```
Last login: Wed Dec 21 00:19:51 on ttys001
(base) jinyanxiang@MacBook-Pro ~ % cd /Users/jinyanxiang/Desktop/Github/Inequality_shar
ing_economy_og/experiments
(base) jinyanxiang@MacBook-Pro experiments % python3 inequality_SE_experiments_analysis
.py

:::ALL METHODS:::

['chi_squared_test', 'compute_measure_mean', 'get_bar_plot', 'get_condition_level', 'ge
t_correlation_matrix', 'get_design_info', 'get_sample_info', 'get_var_distribution', 'g
et_var_info', 'median_test', 'meta_data', 'moderation_mediation_analysis', 'n_way_anova
', 'one_way_ancova', 'one_way_anova', 'reliability_check', 'two_sample_t_test']
...
...

:::ANALYSIS FOR EXPRIMENT 1:::

...Getting design information of experiment 1 - manipulation pretest...

Experiment Information is:  one-factor between-subject design factor - inequality (high
(1) vs. low(0)), manipulation pretest

...Getting sample information of experiment 1 - manipulation pretest...

Sample Size = 122
inequality
0    62
1    60
dtype: int64

...Getting variable information of experiment 1 - manipulation pretest...

Variables are:
 focal condition: inequality
 moderation condition: NA
 manipulation measure(s): ['check_1', 'check_2', 'check_3']
 mediator measure(s): []
 dv measure(s): []


...Checking the reliability of the manipulation check measures...

Crohnbach Alpha = 0.9 (3 items, manipulation check pretest for E1)

...Checking the manipulation in E1 pretest...

Manipulation Check Results (independent t-test, two-sided)
```

```
            count      mean       std  ...       50%       75%       max
inequality                              ...
0            62.0  2.655914  1.319557  ...  2.333333  3.666667  6.333333
1            60.0  6.105556  1.081416  ...  6.666667  7.000000  7.000000

[2 rows x 8 columns]              T      dof alternative  ...  cohen-d       BF10  powe
r
T-test  15.815  116.858   two-sided  ...    2.855  4.702e+27    1.0

[1 rows x 8 columns]
...
...
```

...Getting design information of experiment 1...

```
Experiment Information is: one-factor between-subject design factor - inequality (high(
1) vs. low(0)), lodge-sharing, main
```

...Getting sample information of experiment 1...

```
Sample Size = 202
inequality
0    100
1    102
dtype: int64
```

...Getting variable information of experiment 1...

```
Variables are:
 focal condition: inequality
 moderation condition: NA
 manipulation measure(s): []
 mediator measure(s): []
 dv measure(s): ['dv_willingness']
```

...Checking the group difference by condition on DV (willingness) in experiment 1 (ANOV
A)...

```
/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: N
ot prepending group keys to the result index of transform-like apply. In the future, th
e group keys will be included in the index, regardless of whether the applied function
returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)

To adopt the future behavior and silence this warning, use
```

```
        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Willingness to choose the lodge-sharing service (vs. a comparable hotel) (DV) Results (
one-way ANOVA)

            count      mean       std  min   25%  50%  75%  max
inequality
0           100.0  4.700000  1.839521  1.0  3.75  5.0  6.0  7.0
1           102.0  4.088235  1.829911  1.0  3.00  4.0  6.0  7.0        Source       SS
  DF      MS      F  p-unc     n2
0  inequality   18.898    1  18.898  5.614  0.019  0.027
1      Within  673.206  200   3.366    NaN    NaN    NaN
...
...
```

:::ANALYSIS FOR EXPRIMENT 2:::

...Getting design information of experiment 2...

Experiment Information is: one-factor between-subject design factor - inequality (high(1) vs low(0)), p2p (mock listing), mediation

...Getting sample information of experiment 2...

```
Sample Size = 160
inequality
0    78
1    82
dtype: int64
```

...Getting variable information of experiment 2...

```
Variables are:
 focal condition: inequality
 moderation condition: NA
 manipulation measure(s): ['check_1', 'check_2', 'check_3']
 mediator measure(s): ['med_trust', 'med_trustworthy']
 dv measure(s): ['dv_lending_amount', 'dv_willingness']
```

...Checking the reliability of the manipulation check in experiment 2...

