EDU Stats: Descriptive & Comparative: Assignment #2

**Once you have identified a dataset, explain how you accessed it. What links did you click? Was there any registration required? Did you download directly or was there an online system you navigated?**

Initially, I googled open infertility data sets. The results provided a link to the fertility clinics registered with the CDC. I selected the data set regarding clinic success rates in Texas. The data were downloaded into a spreadsheet for use.

**In R: Import the data**

* + Provide a list of variables in the dataset
    - Copy and paste this list in your word document

[1] "OrderID" "PrevClinName1"

[3] "PrevClinName2" "ClinCityCode"

[5] "ClinStateCode" "TotNumberCycles"

[7] "TotUsingFrozenEggs" "MedicalDirector"

[9] "IVF\_Rate" "Unstimulated\_Rate"

[11] "Gest\_Rate" "ICSI\_Rate"

[13] "PGD\_Rate" "Diag\_TubalRate"

[15] "Diag\_OvulatoryRate" "Diag\_DORRate"

[17] "Diag\_EndometriosisRate" "Diag\_UterineRate"

[19] "Diag\_MaleRate" "Diag\_OtherRate"

[21] "Diag\_UnknownRate" "Diag\_ComboNoMaleRate"

[23] "Diag\_ComboMaleRate" "FshNDCycle1"

[25] "FshNDCycle2" "FshNDCycle3"

[27] "FshNDCycle4" "FshNDCycle5"

[29] "FshNDCansRate1" "FshNDCansRate2"

[31] "FshNDCansRate3" "FshNDCansRate4"

[33] "FshNDCansRate5" "FshNDTransfers1"

[35] "FshNDTransfers2" "FshNDTransfers3"

[37] "FshNDTransfers4" "FshNDTransfers5"

[39] "FshNDEmbryosRate1" "FshNDEmbryosRate2"

[41] "FshNDEmbryosRate3" "FshNDEmbryosRate4"

[43] "FshNDEmbryosRate5" "FshNDeSETRate1"

[45] "FshNDeSETRate2" "FshNDeSETRate3"

[47] "FshNDeSETRate4" "FshNDeSETRate5"

[49] "FshNDPregRate1" "FshNDPregRate2"

[51] "FshNDPregRate3" "FshNDPregRate4"

[53] "FshNDPregRate5" "FshNDLvBirthsRate1"

[55] "FshNDLvBirthsRate2" "FshNDLvBirthsRate3"

[57] "FshNDLvBirthsRate4" "FshNDLvBirthsRate5"

[59] "FshNDSnglLBRate1" "FshNDSnglLBRate2"

[61] "FshNDSnglLBRate3" "FshNDSnglLBRate4"

[63] "FshNDSnglLBRate5" "FshNDTwinLBRate1"

[65] "FshNDTwinLBRate2" "FshNDTwinLBRate3"

[67] "FshNDTwinLBRate4" "FshNDTwinLBRate5"

[69] "FshNDHealthSnglLBRate1" "FshNDHealthSnglLBRate2"

[71] "FshNDHealthSnglLBRate3" "FshNDHealthSnglLBRate4"

[73] "FshNDHealthSnglLBRate5" "FshNDImplant1"

[75] "FshNDImplant2" "FshNDImplant3"

[77] "FshNDImplant4" "FshNDImplant5"

[79] "FshNDTransPregRate1" "FshNDTransPregRate2"

[81] "FshNDTransPregRate3" "FshNDTransPregRate4"

[83] "FshNDTransPregRate5" "FshNDLvBirths\_TransRate1"

[85] "FshNDLvBirths\_TransRate2" "FshNDLvBirths\_TransRate3"

[87] "FshNDLvBirths\_TransRate4" "FshNDLvBirths\_TransRate5"

[89] "FshNDSnglLB\_TransRate1" "FshNDSnglLB\_TransRate2"

[91] "FshNDSnglLB\_TransRate3" "FshNDSnglLB\_TransRate4"

[93] "FshNDSnglLB\_TransRate5" "FshNDTwinLB\_TransRate1"

[95] "FshNDTwinLB\_TransRate2" "FshNDTwinLB\_TransRate3"

[97] "FshNDTwinLB\_TransRate4" "FshNDTwinLB\_TransRate5"

[99] "FshNDHealthSnglLB\_TransRate1" "FshNDHealthSnglLB\_TransRate2"

