# univariate

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```
full_df_no_invalid_uni = read.csv("./data/full_df.csv") %>%
  select(-1) %>%
  mutate(B1PRSEX = as.factor(B1PRSEX),
         B4ALCOH = factor(B4ALCOH, levels = c("former_light/abs", "former_moderate", "former_heavy", "curr
         D1PB19 = factor(D1PB19, levels = c(-1,0,1)))
# 1 for white, 2 for non-white
full_df_lm = full_df_no_invalid_uni %>%
  mutate(B1PRSEX = as.factor(B1PRSEX),
         B4ALCOH = factor(B4ALCOH, levels = c("former_light/abs", "former_moderate", "former_heavy", "curr
         D1PB19 = factor(D1PB19, levels = c(0,-1,1)), # marital status, 0 - unchanged, -1 - divorced, 1 -
         D1PA6A = factor(D1PA6A),
         B1PF7A = ifelse(as.numeric(B1PF7A) != 1, 2, as.numeric(B1PF7A)),
         B1PF7A = as.factor(B1PF7A),
         B1PB1 = as.factor(B1PB1),
         B1PA39 = factor(B1PA39, levels = c("non_smoker", "former_smoker", "current_smoker")),
         B1SA11W = as.factor(B1SA11W),
         B1SA62A = as.factor(B1SA62A),
         B1SA62B = as.factor(B1SA62B),
         B1SA62C = as.factor(B1SA62C),
         B1SA62D = as.factor(B1SA62D),
         B1SA62E = as.factor(B1SA62E),
         B1SA62F = as.factor(B1SA62F),
         B1SA62G = as.factor(B1SA62G),
         B1SA62H = as.factor(B1SA62H),
         B1SA62I = as.factor(B1SA62I),
         B1SA62J = as.factor(B1SA62J)) %>%
  select(-c(M2ID, M2FAMNUM, B3TCOMPZ3, B3TEMZ3, B3TEFZ3, B1PB19, C3TCOMP, C3TEM, C3TEF, C3IDATE_MO, C3IDAT
  select(D3TCOMP, D3TEM, D3TEF, ctq_total, everything())
```

```
full_df_lm_num = full_df_lm %>%
  select(B1PAGE_M2, B1PTSEI, B1SPWBA2, B1SPWBE2, B1SPWBG2, B1SPWBR2, B1SPWBU2, B1SPWBS2, B4HMETMW)

stargazer(full_df_lm_num, type = "latex", title="Descriptive statistics (Numeric Variables)", digits=3)
```

% Table created by stargazer v.5.2.3 by Marek Hlavac, Social Policy Institute. E-mail: marek.hlavac at gmail.com %
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Composite Scores

```
uni_comp = lapply(full_df_lm[c(5:7, 9, 11:28, 31)], function(x) summary(lm(D3TCOMP~x ,data = full_df_lm)))
df_comp = list()
ind = c(5:7, 9, 11:28, 31)
for (i in 1:length(uni_comp)){
  ind_i = ind[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_comp[[str]]$coefficients[2, c(1,2,4)]
```

Table 1: Descriptive statistics (Numeric Variables)

| Statistic | N | Mean | St. Dev. | Min | Max |
|---|---|---|---|---|---|
| B1PAGE_M2 | 867 | 53.591 | 10.625 | 34 | 81 |
| B1PTSEI | 867 | 42.693 | 13.891 | 13.850 | 80.530 |
| B1SPWBA2 | 867 | 37.439 | 6.766 | 14.000 | 49.000 |
| B1SPWBE2 | 867 | 38.846 | 7.536 | 11.000 | 49.000 |
| B1SPWBG2 | 867 | 40.084 | 6.447 | 14.000 | 49.000 |
| B1SPWBR2 | 867 | 41.045 | 6.908 | 17.000 | 49.000 |
| B1SPWBU2 | 867 | 39.980 | 6.460 | 10.000 | 49.000 |
| B1SPWBS2 | 867 | 38.972 | 7.975 | 10.000 | 49.000 |
| B4HMETMW | 867 | 1,475.465 | 2,339.804 | 0.000 | 26,355.000 |