Crohnbach Alpha = 0.894 (3 items, manipulation check: perceived inequality)

...Checking the manipulation in experiment 2...

Manipulation Check Results (independent t-test, two-sided)

```
            count      mean       std  ...       50%       75%  max
inequality                              ...
0            78.0  3.931624  1.245319  ...  3.666667  4.333333  7.0
1            82.0  6.227642  0.829626  ...  6.333333  7.000000  7.0

[2 rows x 8 columns]              T      dof alternative  ...  cohen-d      BF10  power
T-test -13.654  133.174   two-sided  ...    2.181  1.42e+25    1.0

[1 rows x 8 columns]
```

...Checking the reliability of the mediator in experiment 2...

```
Pearson Correlation = 0.909 (2 items, mediatior_interpersonal_trust)
```

...Checking the group difference by condition on mediator (interpersonal trust) in experiment 2...

```
/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: Not prepending group keys to the result index of transform-like apply. In the future, the group keys will be included in the index, regardless of whether the applied function returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)

To adopt the future behavior and silence this warning, use

        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Mediator Results (one-way ANOVA)

            count      mean       std  min  25%  50%    75%  max
inequality
0            78.0  4.705128  1.302933  1.0  4.0  4.5  5.875  7.0
1            82.0  4.140244  1.434311  1.0  3.5  4.0  5.000  7.0        Source       SS
   DF      MS      F  p-unc     n2
0  inequality   12.756    1  12.756  6.778   0.01  0.041
1      Within  297.355  158   1.882    NaN    NaN    NaN
```

...Plotting the distribution of the first DV lending amount...

...Checking the group difference by condition on DV (lending amount) in experiment 2 (Median Test due to irregular distribution of the lending amount)...

```
Lending Amount in USD (DV1) Results (median test)
```

```
the contigency table is
                    low inequality  high inequality
equal_below_median              37              53
above_median                    41              29

Chi-square(df = 1) = 4.805, p = 0.028
Chi-square (with Yates Correction)(df = 1) = 4.131, p = 0.042
Fisher exact test p = 0.038

...Checking the group difference by condition on DV (willingness) in experiment 2 (ANOV
A)...

/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: N
ot prepending group keys to the result index of transform-like apply. In the future, th
e group keys will be included in the index, regardless of whether the applied function
returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)

To adopt the future behavior and silence this warning, use

        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Willingness to lend (DV2) Results (one-way ANOVA)

            count      mean       std  min   25%  50%  75%  max
inequality
0            78.0  4.371795  1.698808  1.0  3.00  4.0  6.0  7.0
1            82.0  3.743902  1.698300  1.0  2.25  4.0  5.0  7.0        Source      SS
 DF      MS      F  p-unc     n2
0  inequality   15.76    1  15.760  5.463  0.021  0.033
1      Within  455.84  158   2.885    NaN    NaN    NaN

...Mediation Analysis experiment 2...

/opt/anaconda3/lib/python3.8/site-packages/outdated/utils.py:14: OutdatedPackageWarning
: The package pingouin is out of date. Your version is 0.5.2, the latest is 0.5.3.
Set the environment variable OUTDATED_IGNORE=1 to disable these warnings.
  return warn(
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
```

```
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


***************************** SPECIFICATION ****************************

Model = 4

Variables:
    Cons = Cons
    x = inequality
    y = median_coded
    m1 = mediatior_interpersonal_trust

Sample size:
160

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

***************************** OUTCOME MODELS *****************************

Outcome = median_coded
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.2886   0.2749 0.1784 31.8464    2  157   0.0000

Coefficients

                               coeff     se       t      p    LLCI    ULCI
Cons                         -0.3450 0.1248 -2.7648 0.0064 -0.5896 -0.1004
inequality                   -0.0675 0.0682 -0.9887 0.3243 -0.2012  0.0663
mediatior_interpersonal_trust  0.1850 0.0245  7.5542 0.0000  0.1370  0.2330

----------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE      F  df1  df2  p-value
 0.0411   0.0289 1.8820 6.7778    1  158   0.0101
```