[101] "FshNDHealthSnglLB\_TransRate3" "FshNDHealthSnglLB\_TransRate4"

[103] "FshNDHealthSnglLB\_TransRate5" "ThwNDTotCycles1"

[105] "ThwNDTotCycles2" "ThwNDTotCycles3"

[107] "ThwNDTotCycles4" "ThwNDTotCycles5"

[109] "ThwNDTransfers1" "ThwNDTransfers2"

[111] "ThwNDTransfers3" "ThwNDTransfers4"

[113] "ThwNDTransfers5" "ThwNDEstTransPerRetrievRate1"

[115] "ThwNDEstTransPerRetrievRate2" "ThwNDEstTransPerRetrievRate3"

[117] "ThwNDEstTransPerRetrievRate4" "ThwNDEstTransPerRetrievRate5"

[119] "ThwNDEmbryosRate1" "ThwNDEmbryosRate2"

[121] "ThwNDEmbryosRate3" "ThwNDEmbryosRate4"

[123] "ThwNDEmbryosRate5" "ThwNDImplant1"

[125] "ThwNDImplant2" "ThwNDImplant3"

[127] "ThwNDImplant4" "ThwNDImplant5"

[129] "ThwNDTransPregRate1" "ThwNDTransPregRate2"

[131] "ThwNDTransPregRate3" "ThwNDTransPregRate4"

[133] "ThwNDTransPregRate5" "ThwNDLvBirths\_TransRate1"

[135] "ThwNDLvBirths\_TransRate2" "ThwNDLvBirths\_TransRate3"

[137] "ThwNDLvBirths\_TransRate4" "ThwNDLvBirths\_TransRate5"

[139] "ThwNDSnglLB\_TransRate1" "ThwNDSnglLB\_TransRate2"

[141] "ThwNDSnglLB\_TransRate3" "ThwNDSnglLB\_TransRate4"

[143] "ThwNDSnglLB\_TransRate5" "ThwNDTwinLB\_TransRate1"

[145] "ThwNDTwinLB\_TransRate2" "ThwNDTwinLB\_TransRate3"

[147] "ThwNDTwinLB\_TransRate4" "ThwNDTwinLB\_TransRate5"

[149] "ThwNDHealthSnglLB\_TransRate1" "ThwNDHealthSnglLB\_TransRate2"

[151] "ThwNDHealthSnglLB\_TransRate3" "ThwNDHealthSnglLB\_TransRate4"

[153] "ThwNDHealthSnglLB\_TransRate5" "TotBankingCycles1"

[155] "TotBankingCycles2" "TotBankingCycles3"

[157] "TotBankingCycles4" "TotBankingCycles5"

[159] "TotBankLTCycles1" "TotBankLTCycles2"

[161] "TotBankLTCycles3" "TotBankLTCycles4"

[163] "TotBankLTCycles5" "FshDnrEggTotCycles"

[165] "ThwDnrEggTotCycles" "ThwDnrEmbTotCycles"

[167] "DonatedEmbCycles" "FshDnrEggTransfers"

[169] "ThwDnrEggTransfers" "ThwDnrEmbTransfers"

[171] "DonatedEmbTransfers" "FshDnrEggRate"

[173] "ThwDnrEggRate" "ThwDnrEmbRate"

[175] "DonatedEmbRate" "FshDnrEggImplant"

[177] "ThwDnrEggImplant" "ThwDnrEmbImplant"

[179] "DonatedEmbImplant" "FshDnrEggTransPregRate"

[181] "ThwDnrEggTransPregRate" "ThwDnrEmbTransPregRate"

[183] "DonatedEmbTransPregRate" "FshDnrEggLvBirths\_TransRate"

[185] "ThwDnrEggLvBirths\_TransRate" "ThwDnrEmbLvBirths\_TransRate"

[187] "DonatedEmbLvBirths\_TransRate" "FshDnrEggSnglLB\_TransRate"

[189] "ThwDnrEggSnglLB\_TransRate" "ThwDnrEmbSnglLB\_TransRate"

[191] "DonatedEmbSnglLB\_TransRate" "FshDnrEggTwinLvBirths\_TransRate"

[193] "ThwDnrEggTwinLvBirths\_TransRate" "ThwDnrEmbTwinLvBirths\_TransRate"

[195] "DonatedEmbTwinLvBirths\_TransRate" "FshDnrEggHealthSnglLB\_TransRate"

