EEMB DEI Report - 2022/23

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Contents

Load Data

These are the questions to be analyzed after omiting long responses (eg what
"Other" means, "define diversity") and demographic information.

```
## questions in a useable format
questions <- read_csv("eemb_dei_colrename.csv")  %>%
  unite("newcolnames", c(colnames, category), sep = ":", na.rm=T, remove=F)

## these are the questions to be analyzed
questions %>%
  filter(!str_detect(newcolnames, "longanswer"),
         # !str_detect(newcolnames, "demograph"),
         !str_detect(newcolnames, "other"),
         !str_detect(newcolnames, "confirm")) %>%
  select(question)
```

```
# A tibble: 104 x 1
   question
   <chr>
 1 How comfortable do you feel discussing about general DEI issues with: - Frie~
 2 How comfortable do you feel discussing about general DEI issues with: - Fami~
 3 How comfortable do you feel discussing about general DEI issues with: - peer~
 4 How comfortable do you feel discussing about general DEI issues with: - juni~
 5 How comfortable do you feel discussing about general DEI issues with: - seni~
 6 How comfortable do you feel discussing about general DEI issues with: - advi~
 7 How comfortable do you feel discussing about general DEI issues with: - non-~
 8 How comfortable do you feel discussing about general DEI issues with: - EEMB~
 9 How comfortable do you feel discussing about general DEI issues with: - Anon~
10 Do you personally feel well supported - academically by the department
# i 94 more rows
```

In the dataset analyzed the shorter names for the questions are as follows after
removing extra text:

```
(questions.short <- questions %>%
  filter(!str_detect(newcolnames, "longanswer"),
         # !str_detect(newcolnames, "demograph"),
         !str_detect(newcolnames, "other"),
         !str_detect(newcolnames, "eemb_support"),
         !str_detect(newcolnames, "confirm")) %>%
  mutate(across(everything(), ~ str_replace_all(., "well-being", "wellbeing"))) %>%
  separate(question, c("question", NA), sep = "\\?") %>%
  separate(question, c("question", NA), sep = "-") %>%
  select(question, colnames) %>%
  mutate(question = str_remove_all(question, "\nUnderrepresented background: belonging t
          question = str_remove_all(question, "(financially, mentally, emotionally, acade
          question = str_remove_all(question, "Please identify how available support is f
          question = str_remove_all(question, "(We are primarily interested in TA experie
          question = str_remove_all(question, "(Science by the Pint, Happy Hour, Tea Time
          question = str_remove_all(question, "\\("),
          question = str_remove_all(question, "\\)")) %>%
  distinct())
```

Warning: Expected 2 pieces. Missing pieces filled with `NA` in 51 rows [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 29, 30, 31, 32, 33, 34, 35, 37, ...].

Warning: Expected 2 pieces. Additional pieces discarded in 5 rows [7, 37, 39, 40, 55].

Warning: Expected 2 pieces. Missing pieces filled with `NA` in 56 rows [13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 64, 65, 66, ...].

```
# A tibble: 24 x 2
   question                                                      colnames
   <chr>                                                         <chr>
 1 "How comfortable do you feel discussing about general DEI issues wi~ dei_con~
 2 "Do you personally feel well supported "                      persona~
 3 "Do you think any of the following are issues in the EEMB departmen~ eemb_is~
 4 "To what extent do you feel that graduate students from the followi~ group_s~
 5 "I know what resources are available to me if I am discriminated ag~ discrim~
 6 "I feel comfortable using these resources and/or reporting acts of ~ discrim~
 7 "How often do you think the department should hold department"  eemb_de~
 8 "There are many factors that can have an effect on someone's wellbe~ factors
 9 "We would like to identify EEMB's strengths and weaknesses in suppo~ eemb_st~
10 "Please use the scale below to help us understand the state of your~ finances
# i 14 more rows
```

Load the survey data and assign levels to all of the multilevel responses

```r
## raw survey
raw <- read_csv("EEMB Grad Student Climate Survey.csv", skip = 1) %>%
  select(-1)

mc <- raw
colnames(mc) <- questions$newcolnames

mc <- mc %>%
  select(-contains("longanswer"),
         # -contains("demographic"),
         -contains("other"),
         -contains("eemb_support"),
         -confirm)
colnames(mc)
```

```
 [1] "dei_conversations:Friends"
 [2] "dei_conversations:Family members"
 [3] "dei_conversations:peer EEMB graduate students"
 [4] "dei_conversations:junior EEMB graduate students"
 [5] "dei_conversations:senior EEMB graduate students"
 [6] "dei_conversations:advising faculty"
 [7] "dei_conversations:non-advising EEMB faculty"
 [8] "dei_conversations:EEMB staff"
 [9] "dei_conversations:Anonymous bias reporting on the EEMB DEI website"
[10] "personally_supported:academically by the department"
[11] "personally_supported:financially by the department"
[12] "personally_supported:mentally and emotionally by the department"
[13] "eemb_issues:Lack of graduate students from underrepresented backgrounds"
[14] "eemb_issues:Bias against graduate students from underrepresented backgrounds"
[15] "eemb_issues:General lack of support for graduate students from underrepresented backg
[16] "eemb_issues:Lack of invited speakers from underrepresented backgrounds"
[17] "eemb_issues:Lack of faculty from underrepresented backgrounds"
[18] "group_supported:All graduate students"
[19] "group_supported:First-generation college"
[20] "group_supported:First-generation graduate"
[21] "group_supported:Socioeconomically disadvantaged"
[22] "group_supported:Underrepresented cultural backgrounds"
[23] "group_supported:Underrepresented ethnicities"
[24] "group_supported:International (non-American)"
[25] "group_supported:Underrepresented gender identities"
[26] "group_supported:Underrepresented sexualities"
[27] "group_supported:Physical disabilities"
[28] "group_supported:Neurodivergent"
[29] "discrimination_resources"
[30] "discrimination_reporting:Talking to my advisor"
```

```
[31] "discrimination_reporting:Talking to the EEMB Chair"
[32] "discrimination_reporting:Talking to the Grad Affairs Chair"
[33] "discrimination_reporting:Talking to a committee member"
[34] "discrimination_reporting:Reporting to the EEMB anonymous feedback site"
[35] "discrimination_reporting:Reporting outside of EEMB"
[36] "eemb_dei_meeting_frequency"
[37] "factors:Non-academic support from research advisors, including committee advisors"
[38] "factors:Academic support from peers"
[39] "factors:Non-academic support from peers"
[40] "factors:Approachability of non-advising faculty"
[41] "factors:Approachability of department staff"
[42] "factors:Sense of department camaraderie"
[43] "factors:Mentorship opportunities"
[44] "factors:Spirituality/religion"
[45] "factors:Social life"
[46] "factors:Family life"
[47] "factors:Spending time outdoors"
[48] "eemb_strengths_weaknesses:Mental Health"
[49] "eemb_strengths_weaknesses:Physical Health"
[50] "eemb_strengths_weaknesses:Physical Safety"
[51] "eemb_strengths_weaknesses:Food security"
[52] "eemb_strengths_weaknesses:Financial security"
[53] "eemb_strengths_weaknesses:Sense of department camaraderie"
[54] "eemb_strengths_weaknesses:Academic support from research advisors, including committe
[55] "eemb_strengths_weaknesses:Approachability of non-advising faculty"
[56] "eemb_strengths_weaknesses:Approachability of department staff"
[57] "eemb_strengths_weaknesses:Mentorship opportunities"
[58] "eemb_strengths_weaknesses:Spirituality/religion"
[59] "eemb_strengths_weaknesses:Social life"
[60] "eemb_strengths_weaknesses:Family life"
[61] "eemb_strengths_weaknesses:Spending time outdoors"
[62] "finances:Monthly salary ($, current spring quarter 2023)"
[63] "finances:Monthly cost of living currently ($, rent, food, gas, internet, dependency o
[64] "monthly_bills"
[65] "financially_supported:Teaching assistantship"
[66] "financially_supported:Summer block grant"
[67] "financially_supported:Graduate student research assistantship"
[68] "financially_supported:Conference travel"
[69] "financially_supported:Research support for research project"
[70] "financially_supported:Emergency support"
[71] "financially_supported:Research support for objects or consummables that may be person
[72] "financially_supported:Mentoring students"
[73] "financially_supported:Service work provided to the department (organizing seminars, e
[74] "eemb_ta:Time dedicated to TA'ing is reasonable and assigned tasks can be accomplished
[75] "eemb_ta:TAs are not expected to carry out tasks outside the scope of their contracts.
[76] "eemb_ta:There is sufficient training given to graduate students to learn how to TA."
```

```
 [77] "eemb_ta:TA stress levels are comparable or less to that of graduate students on GSR o
 [78] "eemb_ta:Even though I have wanted to say 'no', I have felt pressured to take on extra
 [79] "eemb_ta:There is reasonable support from the professors I TA for"
 [80] "eemb_ta:I have been confident in my knowledge of the material in the courses to which
 [81] "social:frequency"
 [82] "social:type"
 [83] "social:climate"
 [84] "demographic"
 [85] "demographic_years_grad"
 [86] "demographic_gender"
 [87] "demographic_sexual_orientation"
 [88] "demographic_ethnicity"
 [89] "demographic_religious"
 [90] "demographic_hide_some"
 [91] "eemb_prioritize:Equity and transparency for financial support"
 [92] "eemb_prioritize:Departmental climate (inclusivity and wellbeing)"
 [93] "eemb_prioritize:Departmental transparency"
 [94] "eemb_prioritize:Faculty advising"
 [95] "eemb_prioritize:Professional skills development (e.g., stat courses)"
 [96] "eemb_prioritize:Program requirements (e.g., oral exam structure)"
 [97] "eemb_prioritize:Teaching assistant assignments or GSR work load"
 [98] "eemb_prioritize:Faculty diversity (e.g., recruitment and retention)"
 [99] "eemb_prioritize:Graduate student diversity (e.g., recruitment and retention)"
[100] "eemb_prioritize:Undergraduate student diversity (e.g., recruitment and retention)"
[101] "eemb_prioritize:Staff diversity (e.g., recruitment and retention)"
[102] "eemb_prioritize:Research associate diversity (e.g., recruitment and retention)"
```

```r
## add levels to scaled questions
mc %>% select(contains("eemb_prior")) %>% pivot_longer(everything()) %>% pull(value) %>%
```

```
[1]  6  2  3  1  4  5  7  8  9 10 12 11 NA
```

```r
mc <- mc %>%
  mutate(across(c(contains("dei_conversations"),
                  contains("discrimination_reporting")), ~factor(., levels = c("Very unco
                                                    "Somewhat uncomforta
                                                    "Neither comfortable
                                                    "Somewhat comfortabl
                                                    "Extremely comfortab
                                                    "Unsure"))),
         across(c(contains("personally_supported"),
                  contains("eemb_ta")), ~ factor(., levels = c("Strongly disagree",
                                                    "Somewhat disagr
                                                    "Neither agree n
```

```r
                                                           "Somewhat agree"
                                                           "Strongly agree"
        across(contains("eemb_issues"), ~ factor(., levels = c("No", "Somewhat", "Yes",
        across(contains("group"), ~factor(., levels = c("No support", "Minimal support",
        eemb_dei_meeting_frequency = factor(eemb_dei_meeting_frequency, levels = c("Ever
                                                                        "Once
                                                                        "Twic
                                                                        "Once
        across(contains("factors"), ~ factor(., levels = c("Not at all important", "Most
        across(contains("eemb_strengths"), ~ factor(., levels = c("Critically lacking",
                                                    "Somewhat lacking",
                                                    "Somewhat available",
                                                    "Readily available",
                                                    "Unsure"))),
        across(contains("financially_supported"), ~ factor(., levels = c("Poor",
                                                                          "Adequate",
                                                                          "Fair",
                                                                          "Good",
                                                                          "Great"))),
        across(c(`social:type`, `social:climate`), ~factor(`social:type`, levels = c("Ex
                                                    "Somewhat dissatisfied",
                                                    "Neither satisfied nor dissatis
                                                    "Somewhat satisfied",
                                                    "Extremely satisfied"))))
```