Coefficients

	coeff	se	t	p	LLCI	ULCI
Cons	4.7051	0.1553	30.2907	0.0000	4.4007	5.0096
inequality	-0.5649	0.2170	-2.6034	0.0101	-0.9902	-0.1396

********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on median_coded:

Effect	SE	t	p	LLCI	ULCI
-0.0675	0.0682	-0.9887	0.3243	-0.2012	0.0663

Indirect effect of inequality on median_coded:

	Effect	Boot SE	BootLLCI	BootULCI
mediatior_interpersonal_trust	-0.1045	0.0390	-0.1808	-0.0280

...
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarning: the `interpolation=` argument to percentile was renamed to `method=`, which has additional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarning: the `interpolation=` argument to percentile was renamed to `method=`, which has additional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)

**************************** SPECIFICATION ****************************

Model = 4

Variables:
    Cons = Cons
    x = inequality
    y = dv_willingness

```
    m1 = mediatior_interpersonal_trust

Sample size:
160

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

**************************** OUTCOME MODELS ****************************

Outcome = dv_willingness
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.5192   0.5099 1.4443 84.7615    2  157   0.0000

Coefficients

                                coeff     se       t      p    LLCI   ULCI
Cons                           0.2420 0.3550  0.6816 0.4965 -0.4539 0.9378
inequality                    -0.1321 0.1941 -0.6804 0.4972 -0.5125 0.2484
mediatior_interpersonal_trust  0.8777 0.0697 12.5941 0.0000  0.7411 1.0143

------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE      F  df1  df2  p-value
 0.0411   0.0289 1.8820 6.7778    1  158   0.0101

Coefficients

             coeff     se       t      p    LLCI    ULCI
Cons        4.7051 0.1553 30.2907 0.0000  4.4007  5.0096
inequality -0.5649 0.2170 -2.6034 0.0101 -0.9902 -0.1396

------------------------------------------------------------------------


********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on dv_willingness:

  Effect     SE       t      p    LLCI   ULCI
 -0.1321 0.1941 -0.6804 0.4972 -0.5125 0.2484
```

```
Indirect effect of inequality on dv_willingness:

                                 Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust -0.4958   0.1861   -0.8567   -0.1277



...
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


***************************** SPECIFICATION ****************************

Model = 4

Variables:
    Cons = Cons
    x = inequality
    y = dv_willingness
    m1 = mediatior_interpersonal_trust

Sample size:
160

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

**************************** OUTCOME MODELS ****************************

Outcome = dv_willingness
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.5192   0.5099 1.4443 84.7615    2  157   0.0000
```

Coefficients

```
                                coeff     se       t      p    LLCI   ULCI
Cons                           0.2420 0.3550  0.6816 0.4965 -0.4539 0.9378
inequality                    -0.1321 0.1941 -0.6804 0.4972 -0.5125 0.2484
mediatior_interpersonal_trust  0.8777 0.0697 12.5941 0.0000  0.7411 1.0143
```

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

```
     R²  Adj. R²    MSE      F  df1  df2  p-value
 0.0411   0.0289 1.8820 6.7778    1  158   0.0101
```

Coefficients

```
             coeff     se       t      p    LLCI    ULCI
Cons        4.7051 0.1553 30.2907 0.0000  4.4007  5.0096
inequality -0.5649 0.2170 -2.6034 0.0101 -0.9902 -0.1396
```

********** DIRECT AND INDIRECT EFFECTS **********

Direct effect of inequality on dv_willingness:

```
  Effect     SE       t      p    LLCI   ULCI
 -0.1321 0.1941 -0.6804 0.4972 -0.5125 0.2484
```

Indirect effect of inequality on dv_willingness:

```
                                Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust -0.4958   0.1861   -0.8567   -0.1277
```

...
...

:::ANALYSIS FOR EXPRIMENT 3a:::

...Getting design information of experiment 3a...