[197] "ThwDnrEggSngLB\_TransRate" "ThwDnrEmbSngLB\_TransRate"

[199] "DonatedEmbSngLB\_TransRate" "ReorgOrClosedMessage"

[201] "CurrClinNameAll" "DonorEgg"

[203] "DonorEmbryo" "EmbryoCryo"

[205] "EggCryo" "SingleWomen"

[207] "Surrogates" "SART\_Member"

[209] "Accreditation" "TotExcludedResearchCycles"

[211] "state\_code"

**What is the structure of the data? Which variables are character and which are numeric? Copy and paste this list in your word document**

'data.frame': 463 obs. of 211 variables:

$ OrderID : int 1 2 3 4 5 6 7 8 9 10 ...

$ PrevClinName1 : chr "ALABAMA FERTILITY SPECIALISTS" "ART FERTILITY PROGRAM OF ALABAMA" "UNIVERSITY OF ALABAMA AT BIRMINGHAM" "CENTER FOR REPRODUCTIVE MEDICINE" ...

$ PrevClinName2 : chr "" "" "REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY" "" ...

$ ClinCityCode : chr "BIRMINGHAM" "BIRMINGHAM" "BIRMINGHAM" "MOBILE" ...

$ ClinStateCode : chr "ALABAMA" "ALABAMA" "ALABAMA" "ALABAMA" ...

$ TotNumberCycles : num 92 376 289 324 39 795 215 398 12 122 ...

$ TotUsingFrozenEggs : num 0 0 2 0 0 1 0 1 0 1 ...

$ MedicalDirector : chr "Janet M. Bouknight, MD" "Virginia L. Houserman, MD" "G. Wright Bates, MD" "George T. Koulianos, MD" ...

$ IVF\_Rate : chr "100%" "100%" "100%" "100%" ...

$ Unstimulated\_Rate : chr "0%" "<1%" "0%" "0%" ...

$ Gest\_Rate : chr "0%" "<1%" "0%" "3%" ...

$ ICSI\_Rate : chr "39%" "70%" "56%" "84%" ...

$ PGD\_Rate : chr "0%" "6%" "21%" "7%" ...

$ Diag\_TubalRate : chr "24%" "27%" "21%" "18%" ...

$ Diag\_OvulatoryRate : chr "32%" "8%" "17%" "16%" ...

$ Diag\_DORRate : chr "21%" "18%" "26%" "14%" ...

$ Diag\_EndometriosisRate : chr "21%" "21%" "13%" "15%" ...

$ Diag\_UterineRate : chr "6%" "3%" "5%" "5%" ...

$ Diag\_MaleRate : chr "44%" "70%" "33%" "38%" ...

$ Diag\_OtherRate : chr "15%" "56%" "9%" "6%" ...

$ Diag\_UnknownRate : chr "1%" "1%" "17%" "3%" ...

$ Diag\_ComboNoMaleRate : chr "18%" "15%" "16%" "6%" ...

$ Diag\_ComboMaleRate : chr "33%" "54%" "18%" "8%" ...

$ FshNDCycle1 : chr "29" "87" "56" "76" ...

$ FshNDCycle2 : int 11 36 12 32 7 1 27 0 0 6 ...

$ FshNDCycle3 : int 12 21 10 20 3 0 14 0 0 10 ...

$ FshNDCycle4 : int 1 4 5 7 5 0 2 1 1 2 ...

$ FshNDCycle5 : int 0 3 2 0 2 1 5 1 0 4 ...

$ FshNDCansRate1 : chr "20.7" "5.7" "10.7" "5.3" ...

$ FshNDCansRate2 : chr "6 / 11" "13.9" "0 / 12" "25.0" ...

$ FshNDCansRate3 : chr "3 / 12" "33.3" "2 / 10" "5.0" ...

$ FshNDCansRate4 : chr "0 / 1" "0 / 4" "0 / 5" "5 / 7" ...

$ FshNDCansRate5 : chr "" "2 / 3" "1 / 2" "" ...

$ FshNDTransfers1 : chr "22" "65" "28" "43" ...

$ FshNDTransfers2 : int 5 24 4 17 5 0 25 0 0 5 ...

$ FshNDTransfers3 : int 9 11 5 13 1 0 13 0 0 5 ...

$ FshNDTransfers4 : int 1 4 2 1 4 0 2 1 1 2 ...

$ FshNDTransfers5 : int 0 1 0 0 2 1 4 1 0 4 ...

