Practice Exam 2 Output

ECO 230: Business and Economic Research and Communication

Overall Satisfaction and Marital Status

```
median.bs(dat$Satisfaction)
```

```
## $Confidence.Level
## [1] 0.95
##
## $Median.Confidence.Interval
##  2.5% 97.5%
##  65.5  68.0
##
## $Interpolated.Median.Confidence.Interval
##     2.5%    97.5%
## 65.50000 68.04557
##
## $Median
## [1] 67
##
## $Interpolated.Median
## [1] 67
```

```
t.test(dat$Satisfaction)
```

```
##
##  One Sample t-test
##
## data:  dat$Satisfaction
## t = 110.69, df = 217, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  64.98246 67.33864
## sample estimates:
## mean of x
##  66.16055
```

```
t.test(dat$Married)
```

```
##
##  One Sample t-test
##
## data:  dat$Married
## t = 19.934, df = 217, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  0.5828383 0.7107397
## sample estimates:
## mean of x
##  0.646789
```

```r
dat.married <- filter(dat, Married==1)
t.test(dat.married$Satisfaction)
```

```
##
##  One Sample t-test
##
## data:  dat.married$Satisfaction
## t = 90.478, df = 140, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  63.40623 66.23916
## sample estimates:
## mean of x
##   64.8227
```

```r
t.test(dat.married$Satisfaction, mu=64, alternative="greater")
```

```
##
##  One Sample t-test
##
## data:  dat.married$Satisfaction
## t = 1.1483, df = 140, p-value = 0.1264
## alternative hypothesis: true mean is greater than 64
## 95 percent confidence interval:
##  63.63639      Inf
## sample estimates:
## mean of x
##   64.8227
```

```r
t.test(dat.married$Satisfaction, mu=64, alternative="two.sided")
```

```
##
##  One Sample t-test
##
## data:  dat.married$Satisfaction
## t = 1.1483, df = 140, p-value = 0.2528
## alternative hypothesis: true mean is not equal to 64
## 95 percent confidence interval:
##  63.40623 66.23916
## sample estimates:
## mean of x
##   64.8227
```

```r
wilcox.test(Satisfaction ~ Married, data=dat)
```

```
##
##  Wilcoxon rank sum test with continuity correction
##
## data:  Satisfaction by Married
## W = 6886, p-value = 0.001051
## alternative hypothesis: true location shift is not equal to 0
```

```r
wilcox.test(x=dat$Satisfaction, y=dat$Married, paired=TRUE)
```

```
##
##  Wilcoxon signed rank test with continuity correction
##
```

```
## data:  dat$Satisfaction and dat$Married
## V = 23871, p-value < 2.2e-16
## alternative hypothesis: true location shift is not equal to 0
```

```
t.test(Satisfaction ~ Married, data=dat)
```

```
##
##  Welch Two Sample t-test
##
## data:  Satisfaction by Married
## t = 3.0444, df = 150.07, p-value = 0.002754
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  1.329410 6.245979
## sample estimates:
## mean in group 0 mean in group 1
##        68.61039        64.82270
```

```
t.test(x=dat$Satisfaction, y=dat$Married, paired=TRUE)
```

```
##
##  Paired t-test
##
## data:  dat$Satisfaction and dat$Married
## t = 108.25, df = 217, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  64.32088 66.70665
## sample estimates:
## mean of the differences
##                65.51376
```

```
cor.test(x=dat$Satisfaction, y=dat$Married, method="pearson")
```

```
##
##  Pearson's product-moment correlation
##
## data:  dat$Satisfaction and dat$Married
## t = -3.0878, df = 216, p-value = 0.002281
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.32948445 -0.07477312
## sample estimates:
##        cor
## -0.2056082
```

```
cor.test(x=dat$Satisfaction, y=dat$Married, method="spearman")
```

```
## Warning in cor.test.default(x = dat$Satisfaction, y = dat$Married, method =
## "spearman"): Cannot compute exact p-value with ties
```

```
##
##  Spearman's rank correlation rho
##
## data:  dat$Satisfaction and dat$Married
## S = 2110800, p-value = 0.0009404
## alternative hypothesis: true rho is not equal to 0
```

```
## sample estimates:
##        rho
## -0.2224961
```

```
chisq.test(dat$Satisfaction, dat$Married)
```

```
## Warning in chisq.test(dat$Satisfaction, dat$Married): Chi-squared
## approximation may be incorrect
```

```
##
##  Pearson's Chi-squared test
##
## data:  dat$Satisfaction and dat$Married
## X-squared = 59.548, df = 41, p-value = 0.03053
```