Experiment Information is: one-factor between-subject design factor - inequality (high(1) vs low(0)), ride-sharing (income distribution manipulation), mediation

...Getting sample information of experiment 3a...

```
Sample Size = 160
inequality
0    81
1    79
dtype: int64
```

...Getting variable information of experiment 3a...

```
Variables are:
 focal condition: inequality
 moderation condition: NA
 manipulation measure(s): ['check_inequality']
 mediator measure(s): ['med_trust', 'med_trustworthy', 'med_safe']
 dv measure(s): ['dv_willingness']
```

...Checking the reliability of the manipulation check in experiment 3a...

Single item & reliability check is not applicable

...Checking the manipulation in experiment 3a...

Manipulation Check Results (independent t-test, two-sided)

```
            count      mean       std  min  25%  50%  75%  max
inequality
0            81.0  3.098765  1.554067  1.0  2.0  3.0  4.0  7.0
1            79.0  5.291139  1.784203  1.0  4.0  6.0  7.0  7.0           T      dof al
ternative  p-val           CI95%  cohen-d       BF10  power
T-test -8.28  153.953   two-sided    0.0  [-2.72, -1.67]    1.312  1.147e+11    1.0
```

...Checking the reliability of the mediator in experiment 3a...

Single item & reliability check is not applicable

...Checking the group difference by condition on mediator (interpersonal trust) in expe
riment 3a...

```
/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: N
ot prepending group keys to the result index of transform-like apply. In the future, th
e group keys will be included in the index, regardless of whether the applied function
returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)
```

```
To adopt the future behavior and silence this warning, use

        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Mediator Results (one-way ANOVA)

            count      mean       std  min  25%  50%  75%  max
inequality
0            81.0  4.938272  1.258428  1.0  4.0  5.0  6.0  7.0
1            79.0  4.443038  1.346856  1.0  4.0  4.0  5.0  7.0        Source       SS
 DF     MS      F  p-unc     n2
0  inequality    9.809    1  9.809  5.779  0.017  0.035
1      Within  268.185  158  1.697    NaN    NaN    NaN

...Checking the group difference by condition on DV (willingness) in experiment 3a...

/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: N
ot prepending group keys to the result index of transform-like apply. In the future, th
e group keys will be included in the index, regardless of whether the applied function
returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)

To adopt the future behavior and silence this warning, use

        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Willingness to choose the ride-sharing service over other available transportation (DV)
 Results (one-way ANOVA)

            count      mean       std  min  25%  50%  75%  max
inequality
0            81.0  5.000000  1.396424  1.0  4.0  5.0  6.0  7.0
1            79.0  4.860759  1.499865  1.0  4.0  5.0  6.0  7.0        Source       SS
 DF     MS     F  p-unc     n2
0  inequality    0.775    1  0.775  0.37  0.544  0.002
1      Within  331.468  158  2.098   NaN    NaN    NaN

...Mediation Analysis for experiment 3a (interpersonal trust only)...

/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
```

```
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


***************************** SPECIFICATION ****************************

Model = 4

Variables:
    Cons = Cons
    x = inequality
    y = dv_willingness
    m1 = mediatior_interpersonal_trust

Sample size:
160

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

**************************** OUTCOME MODELS ****************************

Outcome = dv_willingness
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.3074   0.2941 1.4657 34.8429    2  157   0.0000

Coefficients

                               coeff     se      t      p    LLCI   ULCI
Cons                          1.9641 0.3891 5.0482 0.0000  1.2015 2.7266
inequality                    0.1652 0.1949 0.8477 0.3979 -0.2168 0.5472
mediatior_interpersonal_trust 0.6148 0.0739 8.3160 0.0000  0.4699 0.7597

------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE      F  df1  df2  p-value
 0.0353   0.0230 1.6974 5.7788    1  158   0.0174
```

```
Coefficients

             coeff     se       t      p    LLCI    ULCI
Cons        4.9383 0.1448 34.1137 0.0000  4.6545  5.2220
inequality -0.4952 0.2060 -2.4039 0.0174 -0.8990 -0.0915

------------------------------------------------------------------------


********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on dv_willingness:

  Effect     SE      t      p    LLCI   ULCI