```
  df_comp = rbind(df_comp, resl)
}
df_comp = as.data.frame(df_comp) %>%
  unnest() %>%
  as.data.frame()
rownames(df_comp) = c("Age", "Sex (Female)", "Race (Black)", "SES", "Sleep Problem", "Sedative", "Tranquil


uni_comp_mul = lapply(full_df_lm[c(8, 10, 29, 30)], function(x) summary(lm(D3TCOMP~x ,data = full_df_lm)))
df_comp_2 = list()
ind_2 = c(8, 10, 29, 30)
length_sp = c(10, 2, 5, 2)
for (i in 1:length(uni_comp_mul)){
  ind_i = ind_2[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_comp_mul[[str]]$coefficients[2:(1+length_sp[i]), c(1,2,4)]
  df_comp_2 = rbind(df_comp_2, resl)
}
df_comp_2 = as.data.frame(df_comp_2) %>%
  unnest() %>%
  as.data.frame()

rownames(df_comp_2) = c("Some high School", "GED", " High School", "1-2 yr college", ">3 college", " 2-yr

df_comp = rbind(df_comp, df_comp_2) %>%
  janitor::clean_names()
df_comp = tibble::rownames_to_column(df_comp, "Variables")
df_comp = df_comp %>%
  mutate(sig = case_when(pr_t < 0.001 ~ "***",
                         pr_t < 0.01 ~ "**",
                         pr_t < 0.05 ~ "*",
                         pr_t < 0.1 ~ ".",
                         pr_t >= 0.1 ~ ""))
df_comp =
  df_comp %>%
  mutate(estimate = paste0(round(estimate, digits = 4), " (", round(std_error, digits = 3), ") ", sig)) %>%
  select(-c(std_error, pr_t, sig))
#knitr::kable(df_comp, col.names = c("", "Estimate", "Std Error", "Pr(>|t|)"))
```

EM

```
uni_em = lapply(full_df_lm[c(5:7, 9, 11:28, 31)], function(x) summary(lm(D3TEM~x ,data = full_df_lm)))
df_em = list()
for (i in 1:length(uni_em)){
  ind_i = ind[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_em[[str]]$coefficients[2, c(1,2,4)]
  df_em = rbind(df_em, resl)
}
df_em = as.data.frame(df_em) %>%
  unnest() %>%
  as.data.frame()
rownames(df_em) = c("Age", "Sex (Female)", "Race (Black)", "SES", "Sleep Problem", "Sedative", "Tranquiliz


uni_em_mul = lapply(full_df_lm[c(8, 10, 29, 30)], function(x) summary(lm(D3TEM~x ,data = full_df_lm)))
df_em_2 = list()
for (i in 1:length(uni_em_mul)){
  ind_i = ind_2[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_em_mul[[str]]$coefficients[2:(1+length_sp[i]), c(1,2,4)]
  df_em_2 = rbind(df_em_2, resl)
}
df_em_2 = as.data.frame(df_em_2) %>%
  unnest() %>%
  as.data.frame()

rownames(df_em_2) = c("Some high School", "GED", " High School", "1-2 yr college", ">3 college", " 2-yr co

df_em = rbind(df_em, df_em_2) %>%
  janitor::clean_names()
df_em = tibble::rownames_to_column(df_em, "Variables")
df_em = df_em %>%
  mutate(sig = case_when(pr_t < 0.001 ~ "***",
                         pr_t < 0.01 ~ "**",
                         pr_t < 0.05 ~ "*",
                         pr_t < 0.1 ~ ".",
                         pr_t >= 0.1 ~ ""))
df_em =
  df_em %>%
  mutate(estimate = paste0(round(estimate, digits = 4), " (", round(std_error, digits = 3), ") ", sig)) %>%
  select(-c(std_error, pr_t, sig))
```

EF

```
uni_ef = lapply(full_df_lm[c(5:7, 9, 11:28, 31)], function(x) summary(lm(D3TEF~x ,data = full_df_lm)))
df_ef = list()
for (i in 1:length(uni_ef)){
  ind_i = ind[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_ef[[str]]$coefficients[2, c(1,2,4)]
  df_ef = rbind(df_ef, resl)
}
df_ef = as.data.frame(df_ef) %>%
  unnest() %>%
  as.data.frame()
rownames(df_ef) = c("Age", "Sex (Female)", "Race (Black)", "SES", "Sleep Problem", "Sedative", "Tranquiliz
```

```
uni_ef_mul = lapply(full_df_lm[c(8, 10, 29, 30)], function(x) summary(lm(D3TEF~x ,data = full_df_lm)))
df_ef_2 = list()
for (i in 1:length(uni_ef_mul)){
  ind_i = ind_2[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_ef_mul[[str]]$coefficients[2:(1+length_sp[i]), c(1,2,4)]
  df_ef_2 = rbind(df_ef_2, resl)
}
df_ef_2 = as.data.frame(df_ef_2) %>%
  unnest() %>%
  as.data.frame()

rownames(df_ef_2) = c("Some high School", "GED", " High School", "1-2 yr college", ">3 college", " 2-yr co

df_ef = rbind(df_ef, df_ef_2) %>%
  janitor::clean_names()
df_ef = tibble::rownames_to_column(df_ef, "Variables")
df_ef = df_ef %>%
  mutate(sig = case_when(pr_t < 0.001 ~ "***",
                         pr_t < 0.01 ~ "**",
                         pr_t < 0.05 ~ "*",
                         pr_t < 0.1 ~ ".",
                         pr_t >= 0.1 ~ ""))
df_ef =
  df_ef %>%
  mutate(estimate = paste0(round(estimate, digits = 4), " (", round(std_error, digits = 3), ") ", sig)) %>%
  select(-c(std_error, pr_t, sig))
```

CTQ Total

