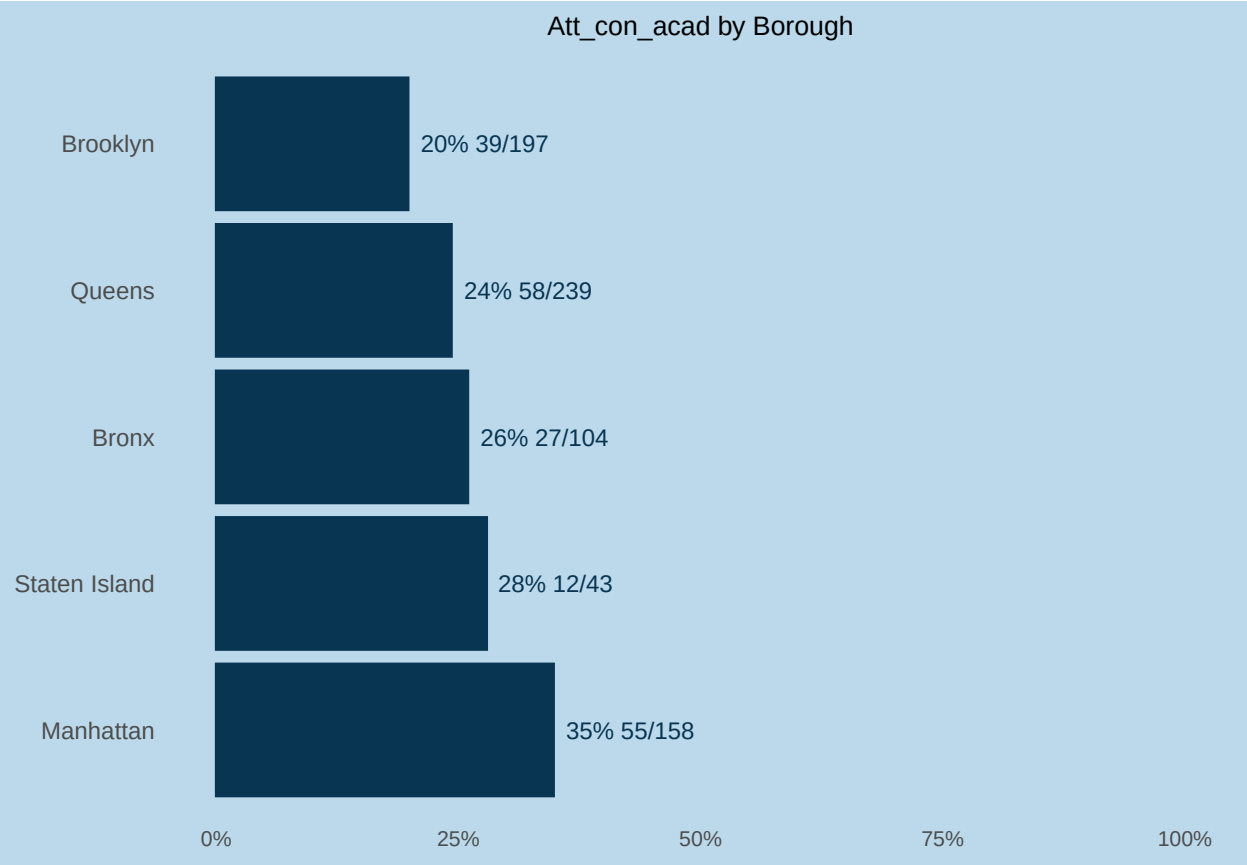
```
# should add a certainty measure
wrangled %>% group_by(race_census) %>% summarize(mean = mean(att_con_num, na.rm = TRUE)) %>%
  na.omit() %>%
  ggplot(aes(x = mean, y = reorder(race_census, mean))) + geom_point() +
  ggtitle("Number of Concerns for In-Person School By Race") + xlab(NULL) + ylab(NULL) +
  labs(subtitle = "NOTE: Count varies by category")
```




```
lapply(concerns, function(con) {
  make_plots(df_ch, demographics, con, title = con)
})
```

```
## [[1]]
## [[1]]$borough
## NULL
##
## [[1]]$gen
## NULL
##
## [[1]]$race_census
## NULL
##
## [[1]]$hh_ch_0_17_bi
## NULL
##
## [[1]]$hh_sn_65_bi
```

```
## NULL
##
## [[1]]$inc_dist
## NULL
##
##
## [[2]]
## [[2]]$borough
## [[2]]$borough$plot
```

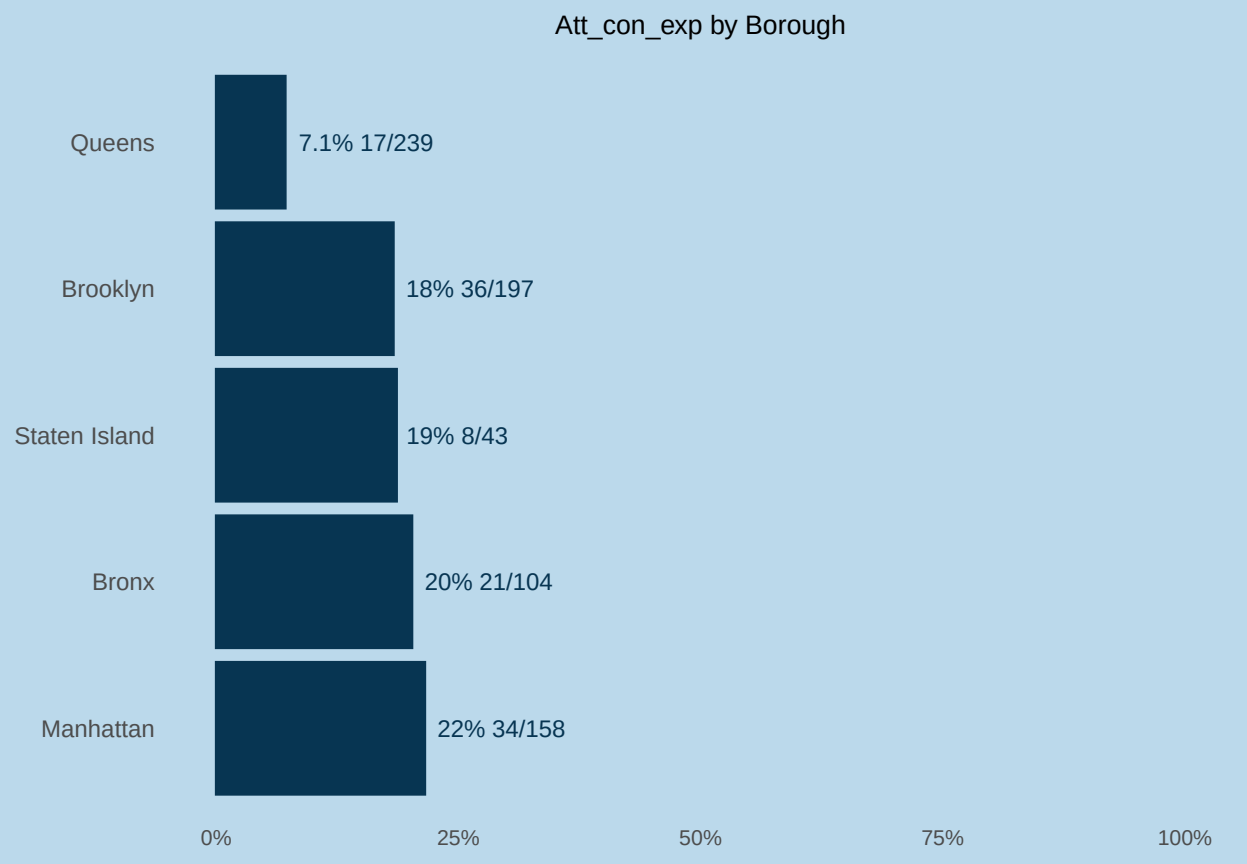



```
##
## [[2]]$borough$p.values
## [[2]]$borough$p.values$att_con_acad
##               brooklyn queens bronx staten island manhattan
## brooklyn            NA     NA    NA            NA    0.0022
## queens              NA     NA    NA            NA        NA
## bronx               NA     NA    NA            NA        NA
## staten island       NA     NA    NA            NA        NA
## manhattan       0.0022     NA    NA            NA        NA
##
##
##
## [[2]]$gen
## NULL
##
```

```