  0.1652 0.1949 0.8477 0.3979 -0.2168 0.5472

Indirect effect of inequality on dv_willingness:

                                 Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust -0.3045   0.1352   -0.5973   -0.0627



...Mediation Analysis for experiment 3a (test the alternative mechanism -- perceived sa
fety)...

/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


***************************** SPECIFICATION *****************************

Model = 4

Variables:
```

```
    Cons = Cons
    x = inequality
    y = dv_willingness
    m1 = mediatior_interpersonal_trust
    m2 = med_safe

Sample size:
160

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

**************************** OUTCOME MODELS ****************************

Outcome = dv_willingness
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.3096   0.2918 1.4704 23.3194    3  156   0.0000

Coefficients

                               coeff     se      t      p    LLCI   ULCI
Cons                          1.8589 0.4173 4.4541 0.0000  1.0409 2.6768
inequality                    0.2043 0.2030 1.0067 0.3156 -0.1935 0.6021
mediatior_interpersonal_trust 0.5450 0.1237 4.4068 0.0000  0.3026 0.7874
med_safe                      0.0861 0.1223 0.7044 0.4823 -0.1535 0.3258

------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE      F  df1  df2  p-value
 0.0353   0.0230 1.6974 5.7788    1  158   0.0174

Coefficients

             coeff     se       t      p    LLCI    ULCI
Cons        4.9383 0.1448 34.1137 0.0000  4.6545  5.2220
inequality -0.4952 0.2060 -2.4039 0.0174 -0.8990 -0.0915

------------------------------------------------------------------------

Outcome = med_safe
OLS Regression Summary
```

```
     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.0963   0.0848 1.7364 16.8424    1  158   0.0001

Coefficients

             coeff     se       t      p    LLCI    ULCI
Cons        5.2222 0.1464 35.6673 0.0000  4.9353  5.5092
inequality -0.8551 0.2084 -4.1040 0.0001 -1.2635 -0.4467

------------------------------------------------------------------------


********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on dv_willingness:

  Effect     SE      t      p    LLCI   ULCI
  0.2043 0.2030 1.0067 0.3156 -0.1935 0.6021

Indirect effect of inequality on dv_willingness:

                                 Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust -0.2699   0.1352   -0.5875   -0.0523
                       med_safe -0.0737   0.1025   -0.3070    0.0988


...
...

:::ANALYSIS FOR EXPRIMENT 3b:::

...Getting design information of experiment 3b...

Experiment Information is: one-factor between-subject design factor - inequality (high(
1) vs low(0)), ride-sharing (street image manipulation), mediation

...Getting sample information of experiment 3b...

Sample Size = 196
inequality
0    98
1    98
dtype: int64

...Getting variable information of experiment 3b...

Variables are:
 focal condition: inequality
```

```
 moderation condition: NA
 manipulation measure(s): ['check_1', 'check_2', 'check_3']
 mediator measure(s): ['med_trust', 'med_trustworthy', 'med_safe']
 dv measure(s): ['dv_willingness']


...Checking the reliability of the manipulation check in experiment 3b...

Crohnbach Alpha = 0.915 (3 items, manipulation check: perceived inequality)

...Checking the manipulation in experiment 3b...

Manipulation Check Results (independent t-test, two-sided)

            count      mean       std  min  25%       50%       75%  max
inequality
0            98.0  3.765306  1.125778  1.0  3.0  3.666667  4.333333  7.0
1            98.0  5.200680  1.515661  1.0  4.0  5.333333  6.666667  7.0             T
 dof alternative  p-val         CI95%  cohen-d       BF10  power
T-test  7.526  194   two-sided    0.0  [1.06, 1.81]    1.075  3.504e+09    1.0

...Checking the reliability of the mediator in experiment 3b...

Crohnbach Alpha = 0.857 (3 items, mediatior_interpersonal_trust)

...Checking the group difference by condition on mediator (interpersonal trust) in expe
riment 3b...

/opt/anaconda3/lib/python3.8/site-packages/pingouin/parametric.py:992: FutureWarning: N
ot prepending group keys to the result index of transform-like apply. In the future, th
e group keys will be included in the index, regardless of whether the applied function
returns a like-indexed object.
To preserve the previous behavior, use

        >>> .groupby(..., group_keys=False)

To adopt the future behavior and silence this warning, use

        >>> .groupby(..., group_keys=True)
  sserror = grp.apply(lambda x: (x - x.mean()) ** 2).sum()
Mediator Results (one-way ANOVA)

