Is there any evidence to suggest that the cute-direct pick-up approach will lead to more relationship receptivity than the direct-direct approach?

1. **Report on the findings**
   Keeping in mind that the receptivity measure is scaled between 2.4 to 5, -FYI all the tests measure will be respectively ordered cute-direct to direct-direct - when grouping by the pick up approach we notice that the spread of the receptivity for the cute-direct pick up is less spread than direct-direct pick up with range values 2.04(min = 2.96, max = 5) and 2.55(min = 2.40, max = 4.95) so when we report mean values are 3.8634, 3.6545 we get a difference of 0.20898 should be considered as a big difference, after that a box-cox transformation made to normalize the receptivity variable, an independent means t-test is conducted to assure the difference is significant, we found homogeneity of variance through levene's test with value 0.157 and the groups are different with significant value 0.005, t(192) = 2.87, mean difference = 0.20898 and effect size equals d = 0.51752 which is moderate .
   Summary: tests showed that the cute-direct pick-up approach will lead to more relationship receptivity than the direct-direct approach by explaining the differences between both groups with medium effect size about 0.52

Is there any evidence to suggest that the presence of androstadienone spray will lead to more relationship receptivity than no spray?

2. **Report on the findings**
   Unlike the first study when we group receptivity by scent we find the range of both groups are so similar -all tests' measures will be spray and no spray respectively ordered- 2.49(min = 2.51, max = 5), 2.55(min = 2.4, max = 4.95) which indicates same spread of the data between both groups, looking to the mean values 3.8584, 3.7130 which show slightly closer than the first study.
   ANOVA test was conducted after normalizing the dependent variable and no independence of observation was found due to Durbin Watson test value was 0.027. Then independent sample t-test was conducted, levene's test value shows heterogeneity of variance with value <0.001 and the t-test itself show that the groups is not significantly difference with value 0.049 which is the peak of the limit(0.05), t(192) = 1.982, mean difference equal 0.14548 and effect size d = 0.52345
   Summary: no evidence shows preference for spray than no spray, they have same range almost same mean, no independence of observation and heterogeneity of variance and t test shows no significance.

Is there any evidence to suggest that the impact of the androstadienone spray on attractiveness effect will be enhanced by the pick-up approach?

3. Report on the findings

A two way ANOVA test was conducted due to the presence of 2 independent variables to answer whether using androstadienone spray will be enhanced by the pick-up approach for receptivity, first normality test was preformed to the population using skewness value, kertosis and SW tests, outliers were observed by the box plot, durbin Watson was assessed to see if independence of observation, levene's test was also preformed to ensure homogeneity of varience.
All groups were nearly equally positive skewed ,kertosis values were nearly equal and there were little violation of normality(shown in the table below), no outliers were found, durbin's value was 0.197 indicating no independence of observation, there were no homogeneity of variance between groups with sig. value < 0.001.

BOX-COX TRANS	SKEWNESS	KERTOSIS	SW SIG.
NO SPRAY – CUTE	0.309	0.608	0.044
SPRAY – CUTE	0.309	0.608	0.142
NO SPRAY – DIRECT	0.427	0.833	0.867
SPRAY – DIRECT	0.357	0.702	0.079

There were statistically significant interaction between scent and pick up approach, F (1, 194) = 8.657 p-value = 0.004, η^2 = 0.044, therefore simple effects of pickup within each level combination of the other effects shows on spray F (1,190) = 18.608 p-value < 0.001, η^2 = 0.089, then simple effects of scent within each level combination of the other effects shows on cute-direct F (1,190) = 13.060 p-value < 0.001, η^2 = 0.064.

Pairwise comparisons were preformed on each simple main effect with p-values Bonferroni-adjusted showed statistically significant difference on cute-direct pickup for scent with mean difference 0.331 p-value <0.001 (same value for both scent groups but with -ve sign) and statistically significant difference on spray scent for pickup with mean difference 0.430 p-value <0.001 (same value for both pickup groups with -ve sign).

With all comparisons being made estimates shows cute-direct approach with spray has the highest mean followed by direct-direct no spray then cute-direct with no spray and the lowest is direct-direct with spray 4.04(SD = 0.065), 3.721(SD = 0.092), 3.709(SD = 0.065), 3.61(SD = 0.076) respectively

Summary on all 3 findings we generalize …

First study showed that the cute-direct pick-up approach will lead to more relationship receptivity than the direct-direct approach by explaining the differences between both groups with medium effect size about 0.52 as the cute-direct pick up has less spread than direct-direct pick up with range values 2.04(min = 2.96, max = 5) and 2.55(min = 2.40, max = 4.95) so when we report mean values are 3.8634, 3.6545 respectively which were statistically significant difference.

After that we focused on the spray as an independent variable on its own it didn't show big change as t test showed no significant difference based on p-value 0.049, t(192) = 1.982, mean difference equal 0.14548 and effect size d = 0.52345 and even if we consider it to be significant the mean difference itself less than that of the first study so results claimed that there is no evidence shows preference for spray than no spray, they have same range almost same mean, no independence of observation and heterogeneity of variance and t test shows no significance.
Finally when combining both groups as independent variables against receptivity as dependent variable we found strong relation between both groups assessing the result of receptivity and two way ANOVA proved that there is preference for cute direct approach with spray on all the other factors with mean 4.04(SD = 0.065), there were statistically significant interaction between scent and pick up approach, F (1, 194) = 8.657 p-value = 0.004, $\eta^2 = 0.044$