## [[2]]$race_census
## NULL
##
## [[2]]$hh_ch_0_17_bi
## NULL
##
## [[2]]$hh_sn_65_bi
## NULL
##
## [[2]]$inc_dist
## NULL
##
##
## [[3]]
## [[3]]$borough
## NULL
##
## [[3]]$gen
## NULL
##
## [[3]]$race_census
## [[3]]$race_census$plot
```

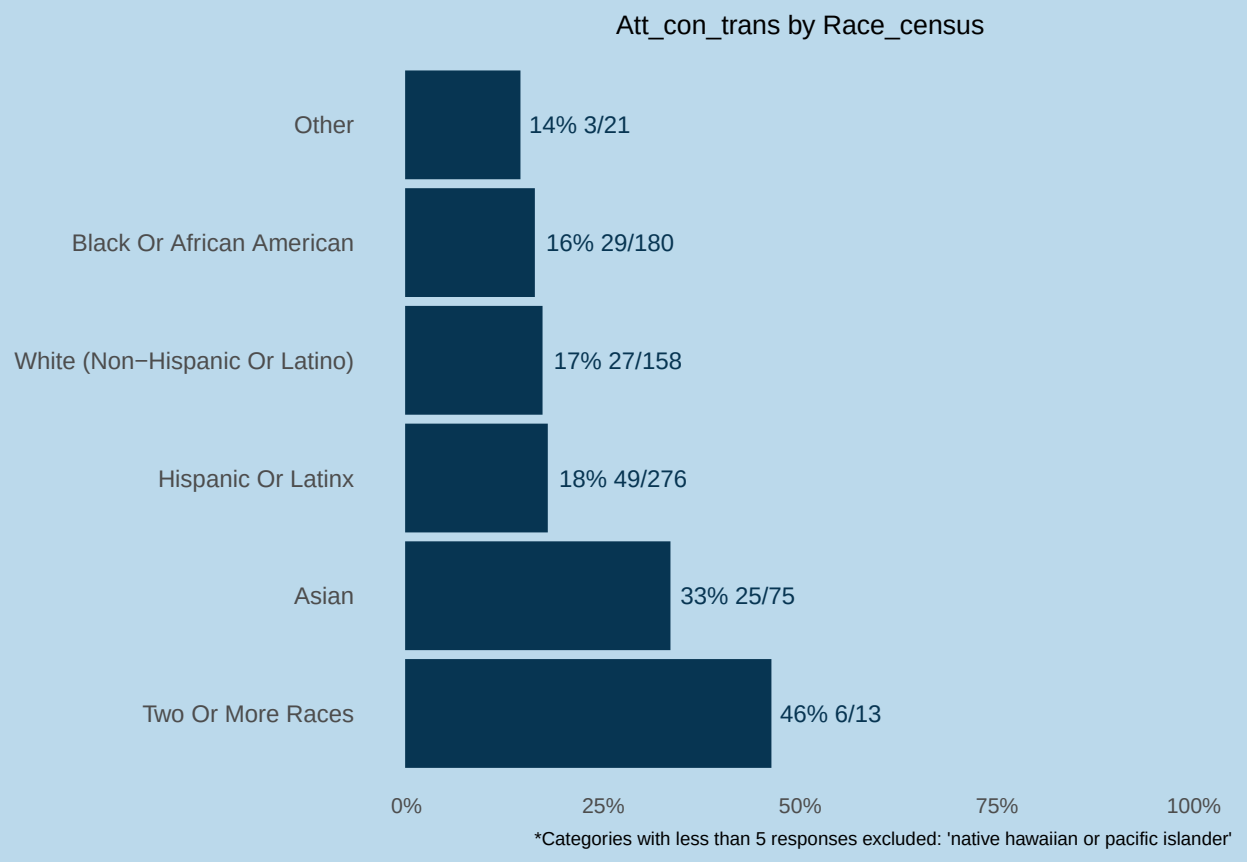

```
##
## [[3]]$race_census$p.values
```

```
## [[3]]$race_census$p.values$att_con_comf
##                                 black or african american
## black or african american                              NA
## white (non-hispanic or latino)                         NA
## other                                                  NA
## hispanic or latinx                                     NA
## two or more races                                      NA
## asian                                             0.00019
##                                 white (non-hispanic or latino) other
## black or african american                                   NA    NA
## white (non-hispanic or latino)                              NA    NA
## other                                                       NA    NA
## hispanic or latinx                                          NA    NA
## two or more races                                           NA    NA
## asian                                                  0.00049    NA
##                                 hispanic or latinx two or more races   asian
## black or african american                       NA                