Summarize responses

who took the survey

```r
nrow(mc)
```

```
[1] 23
```

```r
mc %>% count(demographic_years_grad)
```

```
# A tibble: 5 x 2
  demographic_years_grad     n
  <chr>                  <int>
1 1 year                     3
2 2-3 years                  7
3 4-5 years                 10
4 More than 5 years          2
5 <NA>                       1
```

```r
mc %>% count(demographic_gender)
```

```
# A tibble: 4 x 2
  demographic_gender     n
  <chr>              <int>
1 Cis Female            15
2 Cis Male               6
3 Gender queer           1
4 <NA>                   1
```

```r
mc %>% count(demographic_sexual_orientation)
```

```
# A tibble: 6 x 2
  demographic_sexual_orientation     n
  <chr>                          <int>
```

```
1 Bisexual                         1
2 Bisexual,Queer                   2
3 Heterosexual/straight           16
4 Prefer not to say                1
5 Queer                            2
6 <NA>                             1
```

```r
  mc %>% count(demographic_ethnicity)
```

```
# A tibble: 4 x 2
  demographic_ethnicity         n
  <chr>                     <int>
1 Asian                         2
2 Asian,White or Caucasian      1
3 White or Caucasian           18
4 <NA>                          2
```

```r
  mc %>% count(demographic_religious) # other open response said culturally ---> group with
```

```
# A tibble: 7 x 2
  demographic_religious                             n
  <chr>                                         <int>
1 Atheist                                           5
2 Non-religious/secular                             7
3 Non-religious/secular,Spiritual, not religious    1
4 Other                                             1
5 Religious                                         1
6 Spiritual, not religious                          6
7 <NA>                                              2
```

```r
  ## aggregate
  mc <- mc %>%
    mutate(demographic_years_grad = case_when(demographic_years_grad == "More than 5 years"
                                              TRUE ~ demographic_years_grad),
           demographic_sexual_orientation = case_when(demographic_sexual_orientation %in% c
                                                      demographic_sexual_orientation %in% c


                                                      demographic_sexual_orientation == "Pr
                                                      TRUE ~ demographic_sexual_orientation
                                                      ),
           demographic_ethnicity = case_when(demographic_ethnicity %in% c("Asian", "Asian,W
                                             demographic_ethnicity %in% c("White or Caucasi
                                             TRUE ~ demographic_ethnicity),
```

```
                demographic_religious = case_when(demographic_religious %in% c("Non-religious/se
                                                  "Atheist", #QUEST
                                                  "Non-religious/se
                                                  "Spiritual, not r
                                      demographic_religious %in% c("Other",
                                                  "Religious") ~ "R
                                      TRUE ~ demographic_religious))

  mc %>% count(demographic_sexual_orientation)
```

```
# A tibble: 3 x 2
  demographic_sexual_orientation     n
  <chr>                          <int>
1 Heterosexual                      16
2 LGBTQIA+                           5
3 <NA>                               2
```

```
  mc %>% count(demographic_ethnicity)
```

```
# A tibble: 3 x 2
  demographic_ethnicity     n
  <chr>                 <int>
1 POC                       3
2 White                    18
3 <NA>                      2
```

```
  mc %>% count(demographic_religious)
```

```
# A tibble: 3 x 2
  demographic_religious     n
  <chr>                 <int>
1 Nonreligious             19
2 Religious                 2
3 <NA>                      2
```

Plots

```r
## plotting function
plot_fun <- function(question){
  plot_title = questions.short$question[which(questions.short$colnames == question)]
  plot_title = str_wrap(plot_title, width = 50)

  mc %>%
    select(contains(question)) %>%
    pivot_longer(everything()) %>%
    mutate(name = str_remove_all(name, paste0(question, ":")),
           name = str_wrap(name, width=30)) %>%
    drop_na() %>%
    ggplot()+
    geom_bar(aes(y = name, fill = value),
             position = "fill")+
    labs(title = plot_title,
         x = "Proportion of respondants",
         fill = NULL) +
    scale_fill_viridis_d()
}

# plot_fun(questions.short$colnames[1])


## plotting function
plot_facet_fun <- function(question, facet_var){
  plot_title = questions.short$question[which(questions.short$colnames == question)]
  plot_title = str_wrap(plot_title, width = 50)

  mc %>%
    select(contains(question), any_of(facet_var)) %>%
    drop_na() %>%
    pivot_longer(contains(question)) %>%
```

```
    mutate(name = str_remove_all(name, paste0(question, ":")),
           name = str_wrap(name, width=30)) %>%
    ggplot()+
    geom_bar(aes(y = name, fill = value),
             position = "stack")+
    labs(title = plot_title,
         fill = NULL,
         x = "Number of respondants") +
    facet_grid(cols = vars(.data[[facet_var]]), space="free", scales = "free", labeller =
    scale_x_continuous(breaks = scales::breaks_extended(2)) +
    scale_fill_viridis_d()
}

# plot_facet_fun(questions.short$colnames[1], "demographic_gender")


toplot <- questions.short %>%
  filter(!colnames %in% c("finances", "monthly_bills", "eemb_prioritize", "eemb_dei_meeti

demographic.cats <- c("demographic_years_grad", "demographic_gender", "demographic_sexual
```

Discussing general DEI issues

```
plot_fun(toplot$colnames[1])
```

How comfortable do you feel discussing a general DEI issues with:
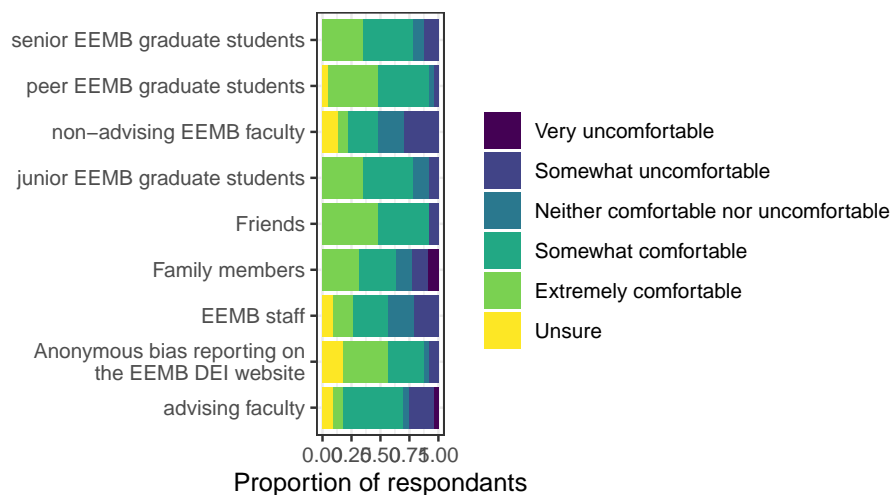

```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[1], demographic.cats[i])
  )
}
```
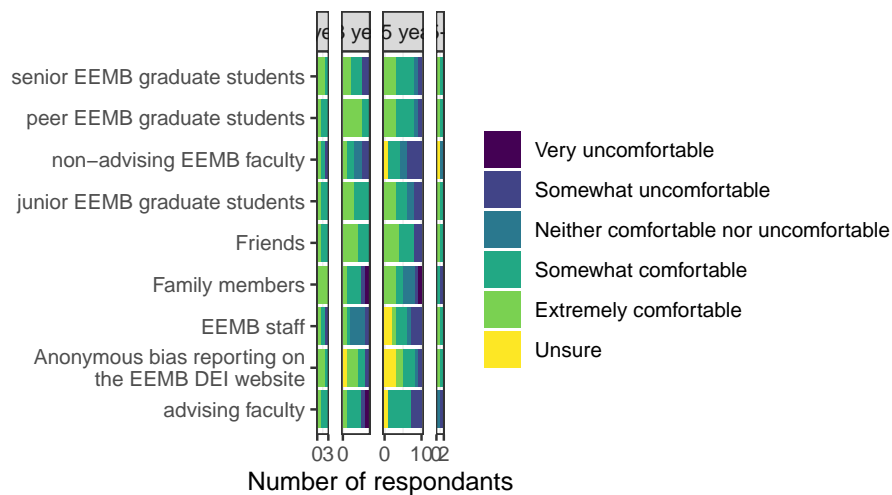
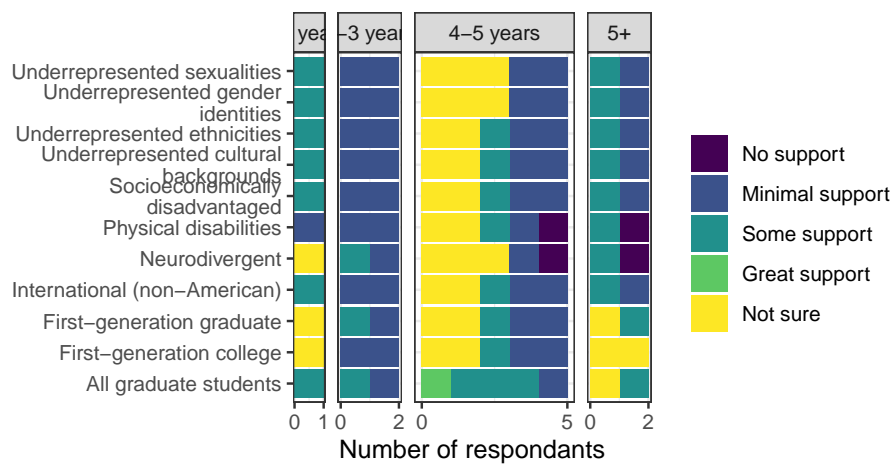**How comfortable do you feel discussing a general DEI issues with:**

How comfortable do you feel discussing a general DEI issues with:

- senior EEMB graduate students
- peer EEMB graduate students
- non−advising EEMB faculty
- junior EEMB graduate students
- Friends
- Family members
- EEMB staff
- Anonymous bias reporting on the EEMB DEI website
- advising faculty

Legend:
- Very uncomfortable
- Somewhat uncomfortable
- Neither comfortable nor uncomfortable
- Somewhat comfortable
- Extremely comfortable
- Unsure

Number of respondants

How comfortable do you feel discussing a general DEI issues with:

- senior EEMB graduate students
- peer EEMB graduate students
- non−advising EEMB faculty
- junior EEMB graduate students
- Friends
- Family members
- EEMB staff
- Anonymous bias reporting on the EEMB DEI website
- advising faculty

Legend:
- Very uncomfortable
- Somewhat uncomfortable
- Neither comfortable nor uncomfortable
- Somewhat comfortable
- Extremely comfortable
- Unsure

Number of respondants

14

How comfortable do you feel discussing a general DEI issues with:

Number of respondants

Legend:
- Very uncomfortable
- Somewhat uncomfortable
- Neither comfortable nor uncomfortable
- Somewhat comfortable
- Extremely comfortable
- Unsure

How comfortable do you feel discussing a general DEI issues with:

Number of respondants

Legend:
- Very uncomfortable
- Somewhat uncomfortable
- Neither comfortable nor uncomfortable
- Somewhat comfortable
- Extremely comfortable
- Unsure

Personally feel well supported

```
plot_fun(toplot$colnames[2])
```

Do you personally feel well supported


```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[2], demographic.cats[i])
  )
}
```

Do you personally feel well supported

Number of respondants

Do you personally feel well supported

Number of respondants

Do you personally feel well supported

Do you personally feel well supported
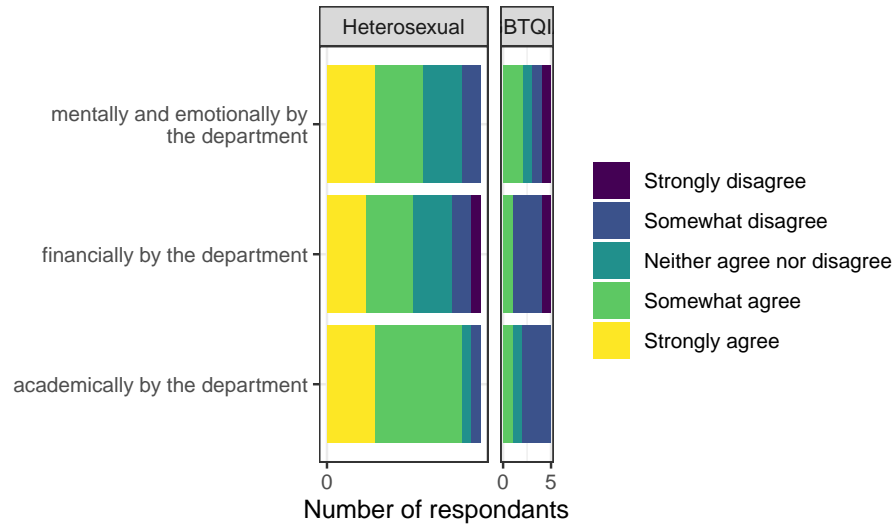
Do you personally feel well supported
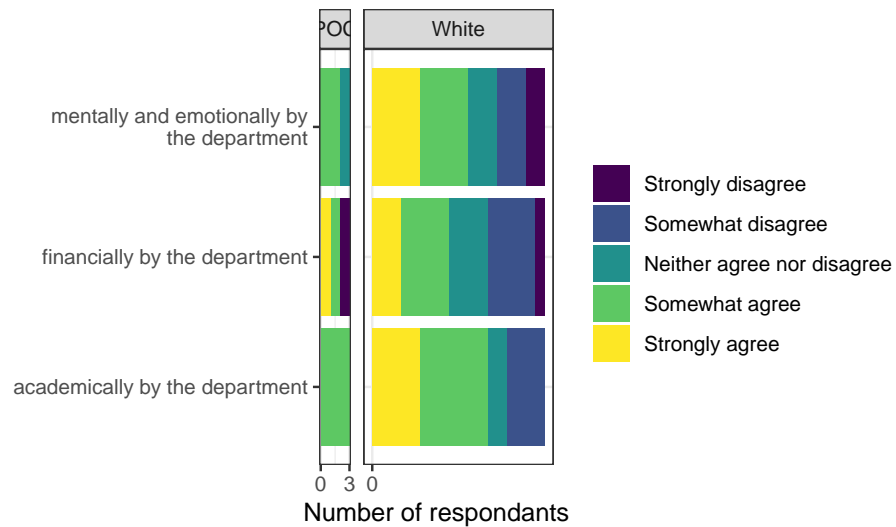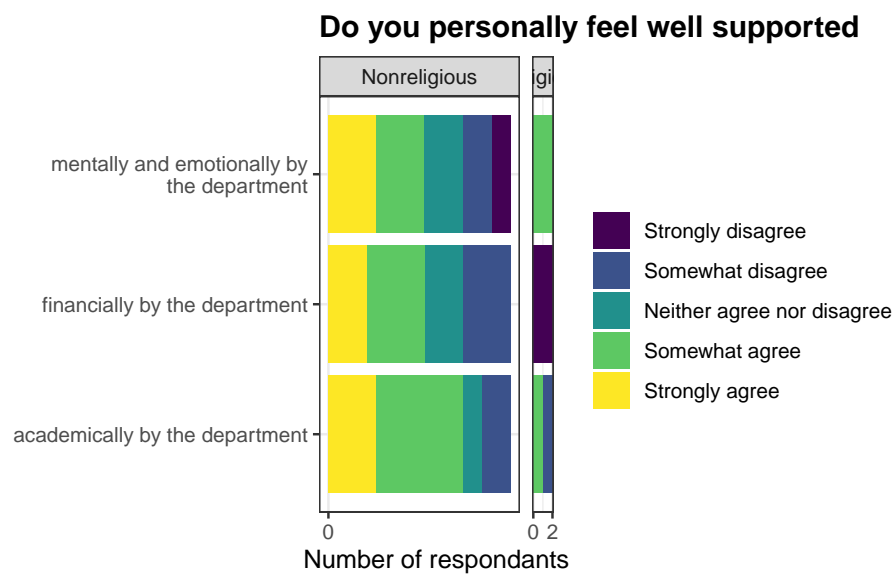
Issues with representation

```
plot_fun(toplot$colnames[3])
```