            count      mean       std       min       25%       50%       75%       max
inequality
0            98.0  4.959184  0.880312  2.666667  4.333333  5.000000  5.666667  6.666667
1            98.0  4.523810  0.946447  2.333333  4.000000  4.333333  5.000000  7.000000
        Source       SS   DF     MS       F  p-unc     n2
0  inequality    9.288    1  9.288  11.119  0.001  0.054
```

```
1      Within  162.059  194  0.835     NaN    NaN    NaN

...Checking the group difference by condition on DV (willingness) in experiment 3b
(controlling for the econ knowledge, which siginificantly varies across condition due a
 possible failure in randomization - replication study will be conducted to resolve the
 issues)...

Willingness to choose the ride-sharing service over other available transportation (DV)
 Results (one-way ANCOVA)
            count      mean       std  min  25%  50%  75%  max
inequality
0            98.0  4.867347  1.537422  1.0  4.0  5.0  6.0  7.0
1            98.0  4.653061  1.540532  1.0  4.0  5.0  6.0  7.0           Source
   SS   DF          F     p-unc       np2
0      inequality    6.174261    1   2.841239  0.093489  0.014508
1  econ_knowledge   40.073719    1  18.440914  0.000028  0.087215
2        Residual  419.405873  193        NaN       NaN       NaN

...Mediation Analysis for experiment 3b (re-test the alternative mechanism -- perceived
 safety and control fro the econ_knowledge accoridngly)...

/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


**************************** SPECIFICATION ****************************

Model = 4

Variables:
    Cons = Cons
    x = inequality
    y = dv_willingness
    m1 = mediatior_interpersonal_trust
    m2 = med_safe
Statistical Controls:
```

```
 econ_knowledge



Sample size:
196

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

**************************** OUTCOME MODELS ****************************

Outcome = dv_willingness
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.1883   0.1669 1.9623 11.0762    4  191   0.0000

Coefficients

                               coeff     se       t      p    LLCI   ULCI
Cons                          1.0543 0.6024  1.7502 0.0817 -0.1264 2.2350
inequality                   -0.0722 0.2114 -0.3417 0.7330 -0.4867 0.3422
econ_knowledge                0.3624 0.1281  2.8289 0.0052  0.1113 0.6135
mediatior_interpersonal_trust 0.5034 0.1810  2.7808 0.0060  0.1486 0.8583
med_safe                      0.0517 0.1613  0.3208 0.7487 -0.2644 0.3679

------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.1377   0.1242 0.7656 15.4043    2  193   0.0000

Coefficients

                 coeff     se       t      p    LLCI    ULCI
Cons            4.0082 0.2371 16.9028 0.0000  3.5434  4.4730
inequality     -0.5221 0.1266 -4.1243 0.0001 -0.7703 -0.2740
econ_knowledge  0.3270 0.0757  4.3217 0.0000  0.1787  0.4753

------------------------------------------------------------------------

Outcome = med_safe
OLS Regression Summary
```

```
     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.1281   0.1145 0.9646 14.1819    2  193   0.0000

Coefficients

                 coeff     se       t      p    LLCI    ULCI
Cons            3.9259 0.2662 14.7493 0.0000  3.4042  4.4476
inequality     -0.4718 0.1421 -3.3204 0.0011 -0.7504 -0.1933
econ_knowledge  0.3939 0.0849  4.6378 0.0000  0.2274  0.5604

------------------------------------------------------------------------


********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on dv_willingness:

  Effect     SE       t      p    LLCI   ULCI
 -0.0722 0.2114 -0.3417 0.7330 -0.4867 0.3422

Indirect effect of inequality on dv_willingness:

                                Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust -0.2629   0.1146   -0.5354   -0.0766
                       med_safe -0.0244   0.0750   -0.1871    0.1202



 ::: 3a and 3b suggest full mediation from economic inequality on willingness to use ri
desharing service (consumers engagement in the sharinge economy), and also evidence tha
t interpersonal trust is the mechanism after controlling for perceived safety, which is
 an alternative explanation :::

...
...

:::ANALYSIS FOR EXPRIMENT 4:::

...Getting design information of experiment 4...

Experiment Information is: two-factor between-subject design factor - inequality (high(
1) vs. low(0)) & familiarity(high(1) vs. low(0)), lodge-sharing, moderation

...Getting sample information of experiment 4...

Sample Size = 394
inequality  familiarity
0           0              101
```

```
            1              101
1           0               95
            1               97
dtype: int64
```

