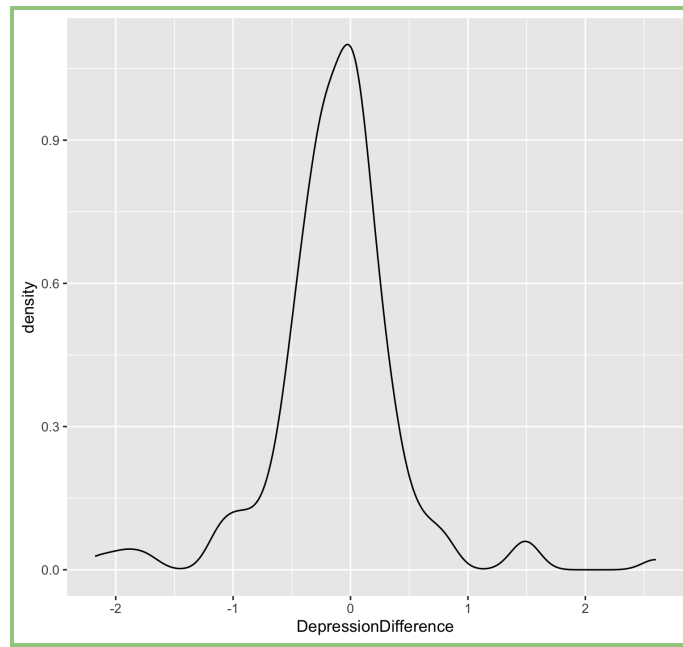


1. **Plot your data** using the `geom_density()` ggplot function. Does it look normal?



Looks mostly normal, but not quite, and the Shapiro test indicates that it is not normal with a p-value of = 0.0000000009229

2. Using your descriptive statistics skills in JMP, **fully describe this “difference” data** (include whatever metrics you think are appropriate to fully describe the nature of this data).

Measure	Variable
N	162
na	7
IQR	0.476
skew	0.208
kurtosis	5.98
mean	-0.118
sd	0.553
variance	0.305

3. **Is this data normally distributed?** Make note of the mean and standard deviation for this data. You will need it moving forward. Now let's test some probabilities.

(Answer could be here as well) Looks mostly normal, but not quite, and the Shapiro test indicates that it is not normal with a p-value of = 0.0000000009229

4. Now use your data description results to answer the following questions:

- **What is the probability** of seeing a person in the general population with an increase of more than 1 depression unit (i.e. measured value (X) for your difference column is $p(X > 1)$).

2.1%

- Based on this data, **what is the probability** of seeing someone decrease in their depression rating (i.e. measured value (X) for your difference column is $p(X < 0)$). Now, let's consider the power of this test.

58.4%

- If we wanted to flag people whose depression increased significantly (using a 1-tailed 0.05 alpha threshold) **what is the depression value** we would use as the threshold to flag people for additional follow-up?

0.7916041