**Do you think any of the following are issue...
the EEMB department**
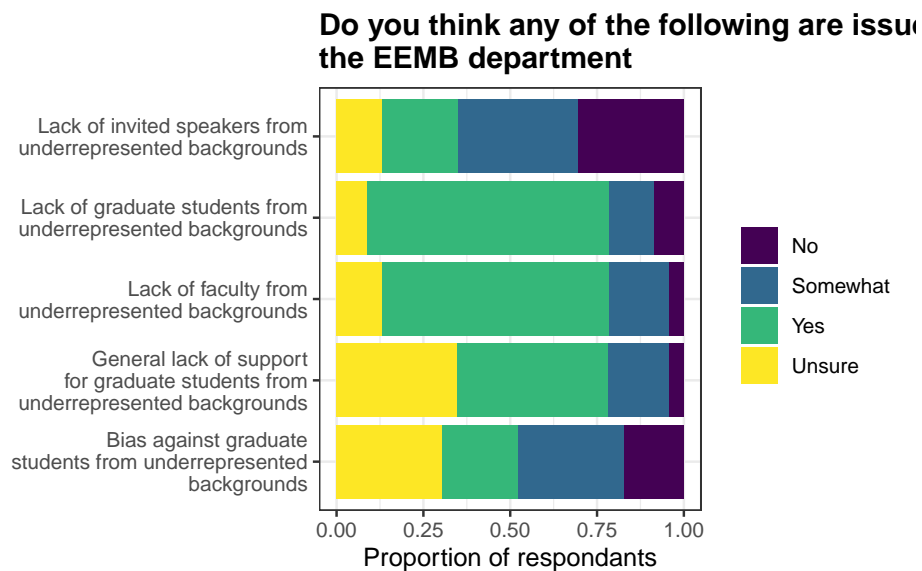
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[3], demographic.cats[i])
  )
}
```
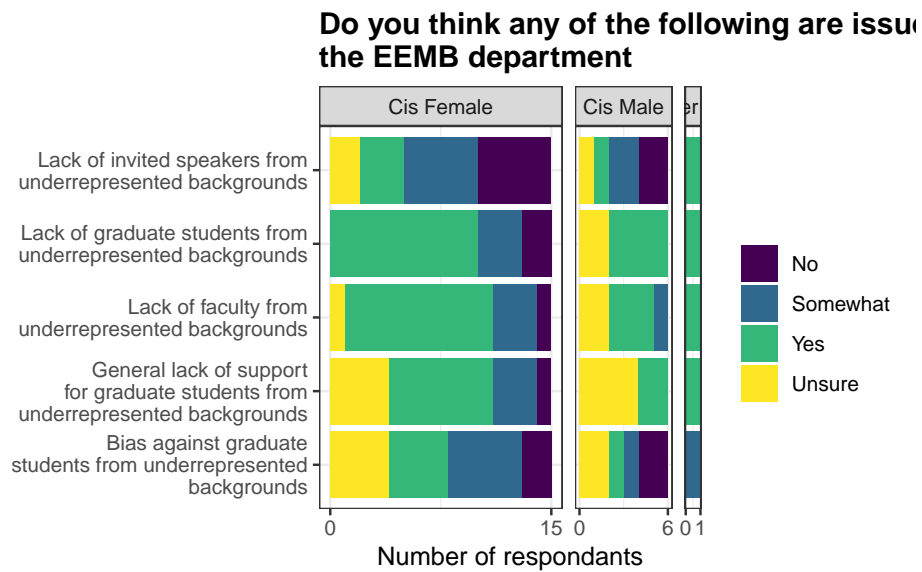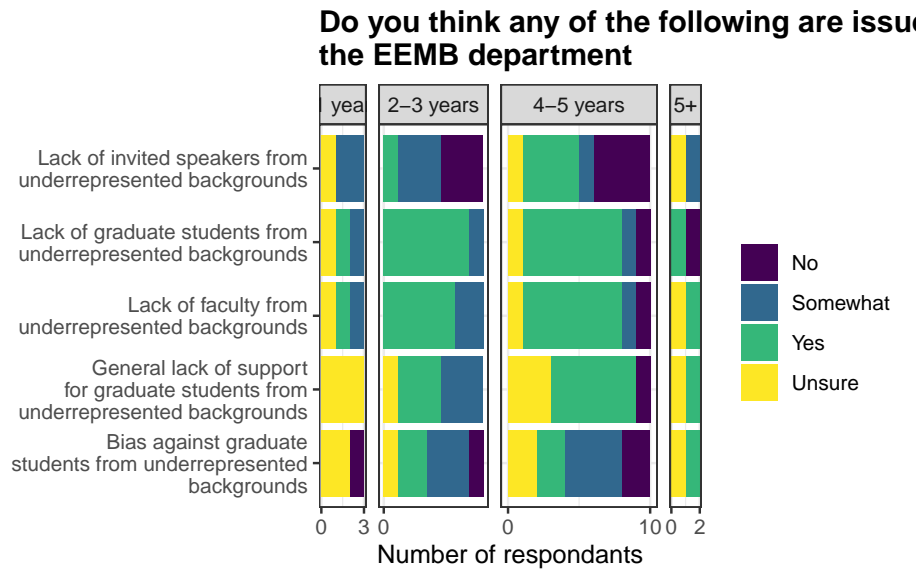
**Do you think any of the following are issu**
the EEMB department

Do you think any of the following are issu
the EEMB department

Do you think any of the following are issue the EEMB department

Do you think any of the following are issue the EEMB department
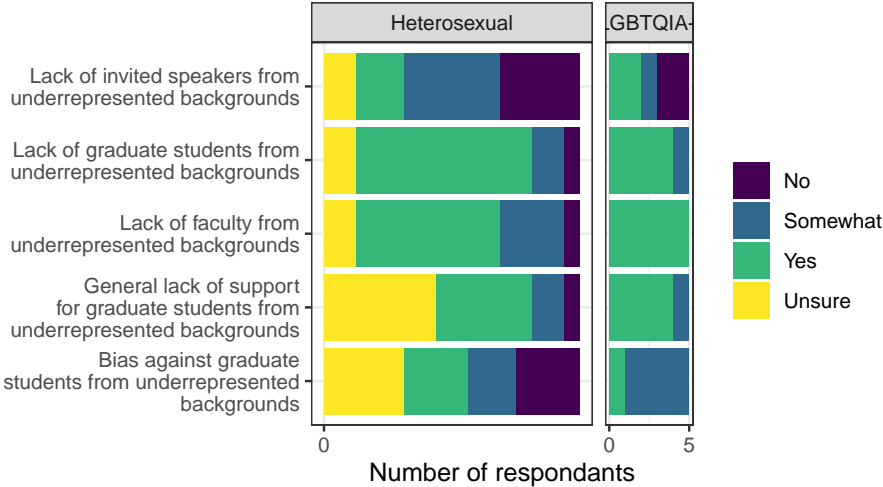
Do you think any of the following are issue the EEMB department
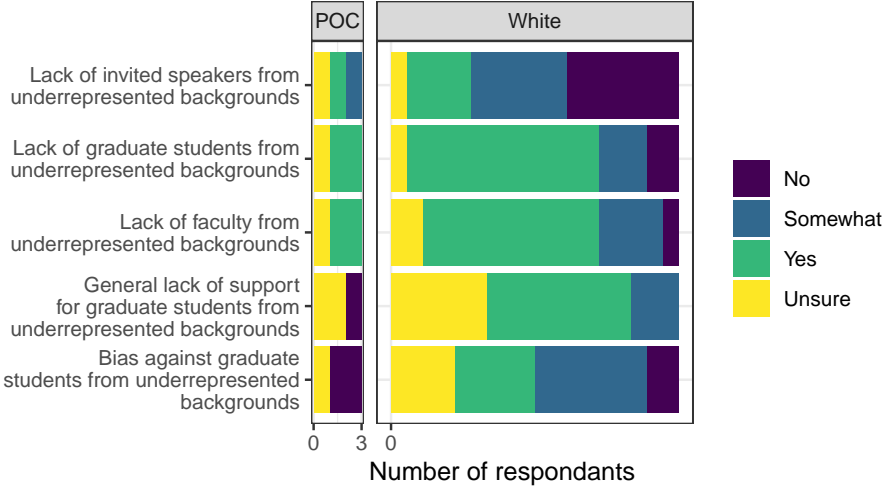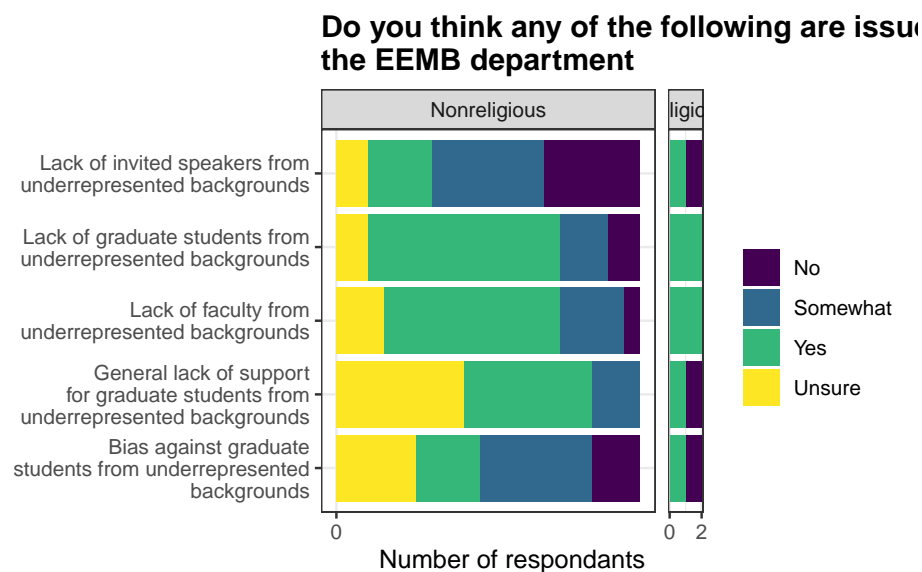
Extent graduate students supported

```
plot_fun(toplot$colnames[4])
```

To what extent do you feel that graduate stu from the following groups are well supporte the EEMB department
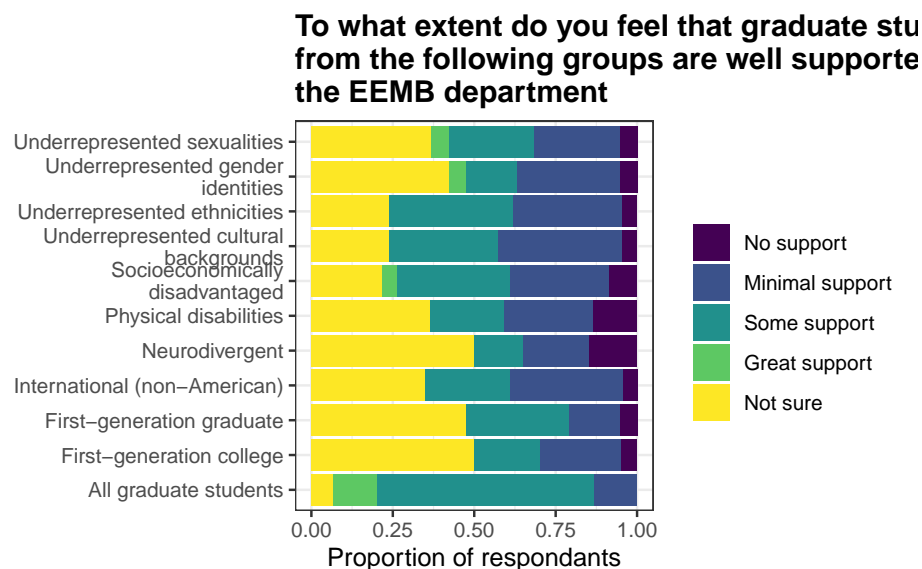
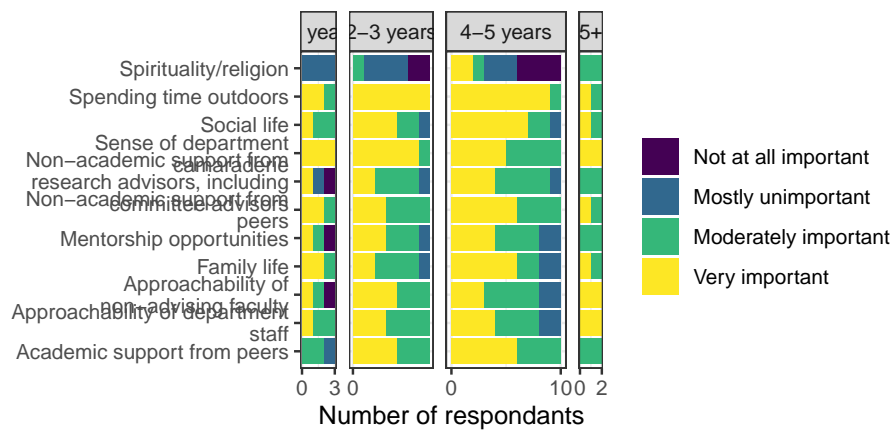```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[4], demographic.cats[i])
)
}
```

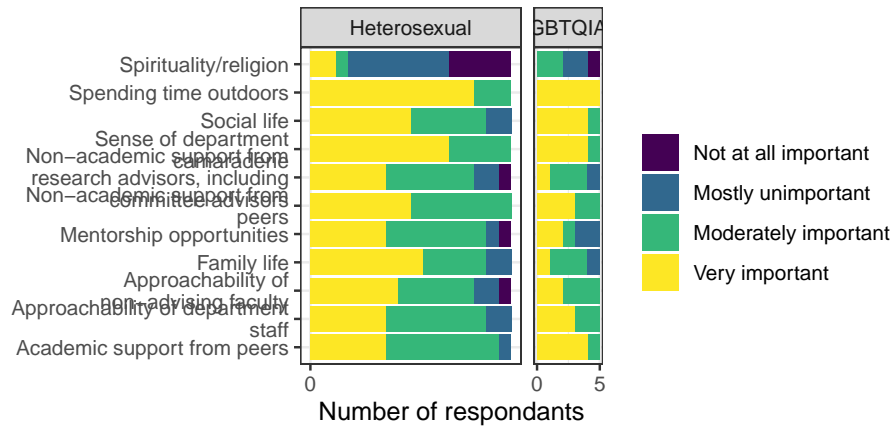**To what extent do you feel that graduate stu
from the following groups are well supporte
the EEMB department**

