Core Questions

```
count(Core_Questions$Break)
##
                   x freq
## 1 Every 1-2 hours 114
## 2 Every 3-4 hours
                       93
         Every hour
                       23
## 4
                       12
               Other
for(i in 1:nrow(Core_Questions)){
  #######-----Salary depends of external grants-----##################
  if (Core_Questions$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$Email[i]="Reply Once/Twice"
   Core Questions$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
## 2 Three months 194
## 3 Two months
```

```
levels(factor(Core_Questions$State))
## [1] "Alabama"
                                    "California"
                      "Arizona"
                                                   "Florida"
                      "Illinois"
## [5] "Georgia"
                                    "Maryland"
                                                   "Michigan"
                      "New Mexico" "Ohio"
## [9] "Minnesota"
                                                   "Pennsylvania"
## [13] "Tennessee"
                      "Texas"
                                     "Virginia"
                                                   "Wisconsin"
levels(factor(Core_Questions$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$Workload_today))
## [1] ""
                            "Light"
                 "Heavy"
                                       "Standard"
levels(factor(Core_Questions$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\frac{$\frac{1}{2}}{2} funding_proposal))
## [1] "No" "Yes"
levels(factor(Core_Questions$A_N_Pro))
## [1] ""
            ">=10" "1-2" "3-4" "5-6" "7-9"
levels(factor(Core_Questions\finding_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$Success))
                "< 10%" "> 90%" "10-20%" "20-30%" "30-50%" "50-75%" "75-90%"
## [1] ""
levels(factor(Core_Questions$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\frac{1}{2}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 Equally distributed across NSF, NASA, DOD, DHS ## 6 NASA 8 ## 7 NIH 43 ## 8 NIJ 1 ## 9 NRC 1 ## 10 NSF 140 ## 11 Oil industry ## 12 Philanthropic foundations ## 13 Private Foundation 2 ## 14 Private Industry 1 ## 15 State funding sources ## 16 State of California ## 17 Texas Department of Transportaton 1 ## 18 TRB 1 ## 19 TxDOT, NCHRP 1 USDA ## 20 # #####Test a single core questions temp <- count(Core_Questions\$Workload_today)</pre> colnames(temp) <- c("item", "count")</pre> # # temp <- temp[!(temp\$item == ""),]</pre> # # $bar\ plot \leftarrow qqplot(data = temp,\ aes(x = item,\ y = count)) +$ # 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).

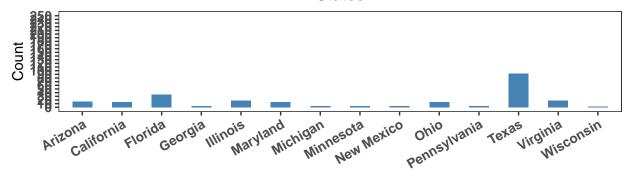
Warning: Removed 9 rows containing missing values (position_stack).

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

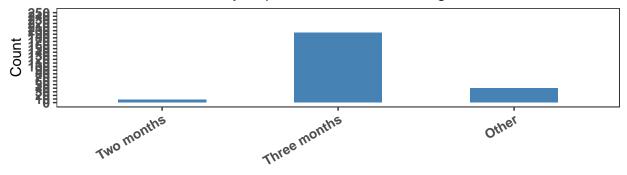
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Warning: Removed 1 rows containing missing values (position_stack).

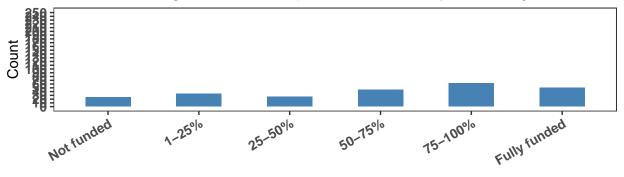
States



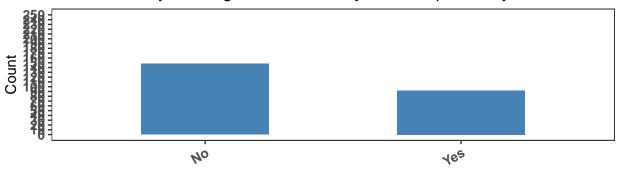
Salary dependance on external grants

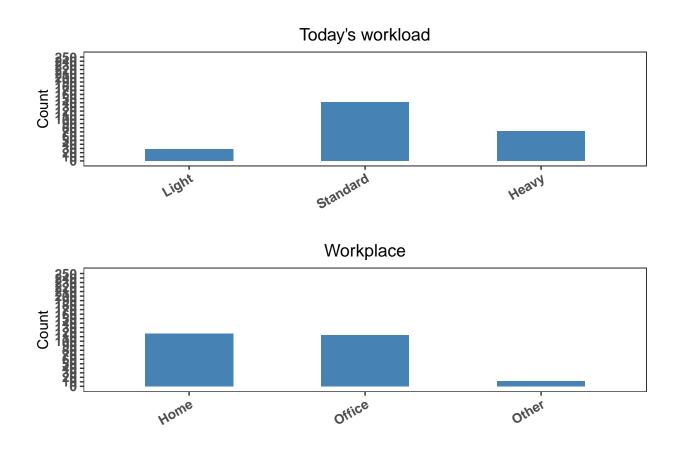


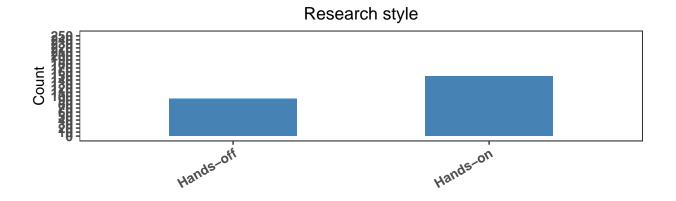
Percentage of research operations funded by external grants

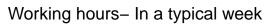


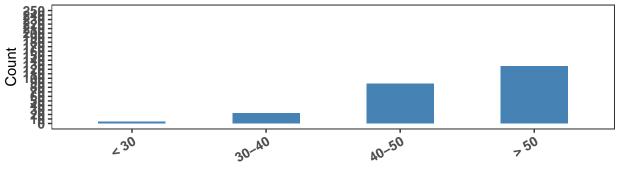
Any looming deadline- Today/Next couple of days?