```
uni_ctq = lapply(full_df_lm[c(5:7, 9, 11:28, 31)], function(x) summary(lm(ctq_total~x ,data = full_df_lm)))
df_ctq = list()
for (i in 1:length(uni_ctq)){
  ind_i = ind[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_ctq[[str]]$coefficients[2, c(1,2,4)]
  df_ctq = rbind(df_ctq, resl)
}
df_ctq = as.data.frame(df_ctq) %>%
  unnest() %>%
  as.data.frame()
rownames(df_ctq) = c("Age", "Sex (Female)", "Race (Black)", "SES", "Sleep Problem", "Sedative", "Tranquili


uni_ctq_mul = lapply(full_df_lm[c(8, 10, 29, 30)], function(x) summary(lm(ctq_total~x ,data = full_df_lm)))
df_ctq_2 = list()
for (i in 1:length(uni_ctq_mul)){
  ind_i = ind_2[i]
  str = colnames(full_df_lm)[ind_i]
  resl = uni_ctq_mul[[str]]$coefficients[2:(1+length_sp[i]), c(1,2,4)]
  df_ctq_2 = rbind(df_ctq_2, resl)
}
df_ctq_2 = as.data.frame(df_ctq_2) %>%
  unnest() %>%
  as.data.frame()
```

```r
rownames(df_ctq_2) = c("Some high School", "GED", " High School", "1-2 yr college", ">3 college", " 2-yr c

df_ctq = rbind(df_ctq, df_ctq_2) %>%
  janitor::clean_names()
df_ctq = tibble::rownames_to_column(df_ctq, "Variables")
df_ctq = df_ctq %>%
  mutate(sig = case_when(pr_t < 0.001 ~ "***",
                         pr_t < 0.01 ~ "**",
                         pr_t < 0.05 ~ "*",
                         pr_t < 0.1 ~ ".",
                         pr_t >= 0.1 ~ ""))
df_ctq =
  df_ctq %>%
  mutate(estimate = paste0(round(estimate, digits = 4), " (", round(std_error, digits = 3), ") ", sig)) %>%
  select(-c(std_error, pr_t, sig))
```

