

Core Questions

```
count(Core_Questions$Break)
```

```
##              x freq
## 1 Every 1-2 hours 114
## 2 Every 3-4 hours  93
## 3      Every hour  23
## 4          Other   12
```

```
for(i in 1:nrow(Core_Questions)){

  #####-----Salary depends of external grants-----#####
  if (Core_Questions$S_D_E[i]=="Three months"){
    Core_Questions$S_D_E[i]="Three months"
  }else if (Core_Questions$S_D_E[i]=="2 months" || Core_Questions$S_D_E[i]==2){
    Core_Questions$S_D_E[i]="Two months"
  }else{
    Core_Questions$S_D_E[i]="Other"
  }

  if (Core_Questions$RO_F_EG[i]=="Not funded"){
    Core_Questions$RO_F_EG[i]="Not funded"
  } else if (Core_Questions$RO_F_EG[i]=="25-1%"){
    Core_Questions$RO_F_EG[i]="1-25%"
  } else if (Core_Questions$RO_F_EG[i]=="50-25%"){
    Core_Questions$RO_F_EG[i]="25-50%"
  } else if (Core_Questions$RO_F_EG[i]=="75-50%"){
    Core_Questions$RO_F_EG[i]="50-75%"
  } else if (Core_Questions$RO_F_EG[i]=="100-75%"){
    Core_Questions$RO_F_EG[i]="75-100%"
  } else{
    Core_Questions$RO_F_EG[i]="Fully funded"
  }

  if (Core_Questions$Workplace[i]=="Home"){
    Core_Questions$Workplace[i]="Home"
  } else if (Core_Questions$Workplace[i]=="Office"){
    Core_Questions$Workplace[i]="Office"
  } else {
    Core_Questions$Workplace[i]="Other"
  }

  if (Core_Questions$Email[i]=="Answer email in batches once or twice per day"){
    Core_Questions$Email[i]="Reply Once/Twice"
  }else {
    Core_Questions$Email[i]="Reply instantly"
  }
}
```

```

if (Core_Questions$Break[i]=="Every 1-2 hours"){
  Core_Questions$Break[i]="Every 1-2 hours"
} else if (Core_Questions$Break[i]=="Every 3-4 hours"){
  Core_Questions$Break[i]="Every 3-4 hours"
} else if (Core_Questions$Break[i]=="Every hour"){
  Core_Questions$Break[i]="Every hour"
} else{
  Core_Questions$Break[i]="Other"
}

if (Core_Questions$Submit_P[i]=="Minutes before deadline"){
  Core_Questions$Submit_P[i]="Minutes before"
} else if (Core_Questions$Submit_P[i]=="1-3 hours before deadline"){
  Core_Questions$Submit_P[i]="1-3 hours before"
} else if (Core_Questions$Submit_P[i]=="3-6 hours before deadline"){
  Core_Questions$Submit_P[i]="3-6 hours before"
} else if (Core_Questions$Submit_P[i]=="1 day before deadline"){
  Core_Questions$Submit_P[i]="1 day before"
} else if (Core_Questions$Submit_P[i]==""){
  Core_Questions$Submit_P[i]=NA
} else {
  Core_Questions$Submit_P[i]="2 or more days before"
}

  if (Core_Questions$you_typically_subm[i]=="Minutes before deadline"){
    Core_Questions$you_typically_subm[i]="Minutes before"
  } else if (Core_Questions$you_typically_subm[i]=="1-3 hours before deadline"){
    Core_Questions$you_typically_subm[i]="1-3 hours before"
  } else if (Core_Questions$you_typically_subm[i]=="3-6 hours before deadline"){
    Core_Questions$you_typically_subm[i]="3-6 hours before"
  } else if (Core_Questions$you_typically_subm[i]=="1 day before deadline"){
    Core_Questions$you_typically_subm[i]="1 day before"
  } else if (Core_Questions$you_typically_subm[i]==""){
    Core_Questions$you_typically_subm[i]=NA
  } else {
    Core_Questions$you_typically_subm[i]="2 or more days before"
  }
}

levels(factor(Core_Questions$Break))

```

```
## [1] "Every 1-2 hours" "Every 3-4 hours" "Every hour"      "Other"
```

```
count(Core_Questions$S_D_E)
```