NA 0.00019
## white (non-hispanic or latino)                  NA                NA 0.00049
## other                                           NA                NA      NA
## hispanic or latinx                              NA                NA 0.00720
## two or more races                               NA                NA      NA
## asian                                       0.0072                NA      NA
##
##
##
## [[3]]$hh_ch_0_17_bi
## NULL
##
## [[3]]$hh_sn_65_bi
## NULL
##
## [[3]]$inc_dist
## NULL
##
##
## [[4]]
## [[4]]$borough
## [[4]]$borough$plot
```




```
##
## [[4]]$borough$p.values
## [[4]]$borough$p.values$att_con_exp
##                queens brooklyn staten island   bronx manhattan
## queens             NA  0.00067            NA 0.00078   5.2e-05
## brooklyn      6.7e-04       NA            NA      NA        NA
## staten island      NA       NA            NA      NA        NA
## bronx         7.8e-04       NA            NA      NA        NA
## manhattan     5.2e-05       NA            NA      NA        NA
##
##
##
## [[4]]$gen
## NULL
##
## [[4]]$race_census
## NULL
##
## [[4]]$hh_ch_0_17_bi
## NULL
##
## [[4]]$hh_sn_65_bi
## NULL
##
## [[4]]$inc_dist
## NULL
```

```
##
##
## [[5]]
## [[5]]$borough
## NULL
##
## [[5]]$gen
## NULL
##
## [[5]]$race_census
## NULL
##
## [[5]]$hh_ch_0_17_bi
## NULL
##
## [[5]]$hh_sn_65_bi
## NULL
##
## [[5]]$inc_dist
## NULL
##
##
## [[6]]
## [[6]]$borough
## NULL
##
## [[6]]$gen
## NULL
##
## [[6]]$race_census
## [[6]]$race_census$plot
```