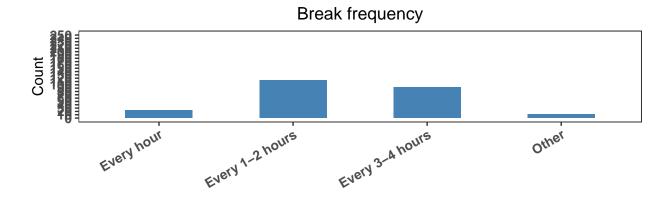


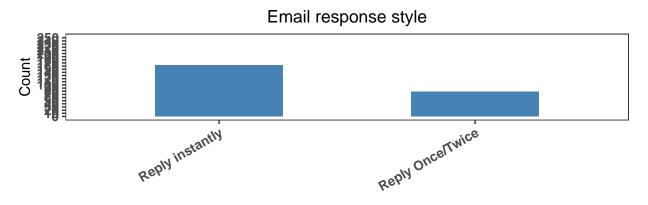




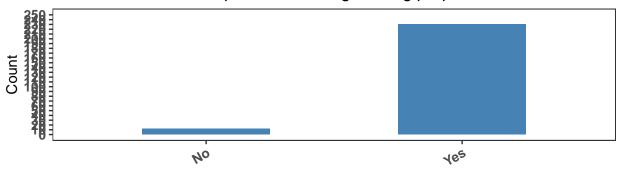




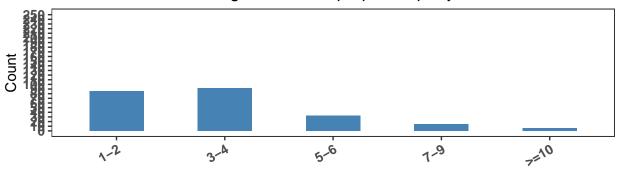


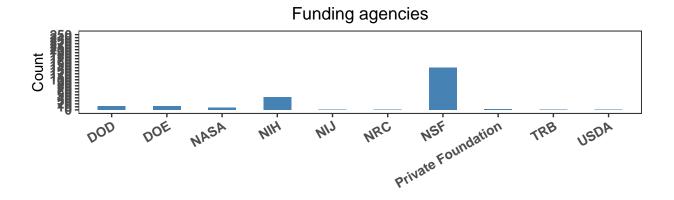


Participants submitting funding proposals

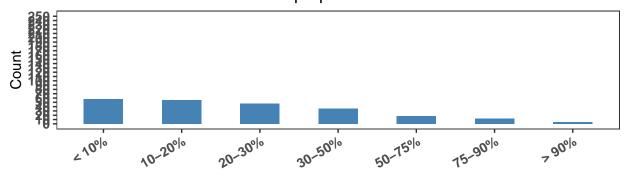


Average number of proposals per year

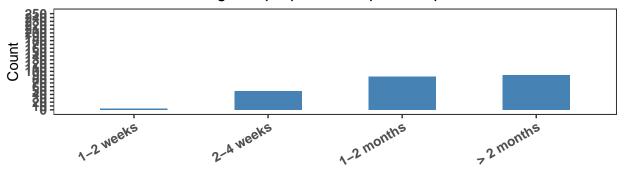




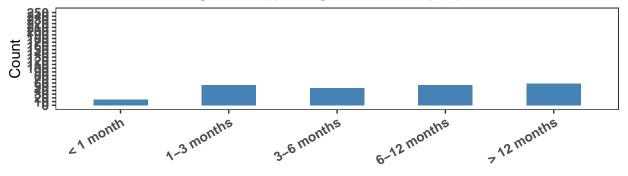
Perceived proposal success rate

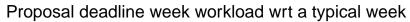


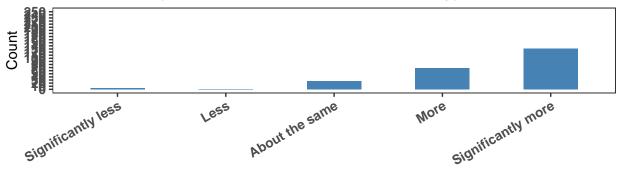
Length of proposal composition period



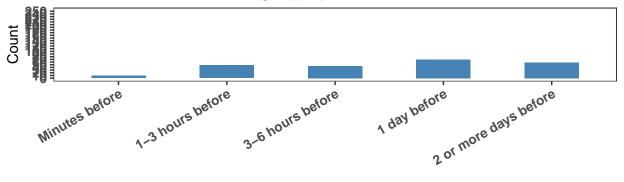
Length of supporting research for proposals



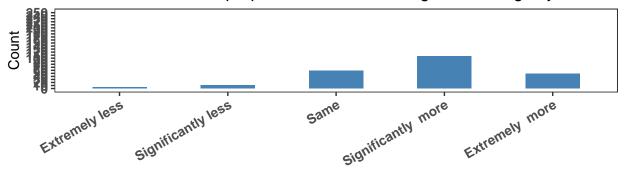




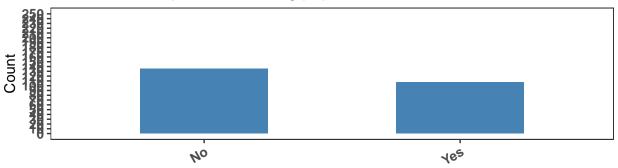