```
##           x freq
## 1      Other   40
## 2 Three months 194
## 3   Two months   8
```

```
levels(factor(Core_Questions$State))
```

```
## [1] "Alabama"      "Arizona"      "California"   "Florida"
## [5] "Georgia"      "Illinois"     "Maryland"    "Michigan"
## [9] "Minnesota"    "New Mexico"   "Ohio"        "Pennsylvania"
## [13] "Tennessee"    "Texas"        "Virginia"     "Wisconsin"
```

```
levels(factor(Core_Questions$S_D_E))
```

```
## [1] "Other"          "Three months" "Two months"
```

```
levels(factor(Core_Questions$RO_F_EG))
```

```
## [1] "1-25%"          "25-50%"        "50-75%"        "75-100%"
## [5] "Fully funded"   "Not funded"
```

```
levels(factor(Core_Questions$Deadline_today))
```

```
## [1] ""      "No"    "Yes"
```

```
levels(factor(Core_Questions$Workload_today))
```

```
## [1] ""      "Heavy"  "Light"  "Standard"
```

```
levels(factor(Core_Questions$Workplace))
```

```
## [1] "Home"    "Office" "Other"
```

```
levels(factor(Core_Questions$R_Style))
```

```
## [1] "Hands-off" "Hands-on"
```

```
levels(factor(Core_Questions$TW_W_H))
```

```
## [1] "< 30"  "> 50"  "30-40" "40-50"
```

```
levels(factor(Core_Questions$Break))
```

```
## [1] "Every 1-2 hours" "Every 3-4 hours" "Every hour"      "Other"
```

```
levels(factor(Core_Questions$Email))
```

```
## [1] "Reply instantly" "Reply Once/ Twice"
```

```
levels(factor(Core_Questions$funding_proposal))
```

```
## [1] "No" "Yes"
```

```
levels(factor(Core_Questions$A_N_Pro))
```

```
## [1] "" ">=10" "1-2" "3-4" "5-6" "7-9"
```

```
levels(factor(Core_Questions$funding_agency))
```

```
## [1] ""
## [2] "DOD"
## [3] "DOE"
## [4] "DoT"
## [5] "Equally distributed across NSF, NASA, DOD, DHS"
## [6] "NASA"
## [7] "NIH"
## [8] "NIJ"
## [9] "NRC"
## [10] "NSF"
## [11] "Oil industry"
## [12] "Philanthropic foundations"
## [13] "Private Foundation"
## [14] "Private Industry"
## [15] "State funding sources "
## [16] "State of California"
## [17] "Texas Department of Transportaton"
## [18] "TRB"
## [19] "TxDOT, NCHRP"
## [20] "USDA"
```

```
levels(factor(Core_Questions$Success))
```

```
## [1] "" "< 10%" "> 90%" "10-20%" "20-30%" "30-50%" "50-75%" "75-90%"
```

```
levels(factor(Core_Questions$Com_Proposal))
```

```
## [1] "" "< 1 week" "> 2 months" "1-2 months" "1-2 weeks"
## [6] "2-4 weeks"
```

```
levels(factor(Core_Questions$L_Of_SR))
```

```
## [1] "" "< 1 month" "> 12 months" "1-3 months" "3-6 months"
## [6] "6-12 months"
```

```
levels(factor(Core_Questions$W_WB_PD))
```

```
## [1] "" "About the same" "Less"
## [4] "More" "Significantly less" "Significantly more"
```

```
levels(factor(Core_Questions$Submit_P))
```

```
## [1] "1-3 hours before"      "1 day before"          "2 or more days before"  
## [4] "3-6 hours before"      "Minutes before"
```

```
levels(factor(Core_Questions$Stress_PD))
```

```
## [1] ""                      "Extremely more"       "Extremely less"  
## [4] "Same"                  "Significantly more"   "Significantly less"
```

```
levels(factor(Core_Questions$refereed_conference))
```

```
## [1] "No"  "Yes"
```

```
levels(factor(Core_Questions$A_N_Conf_Pap))
```

```
## [1] ""      ">= 10" "1-2"   "3-4"   "5-6"   "7-9"
```

```
levels(factor(Core_Questions$core_rank))
```

```
## [1] ""  "A"  "A*" "B"  "C"
```