```
##
## [[6]]$race_census$p.values
## [[6]]$race_census$p.values$att_con_trans
##                                other black or african american
## other                             NA                        NA
## black or african american         NA                        NA
## white (non-hispanic or latino)    NA                        NA
## hispanic or latinx                NA                        NA
## asian                             NA                    0.0037
## two or more races                 NA                        NA
##                                white (non-hispanic or latino)
## other                                                     NA
## black or african american                                 NA
## white (non-hispanic or latino)                            NA
## hispanic or latinx                                        NA
## asian                                                  0.009
## two or more races                                         NA
##                                hispanic or latinx  asian two or more races
## other                                          NA     NA                NA
## black or african american                      NA 0.0037                NA
## white (non-hispanic or latino)                 NA 0.0090                NA
## hispanic or latinx                             NA 0.0055                NA
## asian                                      0.0055     NA                NA
## two or more races                              NA     NA                NA
##
##
```

```
##
## [[6]]$hh_ch_0_17_bi
## NULL
##
## [[6]]$hh_sn_65_bi
## NULL
##
## [[6]]$inc_dist
## NULL
##
##
## [[7]]
## [[7]]$borough
## NULL
##
## [[7]]$gen
## NULL
##
## [[7]]$race_census
## NULL
##
## [[7]]$hh_ch_0_17_bi
## NULL
##
## [[7]]$hh_sn_65_bi
## NULL
##
## [[7]]$inc_dist
## NULL
##
##
## [[8]]
## [[8]]$borough
## NULL
##
## [[8]]$gen
## NULL
##
## [[8]]$race_census
## NULL
##
## [[8]]$hh_ch_0_17_bi
## NULL
##
## [[8]]$hh_sn_65_bi
## NULL
##
## [[8]]$inc_dist
## NULL
##
##
## [[9]]
## [[9]]$borough
## NULL
```

```
##
## [[9]]$gen
## NULL
##
## [[9]]$race_census
## NULL
##
## [[9]]$hh_ch_0_17_bi
## NULL
##
## [[9]]$hh_sn_65_bi
## NULL
##
## [[9]]$inc_dist
## NULL
```

3.12)Households that did not send their children back to school because they are concerned about COVID-19 are more likely to have had at least one person in the household test positive for COVID-19

1. Find proportion of households with children that are not sending their children to in person school and report the reason they are not sending them back is because of concerns of COVID-19 [27.a]]