```r
uni_full = cbind(df_comp, df_em[2], df_ef[2], df_ctq[2])
colnames(uni_full) = c("var", "comp", "em", "ef", "ctq")
knitr::kable(uni_full, col.names = c("", "Composite Scores", "Episodic Memory", "Executive Function", "CTQ
```

Table 2: Univariate Analysis

| | Composite Scores | Episodic Memory | Executive Function | CTQ Total |
|---|---|---|---|---|
| Age | 7e-04 (0.002) | -0.0094 (0.003) ** | -0.0011 (0.002) | -0.1692 (0.044) *** |
| Sex (Female) | -0.0313 (0.039) | 0.1006 (0.063) | -0.0169 (0.038) | 3.6529 (0.942) *** |
| Race (Black) | 0.2485 (0.052) *** | 0.1596 (0.085) . | 0.21 (0.051) *** | 5.2514 (1.277) *** |
| SES | -0.0055 (0.001) *** | -0.002 (0.002) | -0.0043 (0.001) ** | -0.1237 (0.034) *** |
| Sleep Problem | -0.0219 (0.062) | -0.0062 (0.099) | -0.0015 (0.06) | 9.9653 (1.461) *** |
| Sedative | -0.3017 (0.118) * | -0.3222 (0.189) . | -0.2826 (0.114) * | 6.8612 (2.858) * |
| Tranquilizer | 0.0431 (0.132) | 0.3219 (0.212) | 0.0229 (0.128) | 5.5053 (3.208) . |
| Stimulant | 0.1029 (0.191) | 0.0067 (0.306) | 0.0383 (0.185) | 13.4287 (4.62) ** |
| Painkiller | -0.1172 (0.096) | -0.1468 (0.154) | -0.0308 (0.093) | 4.6841 (2.322) * |
| DepressMed | -0.0913 (0.181) | -0.2506 (0.291) | -0.098 (0.176) | 9.6417 (4.394) * |
| Inhalant | 0.0751 (0.57) | -0.7062 (0.915) | -0.0306 (0.553) | -3.3033 (13.861) |
| Marijuana | -0.0325 (0.086) | 0.1201 (0.139) | -0.0224 (0.084) | 3.5634 (2.096) . |
| Cocaine | 0.2849 (0.181) | -0.1063 (0.291) | 0.2779 (0.175) | 1.4168 (4.406) |
| LDS | -0.1902 (0.403) | -0.7345 (0.647) | -0.5404 (0.391) | -4.8106 (9.806) |
| Heroin | 0.0751 (0.57) | -0.7062 (0.915) | -0.0306 (0.553) | -3.3033 (13.861) |
| Autonomy | -9e-04 (0.003) | 7e-04 (0.005) | -5e-04 (0.003) | -0.23 (0.069) *** |
| Environ Mastery | -0.004 (0.003) | -0.0022 (0.004) | -0.0057 (0.002) * | -0.5904 (0.059) *** |
| Personal Growth | -0.004 (0.003) | 9e-04 (0.005) | -0.0023 (0.003) | -0.3999 (0.072) *** |
| Positive Relation | -0.0071 (0.003) * | -0.0011 (0.004) | -0.0069 (0.003) * | -0.5208 (0.066) *** |
| Purpose in Life | -0.0051 (0.003) . | 0.0019 (0.005) | -0.0059 (0.003) * | -0.5611 (0.07) *** |
| Self-Acceptance | -0.0071 (0.002) ** | -0.004 (0.004) | -0.0069 (0.002) ** | -0.5495 (0.056) *** |
| MET | 0 (0) | 0 (0) | 0 (0) | -1e-04 (0) |
| Stroke (between) | -0.0955 (0.123) | 0.0536 (0.197) | -0.4578 (0.118) *** | 1.9919 (2.991) |
| Some high School | 0.0217 (0.304) | 0.5239 (0.49) | -0.1243 (0.295) | 5.85 (7.309) |
| GED | -0.0827 (0.339) | 0.5357 (0.547) | -0.2991 (0.329) | 9.6944 (8.157) |
| High School | -0.2029 (0.285) | 0.1628 (0.46) | -0.2313 (0.277) | -4.5891 (6.862) |
| 1-2 yr college | -0.192 (0.286) | 0.0984 (0.461) | -0.1721 (0.278) | -4.3554 (6.878) |
| >3 college | -0.1103 (0.297) | 0.653 (0.479) | -0.207 (0.288) | -7.7365 (7.144) |
| 2-yr college | -0.2045 (0.29) | 0.0745 (0.468) | -0.2276 (0.282) | -0.5397 (6.983) |
| 4/5-yr college | -0.3019 (0.285) | 0.2386 (0.459) | -0.3377 (0.277) | -6.3851 (6.856) |
| Some Graduate School | -0.3579 (0.297) | 0.3265 (0.479) | -0.4471 (0.288) | -8.8176 (7.144) |
| Master's Degree | -0.4149 (0.286) | 0.1716 (0.462) | -0.3945 (0.278) | -7.039 (6.893) |
| Doctoral Degree | -0.3572 (0.296) | 0.1312 (0.477) | -0.3568 (0.287) | -7.05 (7.118) |

| | Composite Scores | Episodic Memory | Executive Function | CTQ Total |
|---|---|---|---|---|
| Former Smoker | 0.0594 (0.044) | 0.0763 (0.071) | 0.0173 (0.043) | 0.9602 (1.063) |
| Current Smoker | 0.0858 (0.066) | -0.0875 (0.107) | 0.072 (0.064) | 7.2015 (1.598) *** |
| Former Moderate Drinker | 0.1179 (0.076) | 0.1197 (0.122) | 0.0861 (0.074) | 3.9385 (1.846) * |
| Former Heavy Drinker | 0.0092 (0.083) | 0.073 (0.132) | -0.0051 (0.08) | 5.0019 (2.003) * |
| Current light Drinker | 3e-04 (0.099) | 0.2314 (0.159) | -0.1164 (0.096) | -0.3079 (2.403) |
| Current Moderate Drinker | 0.0504 (0.062) | 0.1983 (0.099) * | -0.0019 (0.06) | 2.7727 (1.496) . |
| Current Heavy Drinker | -0.0017 (0.063) | 0.0096 (0.1) | -0.0084 (0.061) | 2.602 (1.52) . |
| Divorced or equi | 0.0676 (0.066) | -0.0436 (0.105) | 0.1128 (0.063) . | 0.2331 (1.592) |
| Married | -0.0416 (0.097) | -0.0242 (0.156) | 0.0425 (0.094) | 4.4002 (2.361) . |

```
#kableExtra::kable_styling(latex_options = "scale_down")
```