Timing of proposal submission



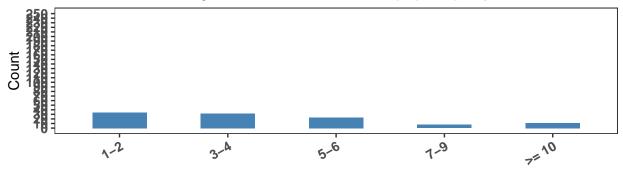
Stress level on proposal deadlines wrt regular working days



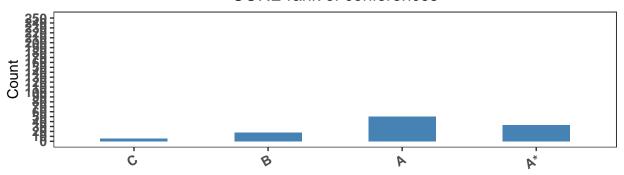
Participants submitting papers in refereed conferences



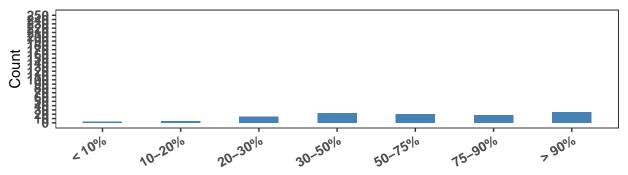




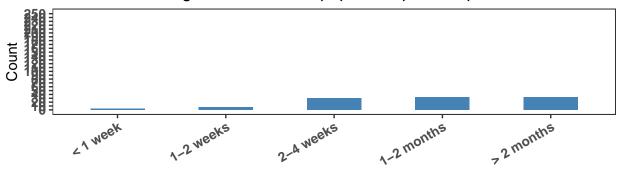
CORE rank of conferences



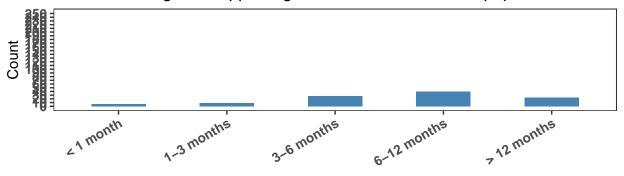
Perceived success rate in conference submissions



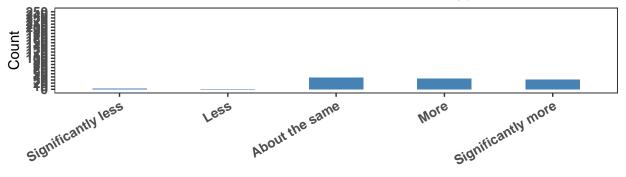
Length of conference paper composition period

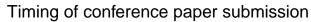


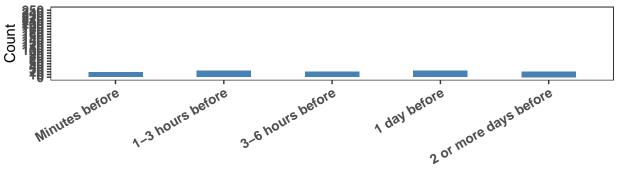
Length of supporting research for conference papers



Conference deadline week workload wrt a typical week







Stress level on conference deadlines wrt regular working days