a. Find proportion of subset that had at least one person in their household test positive for COVID-19[36]
b. From proportion not in subset and compare (test unequal proportions)

```
mean(df_ch$att_prsn_bi, na.rm = TRUE)
```

```
## [1] 0.9613181
```

```
df_ch %>% filter(att_prsn_bi < 1) %>%
  mutate(att_not = to_factor(att_not)) %>%
  select(att_not, att_not_text)
```

```
## # A tibble: 27 x 2
##    att_not                                              att_not_text
##    <fct>                                                <chr>
##  1 other                                                <NA>
##  2 other                                                only one of my children i~
##  3 other                                                immunocompromised child a~
##  4 i am concerned about academic support for my child <NA>
##  5 i am concerned about academic support for my child <NA>
##  6 other                                                <NA>
##  7 i am concerned about academic support for my child <NA>
##  8 my family has left new york city                     <NA>
##  9 other                                                no
## 10 i am concerned about covid-19                        <NA>
## # ... with 17 more rows
```

```
make_plots(df_ch %>% filter(att_prsn_bi != 1),
           "att_con_covid", "posi_all",
           title = "Proportion of Respondents\n(who didn't send their children back to school and fear
```

```
## $att_con_covid
## NULL
```

3.15)Respondents who have a low income (below median income) are more likely to be worried about transport while their child attends in-person school

1. Find proportion who cite transport as one of their concerns when their child [27]

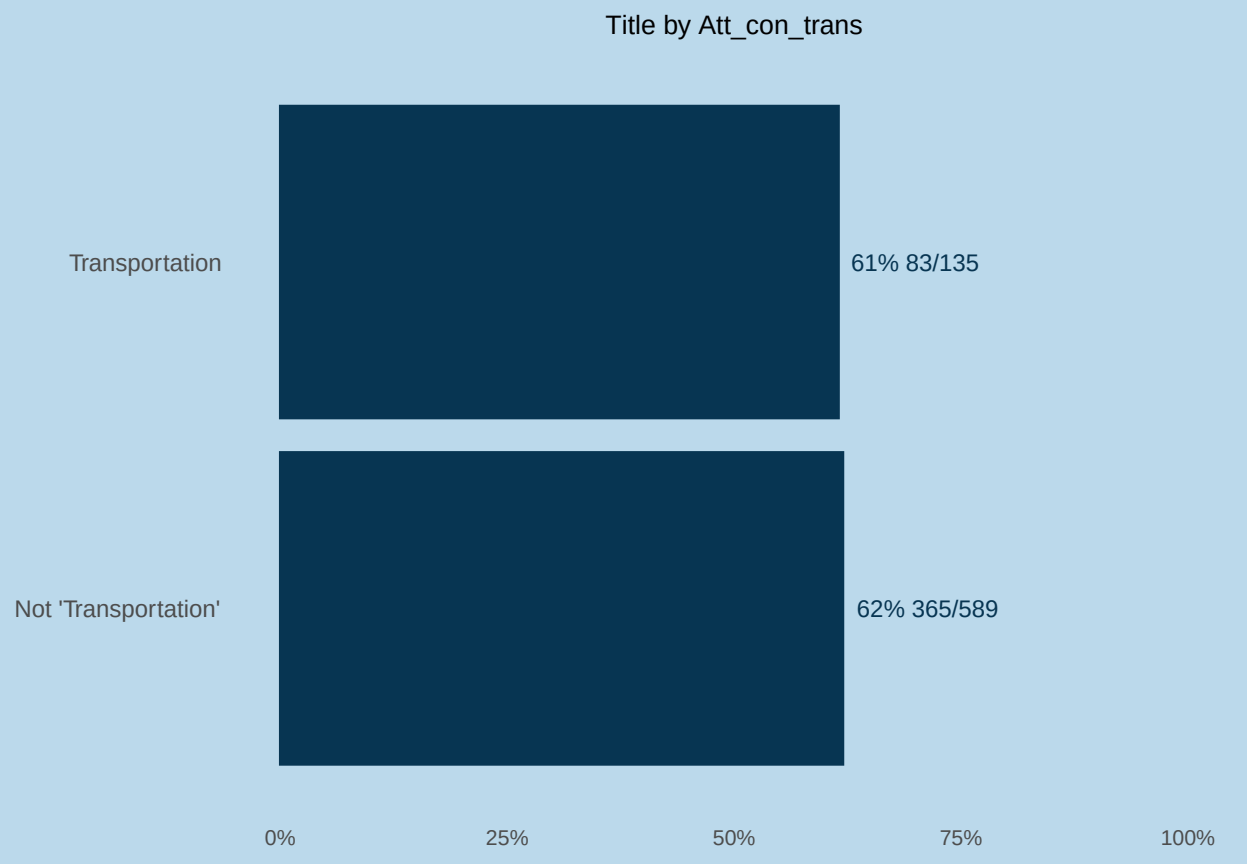
a. Find subset below median income [13]
b. Compare with respondents above median income

```
mean(df_ch$att_con_trans, na.rm = TRUE)
```

```
## [1] 0.1902834
```

```
make_plots(df_ch, "att_con_trans", "inc_be_med_before", show = "yes")
```

```
## $att_con_trans
## $att_con_trans$plot
```

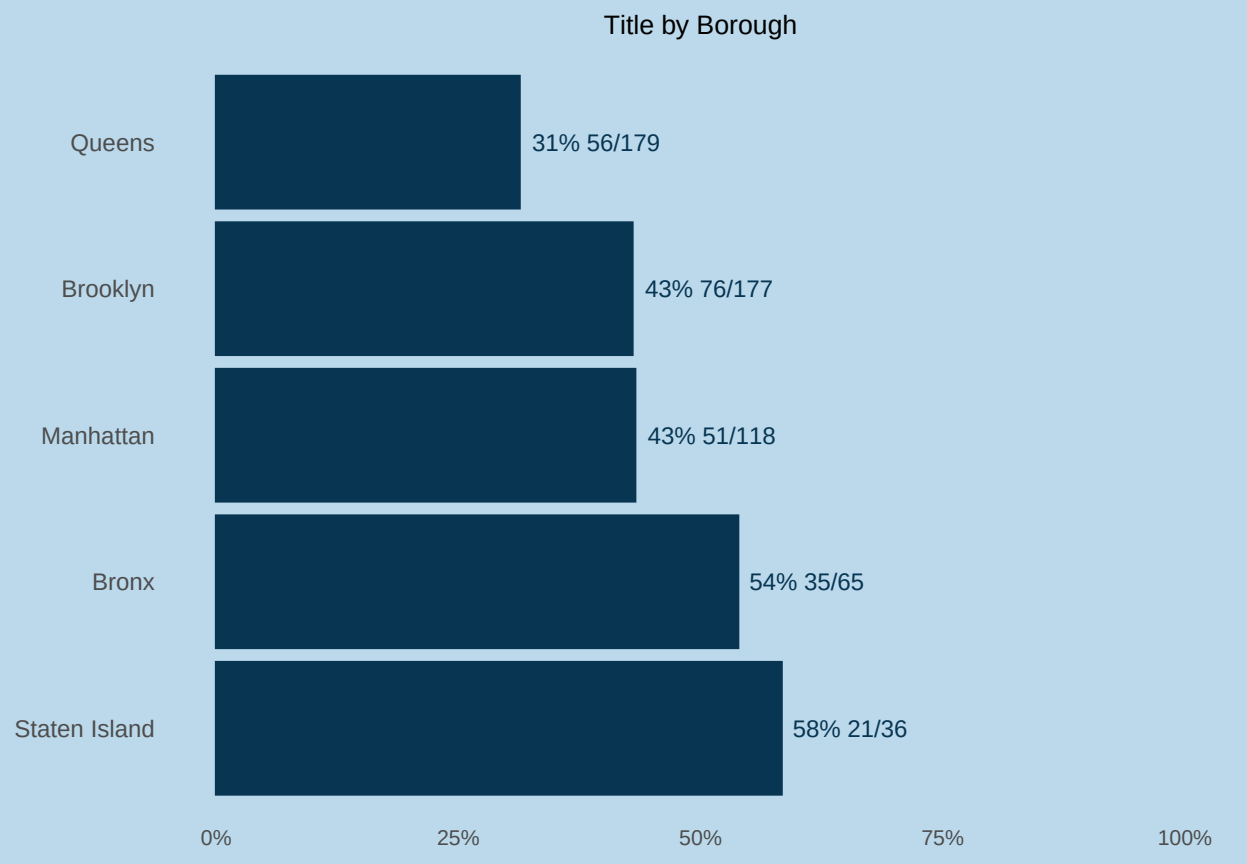



```
##
## $att_con_trans$p.values
## $att_con_trans$p.values$inc_be_med_before
##                      transportation not 'transportation'
## transportation                    NA                   NA
## not 'transportation'              NA                   NA
```

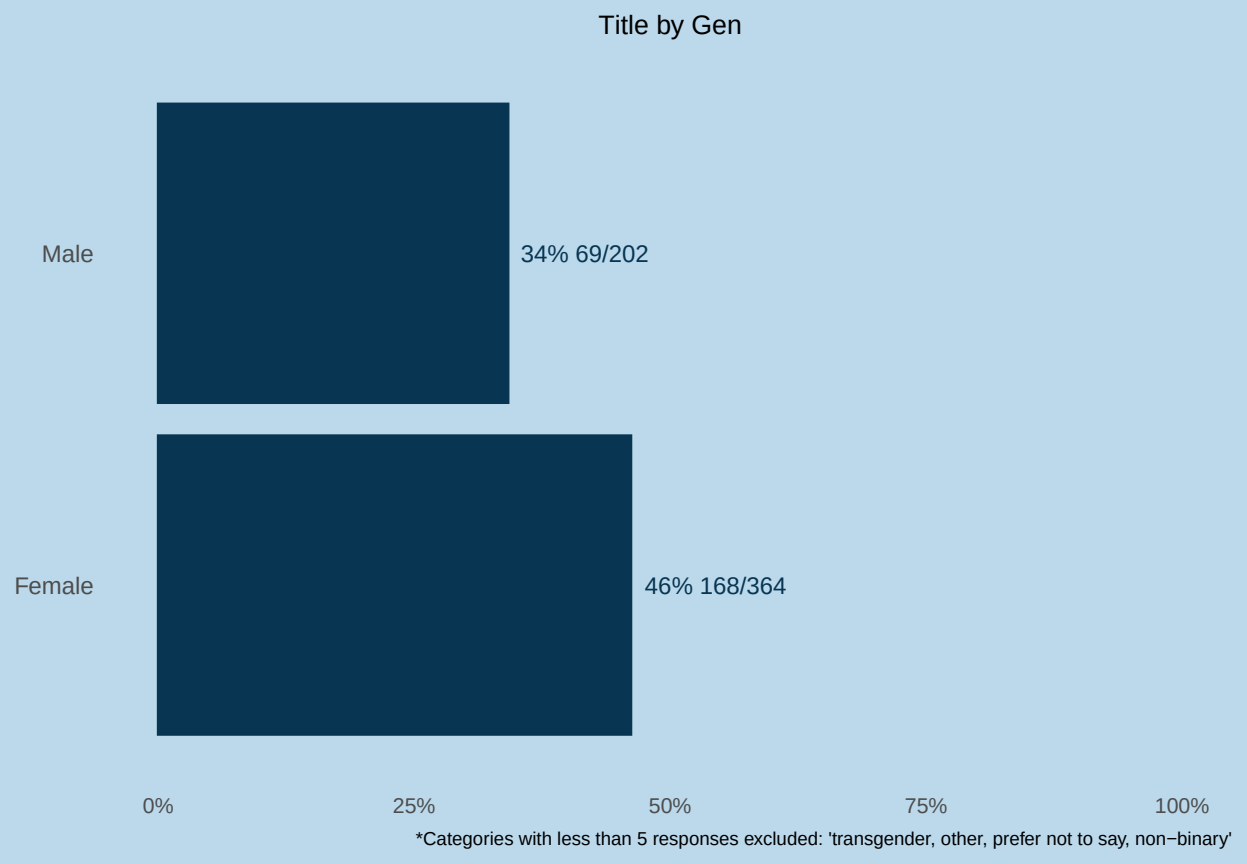
3.16) Households below median income were more likely to struggle with affordability of childcare(run it by ages, 0-14, 4-17) 1. Run it by each sub demographic group

```
make_plots(df_ch, c(demographics, "hh_ch_0_4_bi", "hh_ch_4_17_bi", "inc_be_med"), "need_cc_bi")
```

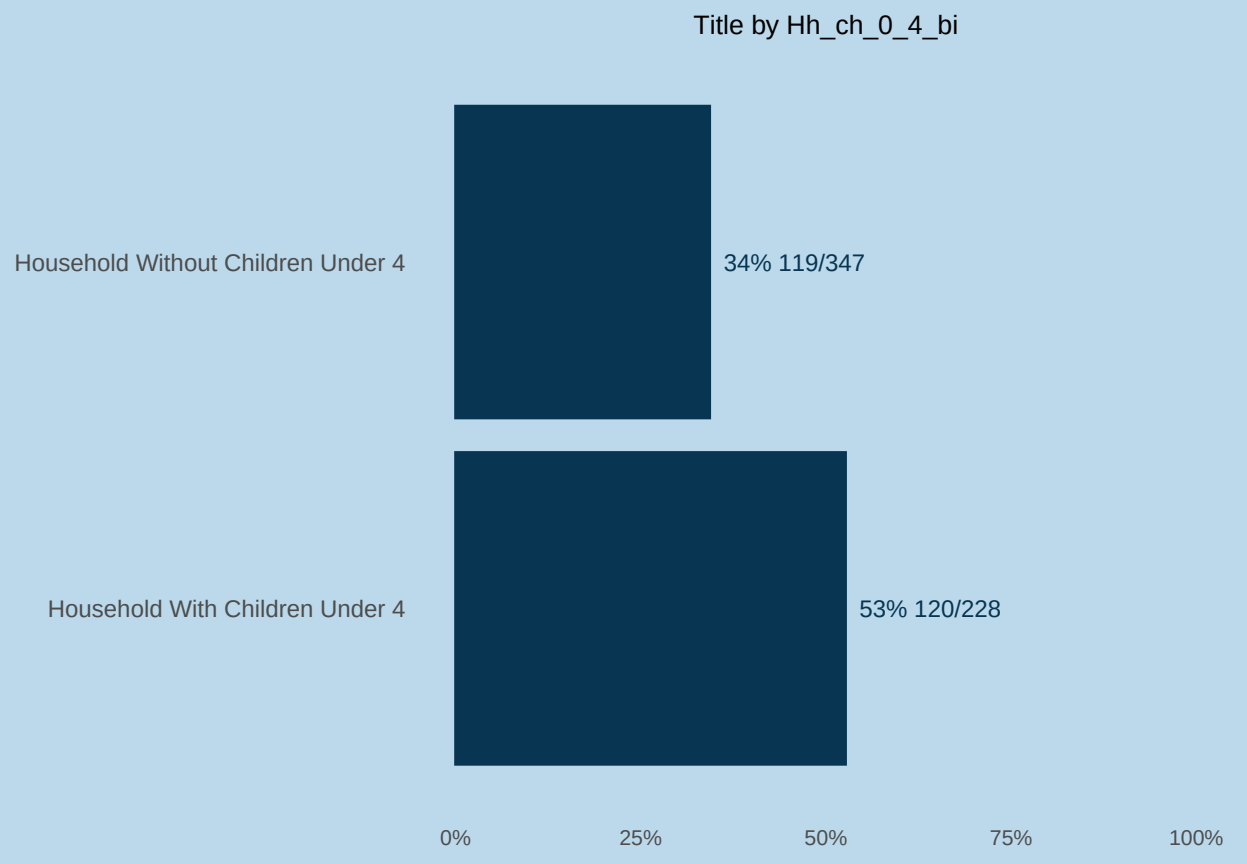
```