**To what extent do you feel that graduate stu
from the following groups are well supporte
the EEMB department**
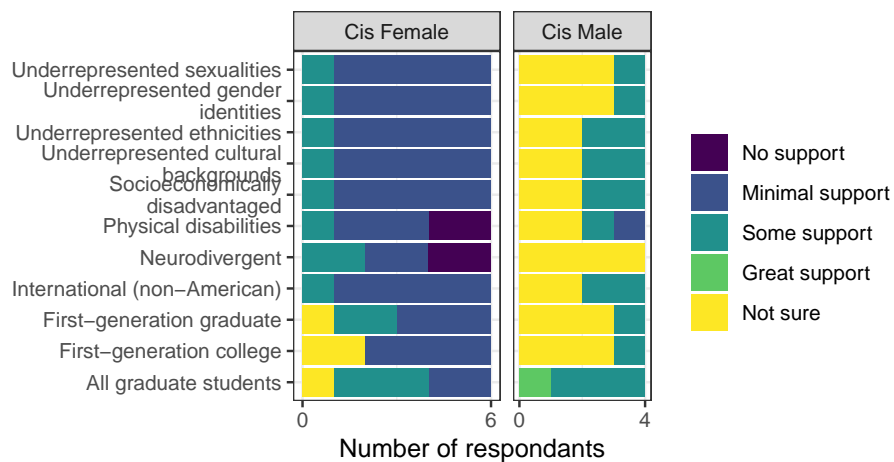
To what extent do you feel that graduate stu[dents] from the following groups are well supporte[d by] the EEMB department
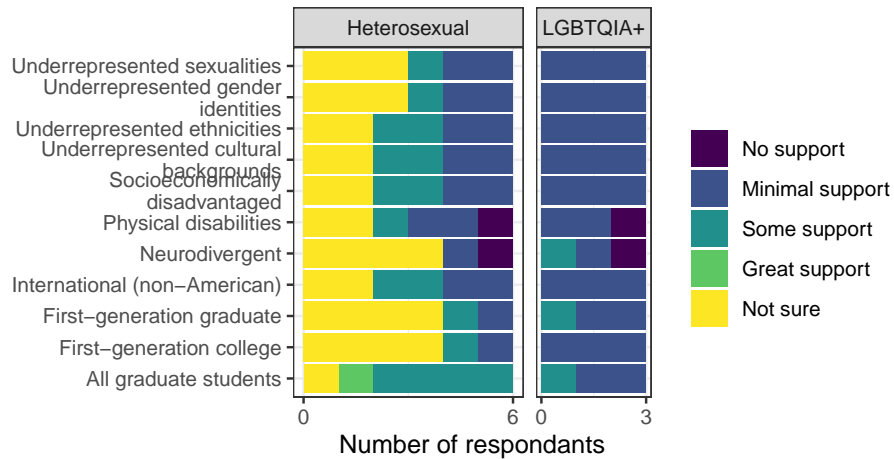
To what extent do you feel that graduate stu[dents] from the following groups are well supporte[d by] the EEMB department

To what extent do you feel that graduate stu
from the following groups are well supporte
the EEMB department
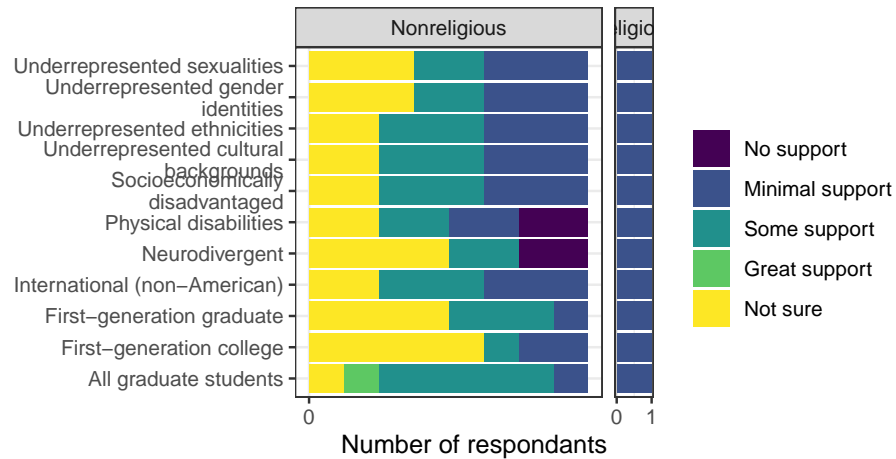
Reporting discrimination

```
plot_fun(toplot$colnames[5])
```

I feel comfortable using these resources a
reporting acts of discrimination.
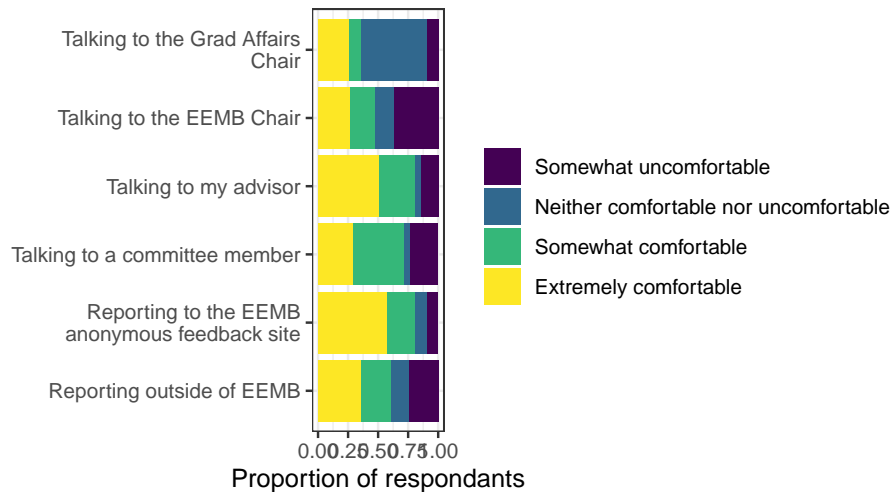
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[5], demographic.cats[i])
  )
}
```
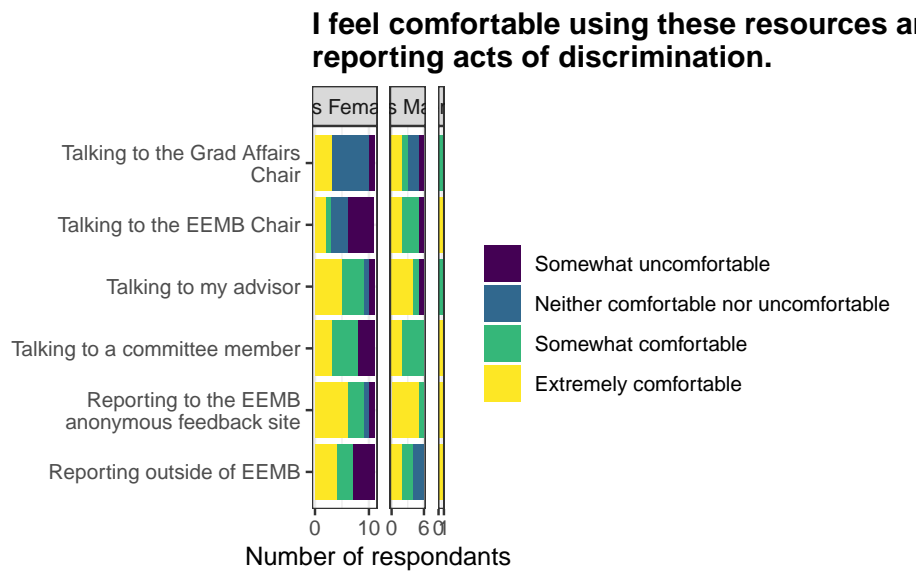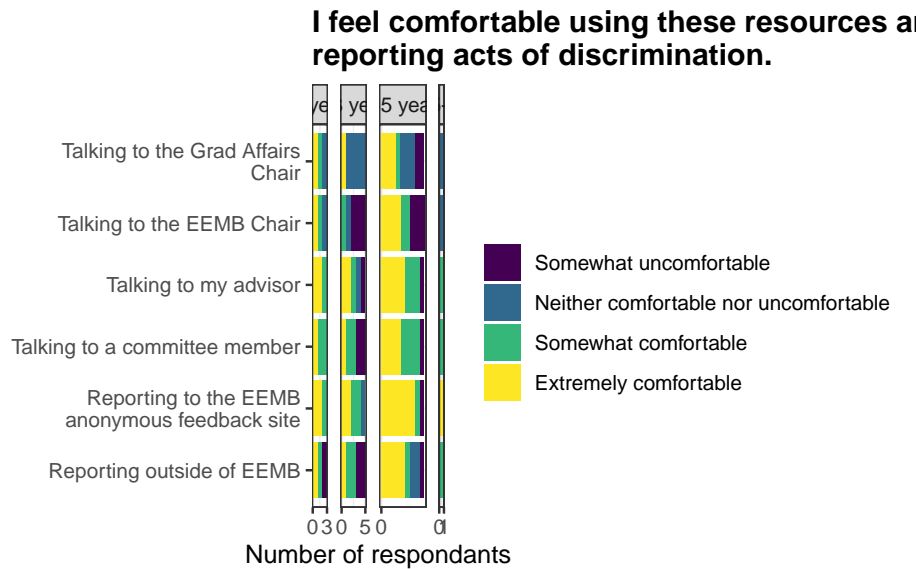
**I feel comfortable using these resources and
reporting acts of discrimination.**

**I feel comfortable using these resources and
reporting acts of discrimination.**

I feel comfortable using these resources and reporting acts of discrimination.

Number of respondants

I feel comfortable using these resources and reporting acts of discrimination.

Number of respondants
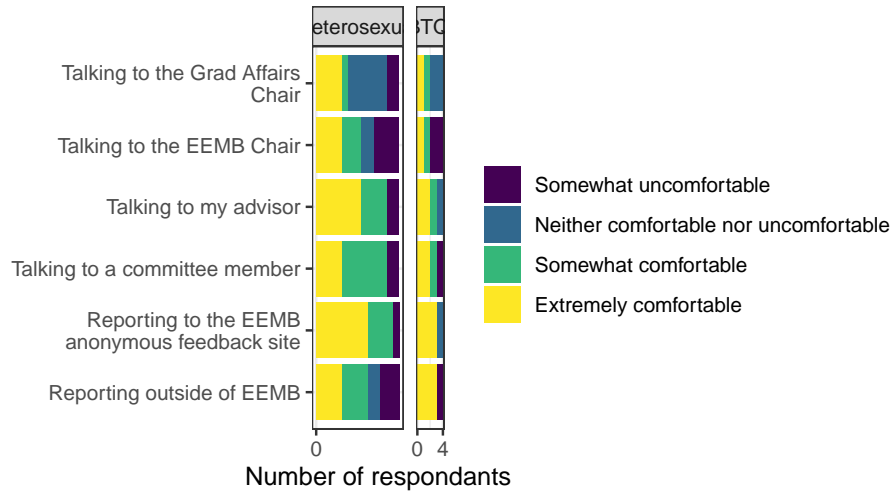
I feel comfortable using these resources a[...]
reporting acts of discrimination.
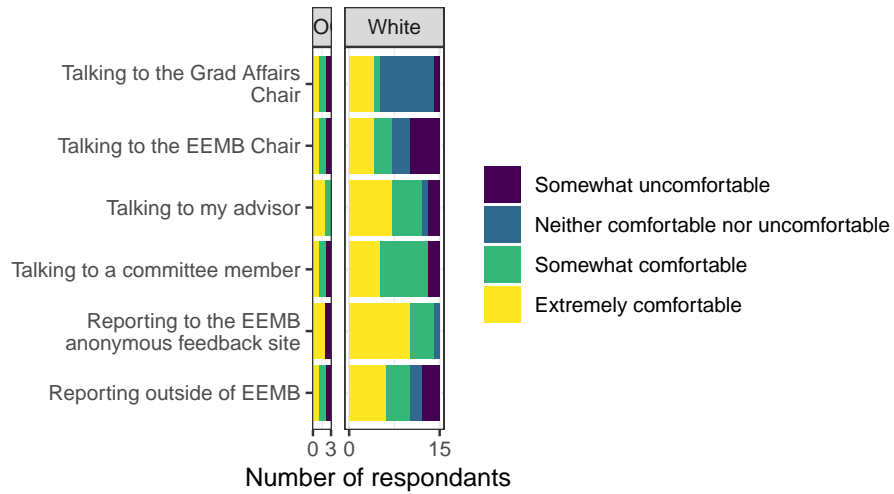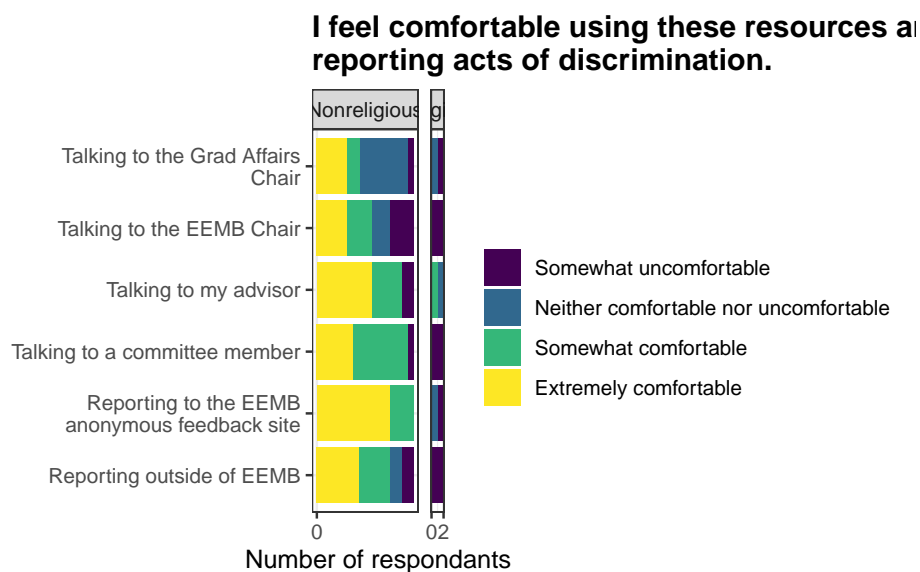
# Well-being factors