...Getting variable information of experiment 4...

```
Variables are:
 focal condition: inequality
 moderation condition: familiarity
 manipulation measure(s): ['check_inequality', 'check_familiarity']
 mediator measure(s): ['med_trust', 'med_trustworthy']
 dv measure(s): ['dv_host', 'dv_accept']
```

...Checking the manipulation in experiment 4...

```
Single item & reliability check is not applicable
Single item & reliability check is not applicable
Manipulation Check (inequality) Results (independent t-test, two-sided)

            count      mean       std  min  25%  50%  75%  max
inequality
0           202.0  2.153465  1.499988  1.0  1.0  2.0  2.0  7.0
1           192.0  6.578125  0.973008  1.0  7.0  7.0  7.0  7.0              T      dof
alternative  p-val         CI95%  cohen-d        BF10  power
T-test  34.904  346.827   two-sided    0.0  [4.18, 4.67]    3.482  1.676e+118    1.0
Manipulation Check (familiarity) Results (independent t-test, two-sided)

             count      mean       std  min  25%  50%  75%  max
familiarity
0            196.0  1.474490  1.195874  1.0  1.0  1.0  1.0  7.0
1            198.0  5.363636  1.130604  1.0  5.0  5.0  6.0  7.0               T      dof
 alternative  p-val         CI95%  cohen-d        BF10  power
T-test  33.164  390.288   two-sided    0.0  [3.66, 4.12]    3.343  5.567e+111    1.0
```

...Checking the reliability of the mediator in experiment 4...

```
Pearson Correlation = 0.921 (2 items, Meidator)
```

...Checking the group difference by condition on mediator (interpersonal trust) in expe
riment 4...

```
Mediator Results (2-way ANOVA)

                       count      mean       std  min  25%  50%  75%  max
inequality familiarity
0          0           101.0  5.450495  1.107937  2.0  4.5  6.0  6.0  7.0
```

```
           1            101.0  5.970297  0.937608  3.5  5.5  6.0  7.0  7.0
1          0             95.0  4.289474  1.320016  1.0  4.0  4.0  5.0  7.0
           1             97.0  5.412371  1.214089  3.0  4.0  5.0  7.0  7.0
         Source       SS     DF      MS       F  p-unc     n2
0               inequality   72.711    1.0  72.711  54.960   0.00  0.110
1              familiarity   66.403    1.0  66.403  50.192   0.00  0.100
2  inequality * familiarity    8.950    1.0   8.950   6.765   0.01  0.013
3                 Residual  515.958  390.0   1.323     NaN    NaN    NaN
```

...Checking the reliability of the DV (willingness) in experiment 4...

Pearson Correlation = 0.936 (2 items, Willingness to serve to host (DV))

...Checking the group difference by condition on DV (willingness) in experiment 4...