```
levels(factor(Core_Questions$if_you_submit_manuscripts))
```

```
## [1] ""      "< 10%" "> 90%" "10-20%" "20-30%" "30-50%" "50-75%" "75-90%"
```

```
levels(factor(Core_Questions$far_in_advance_do_you))
```

```
## [1] ""      "< 1 week"  "> 2 months" "1-2 months" "1-2 weeks"  
## [6] "2-4 weeks"
```

```
levels(factor(Core_Questions$length_of_supp))
```

```
## [1] ""      "< 1 month"  "> 12 months" "1-3 months"  "3-6 months"  
## [6] "6-12 months"
```

```
levels(factor(Core_Questions$in_the_week_leading_to_a_c))
```

```
## [1] ""      "About the same"      "Less"  
## [4] "More"   "Significantly less"  "Significantly more"
```

```
levels(factor(Core_Questions$you_typically_subm))
```

```
## [1] "1-3 hours before"      "1 day before"          "2 or more days before"  
## [4] "3-6 hours before"      "Minutes before"
```

```
levels(factor(Core_Questions$ss_level_in_a_fundi))
```

```
## [1] ""                "Extremely more"    "Extremely less"
## [4] "Same"              "Significantly more"
```

```
count(Core_Questions$funding_agency)
```

```
##                               x freq
## 1                               12
## 2                      DOD      12
## 3                      DOE      12
## 4                      DoT       1
## 5 Equally distributed across NSF, NASA, DOD, DHS      1
## 6                      NASA       8
## 7                      NIH      43
## 8                      NIJ       1
## 9                      NRC       1
## 10                     NSF     140
## 11                     Oil industry      1
## 12      Philanthropic foundations      1
## 13      Private Foundation      2
## 14      Private Industry      1
## 15      State funding sources      1
## 16      State of California      1
## 17      Texas Department of Transportaton      1
## 18                      TRB       1
## 19      TxDOT, NCHRP      1
## 20                      USDA       1
```

```
# #####Test a single core questions
# temp <- count(Core_Questions$Workload_today)
# colnames(temp) <- c("item", "count")
# temp <- temp[!(temp$item == ""),]
#
# bar_plot <- ggplot(data = temp, aes(x = item, y = count)) +
#   geom_bar(stat = "identity",
#     width = 0.5,
#     fill = "steelblue") +
#   theme_minimal() +
#   scale_y_continuous(breaks = seq(0, ylimit, by = 5),
#     limits = c(0, ylimit)) +
#   labs(x = "", y = "Participant count", title = title_list[i - 1]) +
#   theme(
#     panel.grid.major = element_blank(),
#     panel.grid.minor = element_blank(),
#     plot.title = element_text(hjust = 0.5),
#     axis.text.x = element_text(
#       face = "bold",
#       size = 10,
#       angle = 30,
#       hjust = 1
#     ),
#   ),
```

```
#      axis.text.y = element_text(face = "bold", size = 10)
#    )+
#    scale_x_discrete( limits=list[[1]])
#
#  bar_plot
```

```
## [1] "state_do_you_reside"
```

```
## Warning: Removed 2 rows containing missing values (position_stack).
```

```
## Warning: Removed 9 rows containing missing values (position_stack).
```

```
## Warning: Removed 1 rows containing missing values (position_stack).
```

```
## Warning: Removed 1 rows containing missing values (position_stack).
```

```
## Warning: Removed 1 rows containing missing values (position_stack).
```



