```
plot_fun(toplot$colnames[6])
```


There are many factors that can have an eff[...]
on someone's wellbeing. Please identify ho[...]
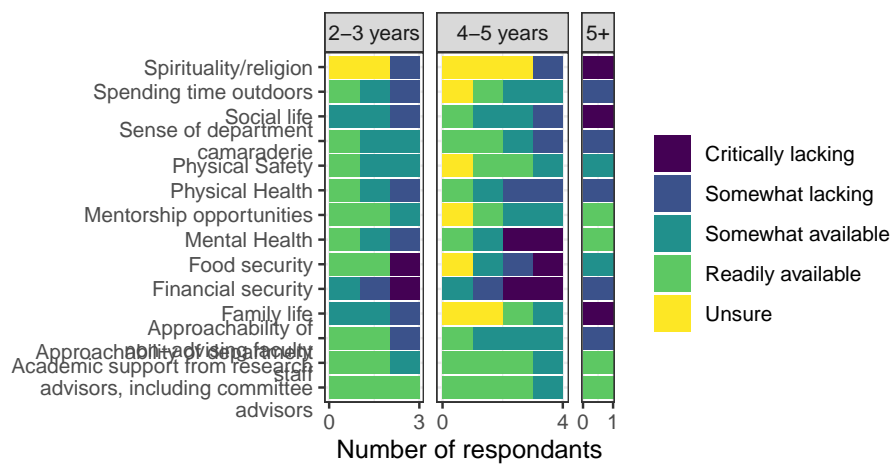**important the following items are to your pe[...]**
wellbeing.
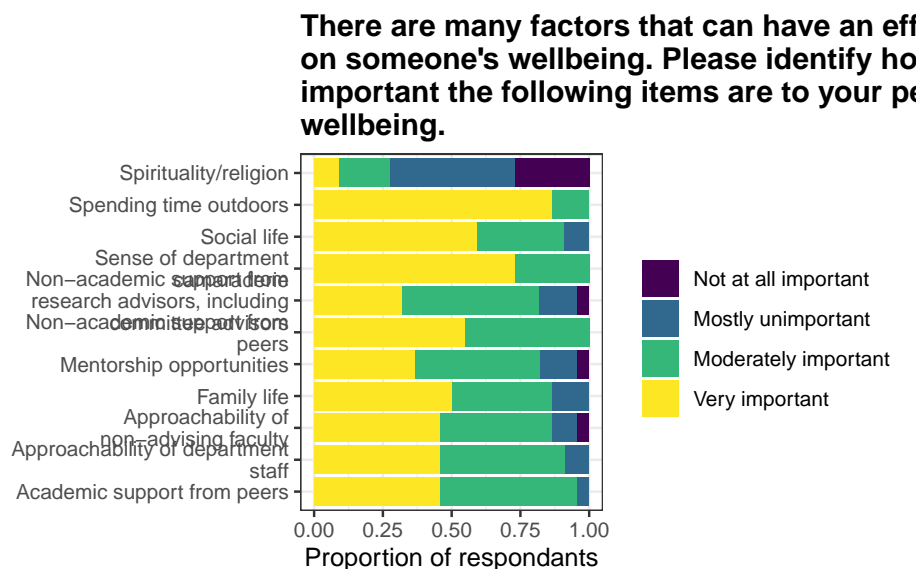
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[6], demographic.cats[i])
  )
}
```

**There are many factors that can have an eff**
on someone's wellbeing. Please identify ho
important the following items are to your pe
wellbeing.

There are many factors that can have an eff
on someone's wellbeing. Please identify ho
important the following items are to your pe
wellbeing.

**There are many factors that can have an eff
on someone's wellbeing. Please identify ho
important the following items are to your pe
wellbeing.**

**There are many factors that can have an eff
on someone's wellbeing. Please identify ho
important the following items are to your pe
wellbeing.**

**There are many factors that can have an eff
on someone's wellbeing. Please identify ho
important the following items are to your pe
wellbeing.**