$ FshNDEmbryosRate1 : num 2 1.7 1.3 1.4 2.8 1.7 1.7 1 2 1.7 ...

$ FshNDEmbryosRate2 : num 2 1.9 1.8 1.8 2.4 NA 2.2 NA NA 2 ...

$ FshNDEmbryosRate3 : num 2.6 2.1 2 2.2 2 NA 2.2 NA NA 2.4 ...

$ FshNDEmbryosRate4 : num 2 2.5 3 1 1.8 NA 5 5 3 2.5 ...

$ FshNDEmbryosRate5 : num NA 2 NA NA 2 4 2.8 2 NA 3.3 ...

$ FshNDeSETRate1 : chr "0.0" "14.5" "67.9" "55.0" ...

$ FshNDeSETRate2 : chr "1 / 4" "0.0" "0 / 3" "2 / 15" ...

$ FshNDeSETRate3 : chr "0 / 9" "0 / 9" "0 / 4" "0 / 11" ...

$ FshNDeSETRate4 : chr "0 / 1" "0 / 4" "0 / 2" "" ...

$ FshNDeSETRate5 : chr "" "0 / 1" "" "" ...

$ FshNDPregRate1 : chr "27.6" "33.3" "25.0" "27.6" ...

$ FshNDPregRate2 : chr "2 / 11" "44.4" "0 / 12" "31.3" ...

$ FshNDPregRate3 : chr "2 / 12" "19.0" "4 / 10" "30.0" ...

$ FshNDPregRate4 : chr "0 / 1" "0 / 4" "0 / 5" "0 / 7" ...

$ FshNDPregRate5 : chr "" "0 / 3" "0 / 2" "" ...

$ FshNDLvBirthsRate1 : chr "27.6" "29.9" "25.0" "25.0" ...

$ FshNDLvBirthsRate2 : chr "1 / 11" "36.1" "0 / 12" "25.0" ...

$ FshNDLvBirthsRate3 : chr "2 / 12" "14.3" "3 / 10" "30.0" ...

$ FshNDLvBirthsRate4 : chr "0 / 1" "0 / 4" "0 / 5" "0 / 7" ...

$ FshNDLvBirthsRate5 : chr "" "0 / 3" "0 / 2" "" ...

$ FshNDSnglLBRate1 : chr "20.7" "19.5" "23.2" "18.4" ...

$ FshNDSnglLBRate2 : chr "1 / 11" "16.7" "0 / 12" "18.8" ...

$ FshNDSnglLBRate3 : chr "1 / 12" "14.3" "2 / 10" "20.0" ...

$ FshNDSnglLBRate4 : chr "0 / 1" "0 / 4" "0 / 5" "0 / 7" ...

$ FshNDSnglLBRate5 : chr "" "0 / 3" "0 / 2" "" ...

$ FshNDTwinLBRate1 : chr "6.9" "9.2" "1.8" "6.6" ...

$ FshNDTwinLBRate2 : chr "0 / 11" "16.7" "0 / 12" "6.3" ...

$ FshNDTwinLBRate3 : chr "1 / 12" "0.0" "1 / 10" "10.0" ...

$ FshNDTwinLBRate4 : chr "0 / 1" "0 / 4" "0 / 5" "0 / 7" ...

$ FshNDTwinLBRate5 : chr "" "0 / 3" "0 / 2" "" ...

$ FshNDHealthSnglLBRate1 : chr "17.2" "18.4" "21.4" "17.1" ...

$ FshNDHealthSnglLBRate2 : chr "1 / 11" "13.9" "0 / 12" "15.6" ...

$ FshNDHealthSnglLBRate3 : chr "1 / 12" "9.5" "1 / 10" "15.0" ...

$ FshNDHealthSnglLBRate4 : chr "0 / 1" "0 / 4" "0 / 5" "0 / 7" ...

$ FshNDHealthSnglLBRate5 : chr "" "0 / 3" "0 / 2" "" ...

$ FshNDImplant1 : chr "22.2" "34.5" "40.5" "41.7" ...

$ FshNDImplant2 : chr "1 / 7" "60.5" "0 / 7" "42.3" ...

$ FshNDImplant3 : chr "21.7" "21.7" "6 / 10" "32.1" ...

$ FshNDImplant4 : chr "0 / 2" "0 / 10" "0 / 6" "0 / 1" ..

$ FshNDImplant5 : chr "" "0 / 2" "" "" ...