Willingness to serve the guest (DV) Results (2-way ANOVA)

```
                        count      mean       std  min  25%  50%   75%  max
inequality familiarity
0          0            101.0  6.059406  1.288967  1.0  5.5  7.0  7.00  7.0
           1            101.0  6.678218  0.661756  4.0  6.5  7.0  7.00  7.0
1          0             95.0  5.010526  1.691624  1.0  4.0  5.0  6.75  7.0
           1             97.0  6.484536  0.744611  4.0  6.0  7.0  7.00  7.0
         Source       SS     DF       MS       F  p-unc     n2
0               inequality   37.993    1.0   37.993  27.844    0.0  0.055
1              familiarity  107.780    1.0  107.780  78.989    0.0  0.155
2  inequality * familiarity   17.997    1.0   17.997  13.190    0.0  0.026
3                 Residual  532.152  390.0    1.364     NaN    NaN    NaN
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Process successfully initialized.
Based on the Process Macro by Andrew F. Hayes, Ph.D. (www.afhayes.com)


**************************** SPECIFICATION ****************************

Model = 7
```

```
Variables:
    Cons = Cons
    x = inequality
    y = dv_host
    m1 = mediatior_interpersonal_trust
    w = familiarity

Sample size:
394

Bootstrapping information for indirect effects:
Final number of bootstrap samples: 5000
Number of samples discarded due to convergence issues: 0

***************************** OUTCOME MODELS *****************************

Outcome = dv_host
OLS Regression Summary

     R²  Adj. R²    MSE        F  df1  df2  p-value
 0.4317   0.4273 1.0290 148.5166    2  391   0.0000

Coefficients

                              coeff     se       t      p    LLCI   ULCI
Cons                         2.4937 0.2489 10.0183 0.0000  2.0058 2.9815
inequality                  -0.0176 0.1083 -0.1624 0.8710 -0.2298 0.1946
mediatior_interpersonal_trust  0.6773 0.0418 16.2198 0.0000  0.5955 0.7592

----------------------------------------------------------------------------

Outcome = mediatior_interpersonal_trust
OLS Regression Summary

     R²  Adj. R²    MSE       F  df1  df2  p-value
 0.2204   0.2124 1.3230 36.7582    3  390   0.0000

Coefficients

                        coeff     se       t      p    LLCI    ULCI
Cons                   5.4505 0.1144 47.6236 0.0000  5.2262  5.6748
inequality            -1.1610 0.1644 -7.0625 0.0000 -1.4832 -0.8388
familiarity            0.5198 0.1619  3.2115 0.0014  0.2026  0.8370
inequality*familiarity  0.6031 0.2319  2.6010 0.0096  0.1486  1.0575

----------------------------------------------------------------------------
```

```
********************** DIRECT AND INDIRECT EFFECTS **********************

Direct effect of inequality on dv_host:

  Effect     SE       t      p    LLCI   ULCI
 -0.0176 0.1083 -0.1624 0.8710 -0.2298 0.1946

/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:33: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  llci = np.percentile(samples, plow * 100, interpolation="lower")
/opt/anaconda3/lib/python3.8/site-packages/pyprocessmacro/utils.py:34: DeprecationWarni
ng: the `interpolation=` argument to percentile was renamed to `method=`, which has add
itional options.
Users of the modes 'nearest', 'lower', 'higher', or 'midpoint' are encouraged to review
 the method they used. (Deprecated NumPy 1.22)
  ulci = np.percentile(samples, phigh * 100, interpolation="higher")
Conditional indirect effect(s) of inequality on dv_host at values of the moderator(s):

                      Mediator  familiarity  Effect  Boot SE  BootLLCI  BootULCI
  mediatior_interpersonal_trust       0.0000 -0.7864   0.1387   -1.0835   -0.5392
  mediatior_interpersonal_trust       1.0000 -0.3779   0.1074   -0.5965   -0.1711

*************** INDEX OF MODERATED MEDIATION ******************

    Moderator                      Mediator  Index  Boot SE   LLCI   ULCI
  familiarity  mediatior_interpersonal_trust 0.4085   0.1641 0.1171 0.7712


:::THIS IS THE END!:::


(base) jinyanxiang@MacBook-Pro experiments %
```