Strengths and weaknesses

```
plot_fun(toplot$colnames[7])
```

**We would like to identify EEMB's strength
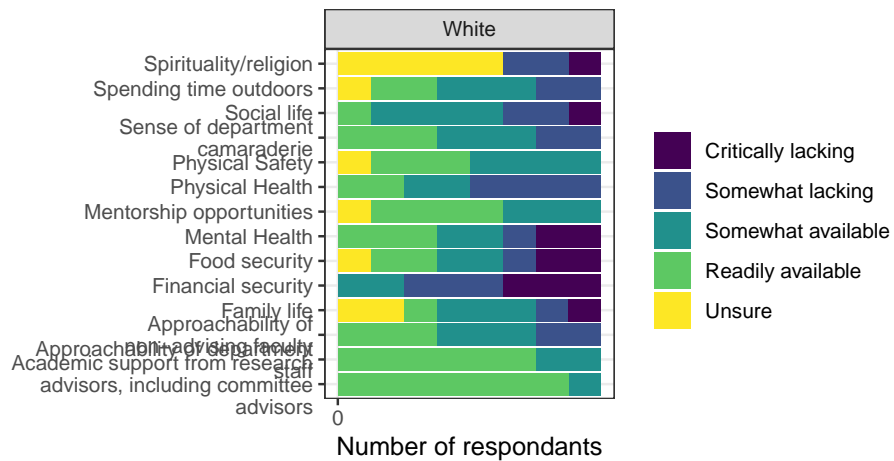and weaknesses in supporting graduate s
wellness.**
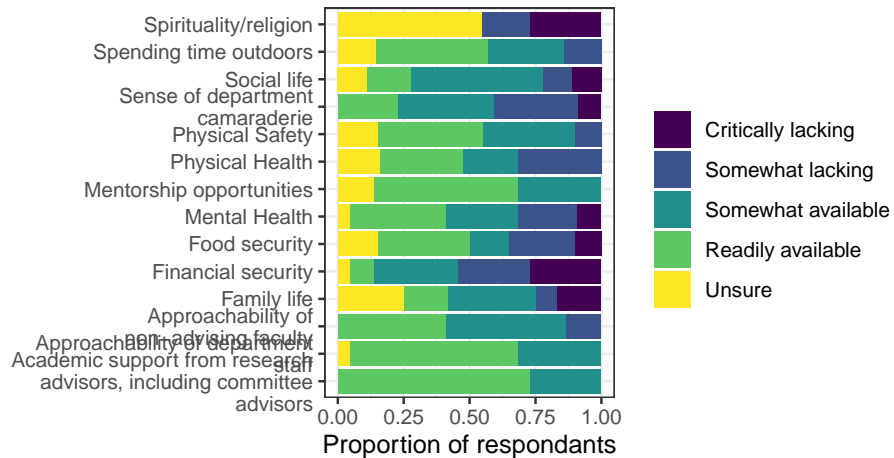
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[7], demographic.cats[i])
  )
}
```

**We would like to identify EEMB's strength
and weaknesses in supporting graduate s
wellness.**

**We would like to identify EEMB's strength
and weaknesses in supporting graduate s
wellness.**
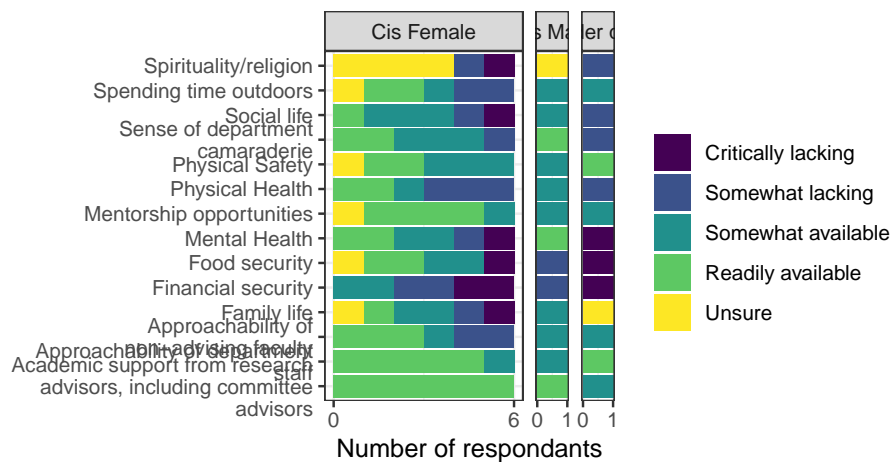
**We would like to identify EEMB's strength
and weaknesses in supporting graduate s
wellness.**
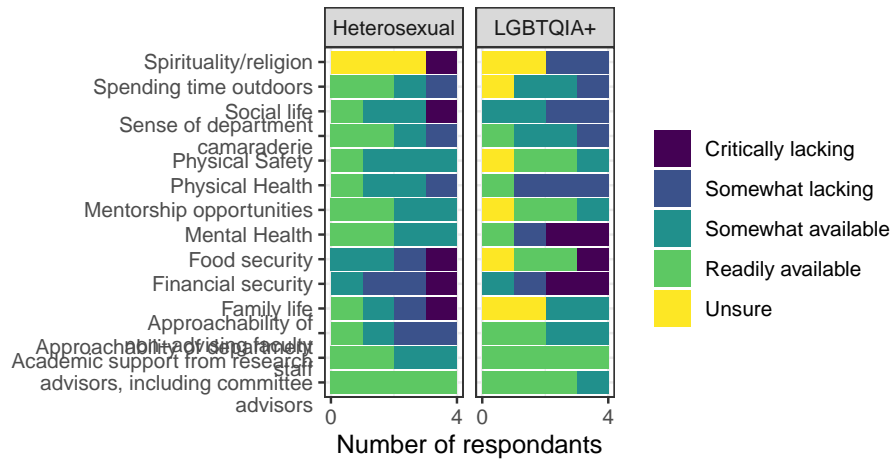
**We would like to identify EEMB's strength
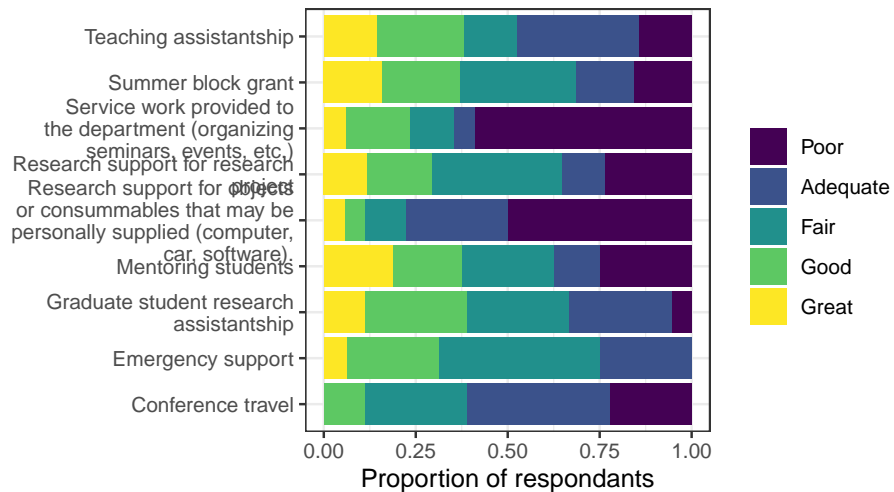and weaknesses in supporting graduate s
wellness.**

We would like to identify EEMB's strength and weaknesses in supporting graduate s wellness.
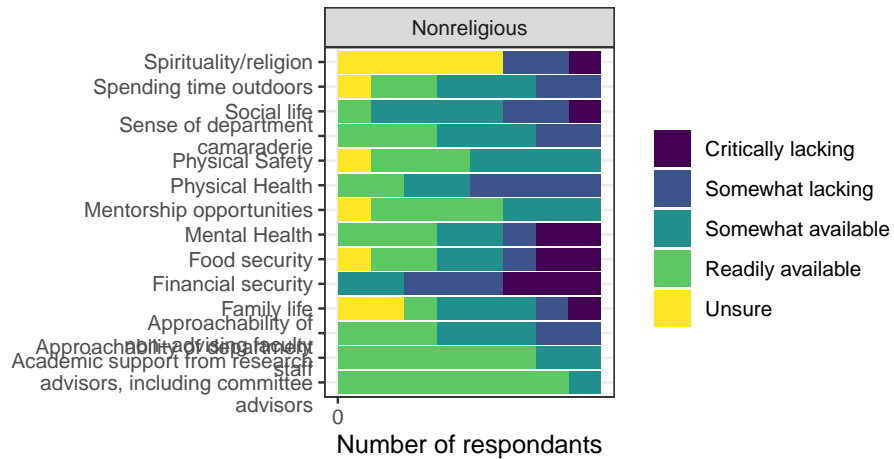
Financial well-being

```
plot_fun(toplot$colnames[8])
```
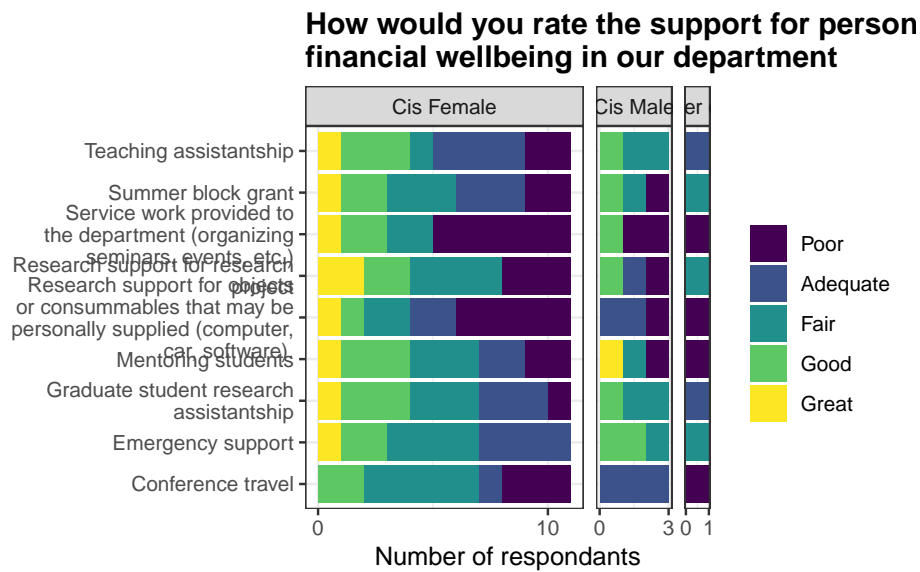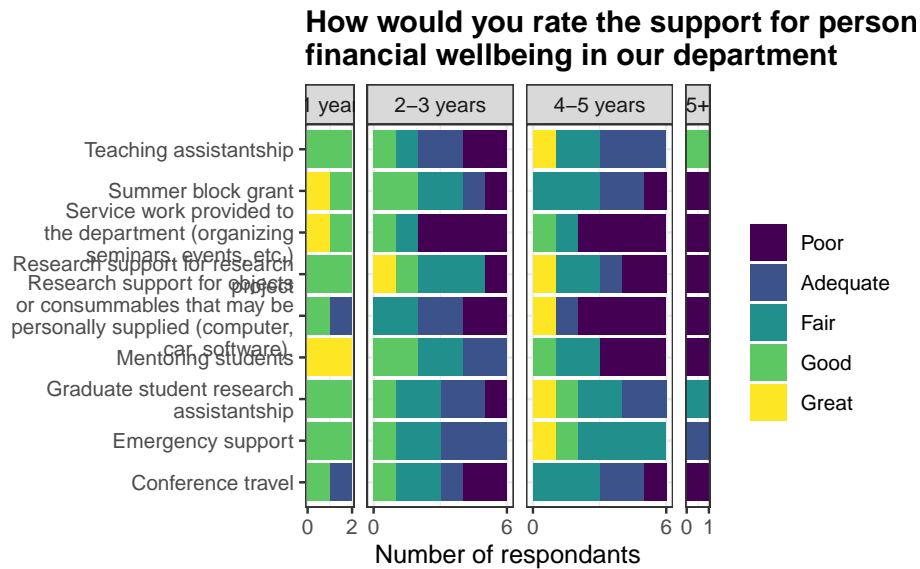
How would you rate the support for person financial wellbeing in our department
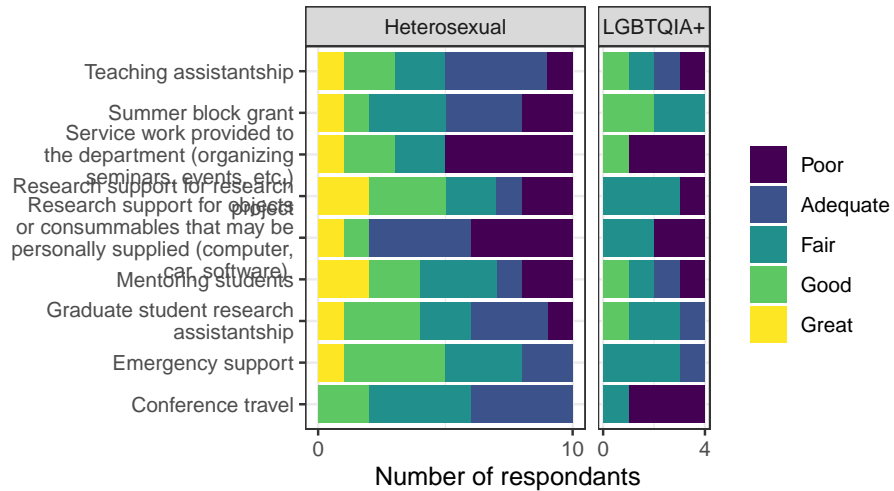
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[8], demographic.cats[i])
  )
}
```