Promotion and Supervision Satisfaction

```
median.bs(dat$Promotion)
```

```
## $Confidence.Level
## [1] 0.95
##
## $Median.Confidence.Interval
##    2.5%   97.5%
## 29.0000 31.5125
##
## $Interpolated.Median.Confidence.Interval
##     2.5%    97.5%
## 29.07143 31.54014
##
## $Median
## [1] 30
##
## $Interpolated.Median
## [1] 30.22727
```

```
median.bs(dat$Supervision)
```

```
## $Confidence.Level
## [1] 0.95
##
## $Median.Confidence.Interval
##  2.5% 97.5%
##    55    60
##
## $Interpolated.Median.Confidence.Interval
##   2.5%  97.5%
## 54.875 59.600
##
## $Median
## [1] 58
##
## $Interpolated.Median
## [1] 57.8
```

```r
t.test(dat$Promotion)
```

```
##
##  One Sample t-test
##
## data:  dat$Promotion
## t = 59.401, df = 217, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  29.19972 31.20395
## sample estimates:
## mean of x
##  30.20183
```

```r
t.test(dat$Supervision)
```

```
##
##  One Sample t-test
##
## data:  dat$Supervision
## t = 54.329, df = 213, p-value < 2.2e-16
## alternative hypothesis: true mean is not equal to 0
## 95 percent confidence interval:
##  52.72979 56.70011
## sample estimates:
## mean of x
##  54.71495
```

```r
t.test(dat$Promotion, dat$Supervision, data=dat)
```

```
##
##  Welch Two Sample t-test
##
## data:  dat$Promotion and dat$Supervision
## t = -21.728, df = 315.31, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -26.73281 -22.29343
## sample estimates:
## mean of x mean of y
##  30.20183  54.71495
```

```r
t.test(x=dat$Promotion, y=dat$Supervision, paired=TRUE)
```

```
##
##  Paired t-test
##
## data:  dat$Promotion and dat$Supervision
## t = -24.83, df = 213, p-value < 2.2e-16
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -26.41471 -22.52921
## sample estimates:
## mean of the differences
##               -24.47196
```

```r
wilcox.test(dat$Promotion, dat$Supervision, data=dat)
```

```
##
##  Wilcoxon rank sum test with continuity correction
##
## data:  dat$Promotion and dat$Supervision
## W = 3483.5, p-value < 2.2e-16
## alternative hypothesis: true location shift is not equal to 0
```

```r
wilcox.test(x=dat$Promotion, y=dat$Supervision, paired=TRUE)
```

```
##
##  Wilcoxon signed rank test with continuity correction
##
## data:  dat$Promotion and dat$Supervision
## V = 804, p-value < 2.2e-16
## alternative hypothesis: true location shift is not equal to 0
```

```r
cor.test(x=dat$Promotion, y=dat$Supervision, method="pearson")
```

```
##
##  Pearson's product-moment correlation
##
## data:  dat$Promotion and dat$Supervision
## t = 4.5121, df = 212, p-value = 1.063e-05
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  0.1685789 0.4136963
## sample estimates:
##      cor
## 0.296003
```

```r
cor.test(x=dat$Promotion, y=dat$Supervision, method="spearman")
```

```
## Warning in cor.test.default(x = dat$Promotion, y = dat$Supervision, method
## = "spearman"): Cannot compute exact p-value with ties
```

```
##
##  Spearman's rank correlation rho
##
## data:  dat$Promotion and dat$Supervision
## S = 1018300, p-value = 1.295e-08
## alternative hypothesis: true rho is not equal to 0
## sample estimates:
##       rho
## 0.3765395
```

```r
chisq.test(dat$Promotion, dat$Supervision)
```

```
## Warning in chisq.test(dat$Promotion, dat$Supervision): Chi-squared
## approximation may be incorrect
```

```
##
##  Pearson's Chi-squared test
##
## data:  dat$Promotion and dat$Supervision
## X-squared = 2517.5, df = 1960, p-value < 2.2e-16
```