## $borough
## $borough$plot
```




```
##
## $borough$p.values
## $borough$p.values$need_cc_bi
##               queens brooklyn manhattan  bronx staten island
## queens            NA       NA        NA 0.0021        0.0038
## brooklyn          NA       NA        NA     NA            NA
## manhattan         NA       NA        NA     NA            NA
## bronx         0.0021       NA        NA     NA            NA
## staten island 0.0038       NA        NA     NA            NA
##
##
##
## $gen
## $gen$plot
```




```
##
## $gen$p.values
## $gen$p.values$need_cc_bi
##          male female
## male       NA 0.0073
## female 0.0073     NA
##
##
##
## $race_census
## NULL
##
## $hh_ch_0_17_bi
## NULL
##
## $hh_sn_65_bi
## NULL
##
## $inc_dist
## NULL
##
## $hh_ch_0_4_bi
## $hh_ch_0_4_bi$plot
```




```
##
## $hh_ch_0_4_bi$p.values
## $hh_ch_0_4_bi$p.values$need_cc_bi
##                                    household without children under 4
## household without children under 4                                  NA
## household with children under 4                                1.9e-05
##                                    household with children under 4
## household without children under 4                           1.9e-05
## household with children under 4                                   NA
##
##
##
## $hh_ch_4_17_bi
## NULL
##
## $inc_be_med
## NULL
```