How would you rate the support for person financial wellbeing in our department

How would you rate the support for person financial wellbeing in our department

How would you rate the support for person financial wellbeing in our department

How would you rate the support for person financial wellbeing in our department
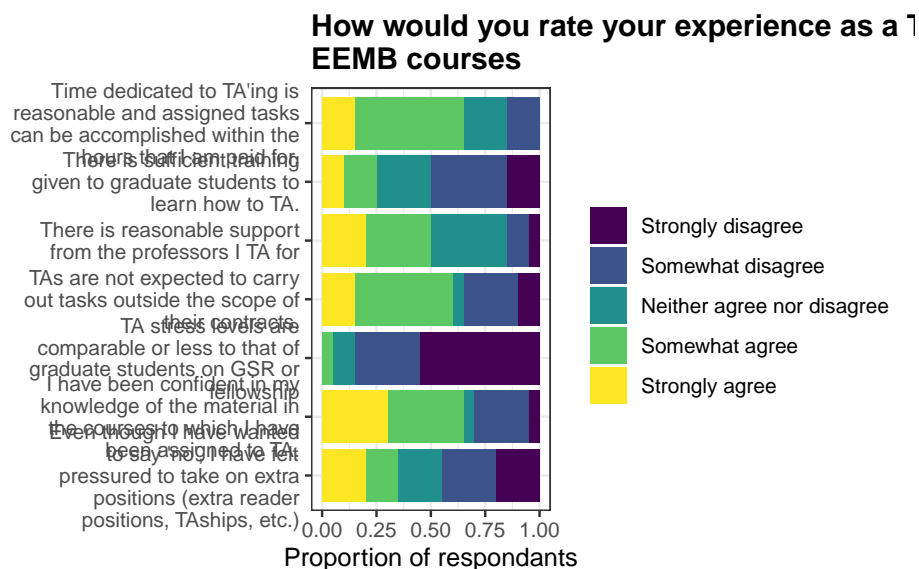
How would you rate the support for person financial wellbeing in our department
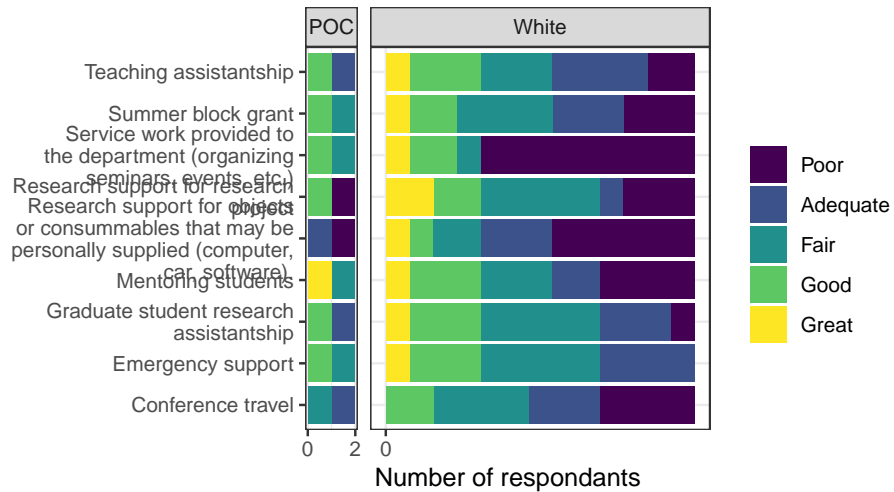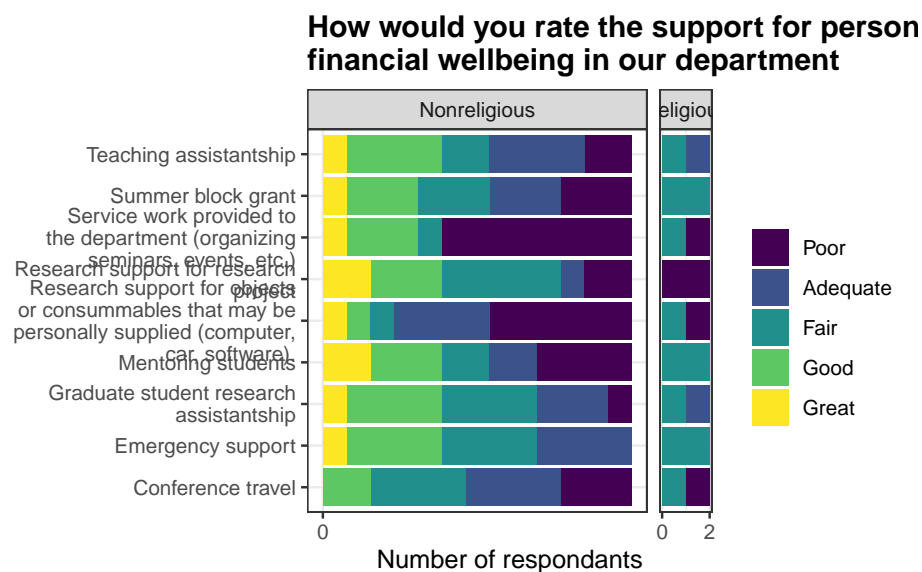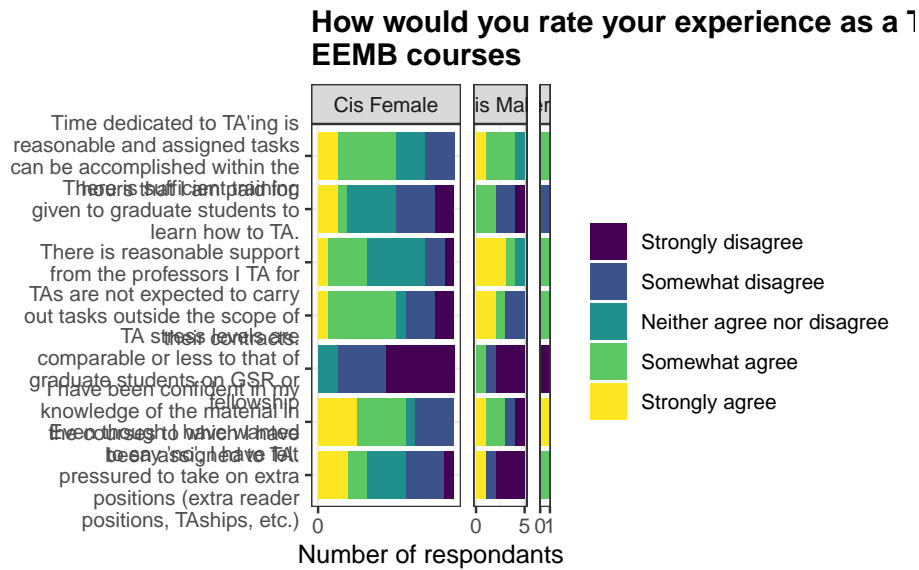
TAing experiences

```
plot_fun(toplot$colnames[9])
```


How would you rate your experience as a T EEMB courses
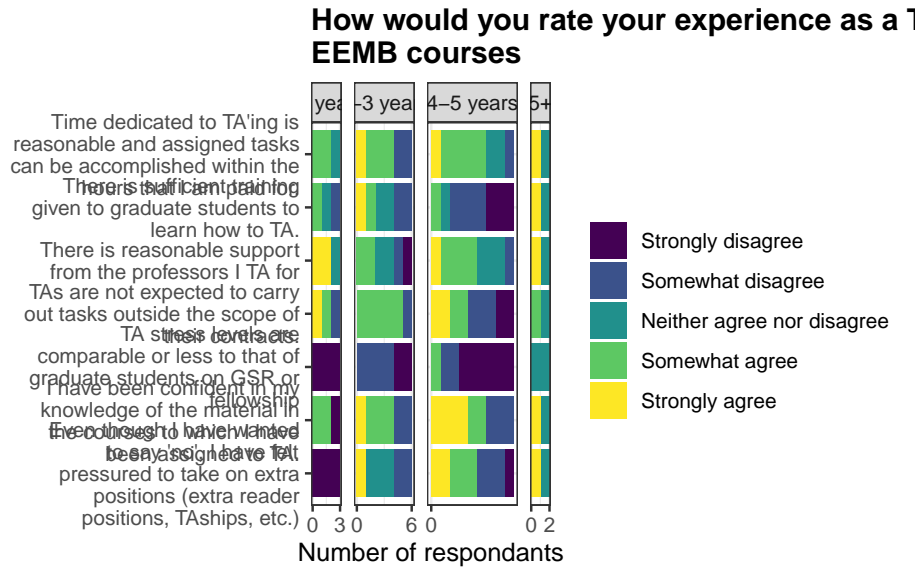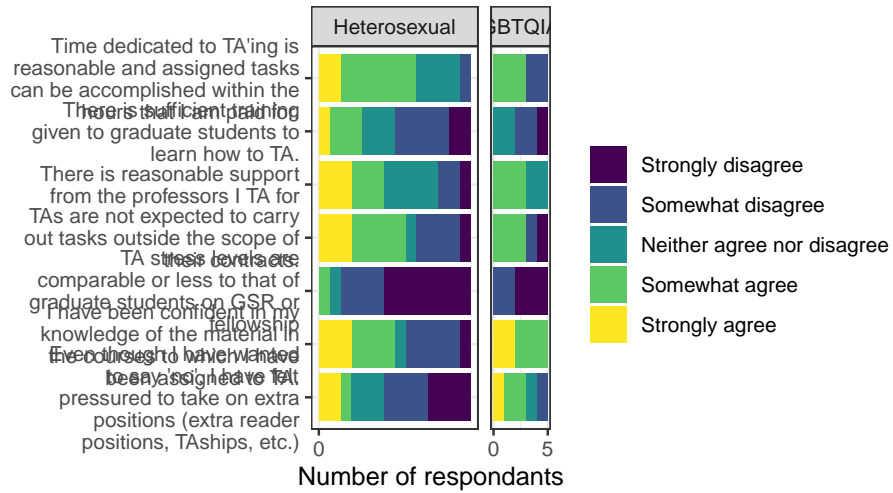
```
for (i in 1:length(demographic.cats)) {
  print(
  plot_facet_fun(toplot$colnames[9], demographic.cats[i])
  )
}
```
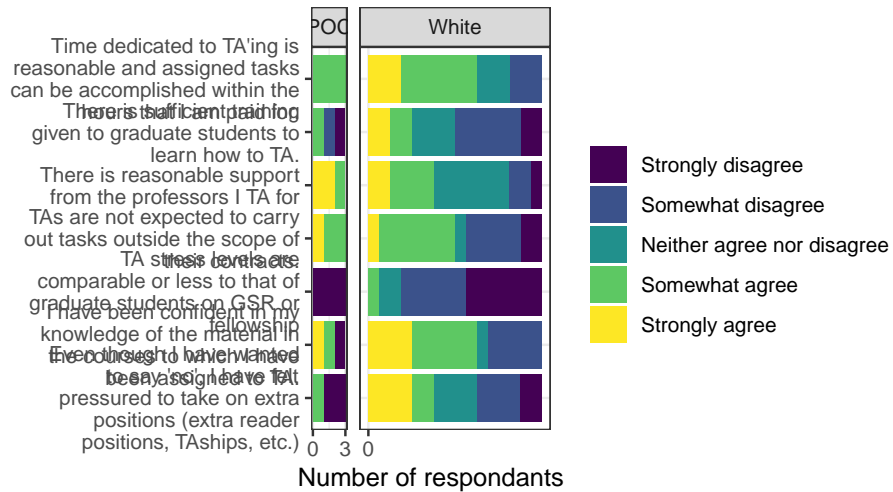
**How would you rate your experience as a T
EEMB courses**

**How would you rate your experience as a T
EEMB courses**

How would you rate your experience as a T...
EEMB courses

How would you rate your experience as a T...
EEMB courses

How would you rate your experience as a T
EEMB courses

| Nonreligious | igi |

Time dedicated to TA'ing is reasonable and assigned tasks can be accomplished within the
There is sufficient training given to graduate students to learn how to TA.
There is reasonable support from the professors I TA for
TAs are not expected to carry out tasks outside the scope of TA stress levels are
comparable or less to that of graduate students on GSR or I have been confident in my
knowledge of the material in the courses I have wanted to have wanted
to be assigned to TA
pressured to take on extra positions (extra reader positions, TAships, etc.)

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

0   0 2

Number of respondants