$ FshNDTransPregRate1 : chr "36.4" "44.6" "50.0" "48.8" ...

$ FshNDTransPregRate2 : chr "2 / 5" "66.7" "0 / 4" "10 / 17" ..

$ FshNDTransPregRate3 : chr "2 / 9" "4 / 11" "4 / 5" "6 / 13" .

$ FshNDTransPregRate4 : chr "0 / 1" "0 / 4" "0 / 2" "0 / 1" ...

$ FshNDTransPregRate5 : chr "" "0 / 1" "" "" ...

$ FshNDLvBirths\_TransRate1 : chr "36.4" "40.0" "50.0" "44.2" ...

$ FshNDLvBirths\_TransRate2 : chr "1 / 5" "54.2" "0 / 4" "8 / 17" ...

$ FshNDLvBirths\_TransRate3 : chr "2 / 9" "3 / 11" "3 / 5" "6 / 13" .

$ FshNDLvBirths\_TransRate4 : chr "0 / 1" "0 / 4" "0 / 2" "0 / 1" ...

$ FshNDLvBirths\_TransRate5 : chr "" "0 / 1" "" "" ...

$ FshNDSnglLB\_TransRate1 : chr "27.3" "26.2" "46.4" "32.6" ...

$ FshNDSnglLB\_TransRate2 : chr "1 / 5" "25.0" "0 / 4" "6 / 17" ...

$ FshNDSnglLB\_TransRate3 : chr "1 / 9" "3 / 11" "2 / 5" "4 / 13" .

$ FshNDSnglLB\_TransRate4 : chr "0 / 1" "0 / 4" "0 / 2" "0 / 1" ...

$ FshNDSnglLB\_TransRate5 : chr "" "0 / 1" "" "" ...

$ FshNDTwinLB\_TransRate1 : chr "9.1" "12.3" "3.6" "11.6" ...

$ FshNDTwinLB\_TransRate2 : chr "0 / 5" "25.0" "0 / 4" "2 / 17" ...

$ FshNDTwinLB\_TransRate3 : chr "1 / 9" "0 / 11" "1 / 5" "2 / 13" .

$ FshNDTwinLB\_TransRate4 : chr "0 / 1" "0 / 4" "0 / 2" "0 / 1" ...

$ FshNDTwinLB\_TransRate5 : chr "" "0 / 1" "" "" ...

$ FshNDHealthSnglLB\_TransRate1 : chr "22.7" "24.6" "42.9" "30.2" ...

[list output truncated]

**5 Variables for Remaining Assignment - Terms Explained**

TotNumberCycles Total cycles excluding approved research  
FshNDCycle2 Age 35-37 Frsh emb Frsh Nnondnr egg

TotUsingFrozenEggs Cycles using frsh emb from frzn nondnr eggs

Diag\_OvulatoryRate Patient diagnosis % of cycles with ovulatory dysfunction

Diag\_MaleRate Patient diagnosis % of cycles with male factor

**Median, Mean, & Mode of 5 variables:**

TotNumberCycles**:** Median – 118.0, Mean -220.0, Mode – 118 and 130

FshNDCycle2: Median – 1, Mean – 1, Mode – 1

TotUsingFrozenEggs Median – 01.000, Mean – 1.907, Mode – 0

Diag\_OvulatoryRate Median – 0.1600, Mean – 0.2109, Mode – 0.11

Diag\_MaleRate Median – 0.3400, Mean – 0.3614, Mode – 0.31

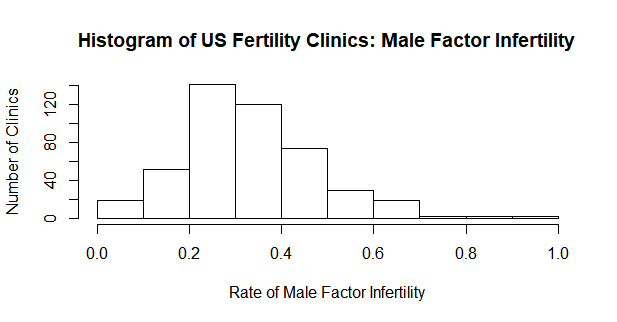
**Variance, Range, and Standard Deviation of Diag\_MaleRate**

Variance – 0.02217369

Standard Deviation – 0.1489083

Range – 1.00 (min 0.00 to max 1.00)

**Histogram**



**Box-Plot**

