# Study 3 population vs Study 1 population

* Study 3 focuses on individual who experience some form of discrimination.
* Among these individuals, experiencing certain OCSs in addition to traditional ACEs (such as experiencing basic needs, community stressors or lack of love and affection) appeared to worsen their General Health scores more so than experiencing only ACEs.
* We would like to know whether this relationship (interaction or effect modification) was stronger in the population that is the focus of Study 3 (i.e., individuals experiencing discrimination) than among general population (the focus of Study 1).
* We generated 2 types of tables. The first table presents estimated general health score for each population and group. The second table summarize the results of hypothesis test regarding differences between these estimated scores.
  + The difference between experiencing ACE + OCS vs. traditional ACE among individual that are not the focus of Study 3
  + The difference between experiencing ACE + OCS vs. traditional ACE among individual that are the focus of Study 3
  + Finally, we test the difference-in-difference, i.e., whether the difference between individuals experiencing ACE + OCS vs. traditional ACE is different by in the two populations.
* We first test the difference between the two populations, relying only on a reweighting procedure to make the group being compared (i.e., individuals exposed to ACE and OCS vs. individuals exposed to ACE alone) similar in terms of covariates.
* The set of results included in the body of the document we rely only on the weighting to make the groups in the principal comparison (i.e., exposed to ACE and OCS vs. exposed to ACE alone) similar in terms of covariates.
* In the Appendix, the same set of analysis is repeated using regression to address any residual covariate imbalance after weighting (see adjusted predicted values and doubly robust test).

Takeaway:

* The relationship between ACE+OCS (vs. traditional ACE) and general health was estimated to be somewhat stronger in the population that is the focus of Study 3 (i.e., individual who experienced discrimination) than on the rest of the population. The difference, however, was not significant.

## Study 3 population vs Study 1 population

| Predicted values by discrimination | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **d** | **y** | **se** | **ci\_l** | **ci\_u** | **counts** |
| ACE | 0 | 3.91 | 0.1347 | 3.65 | 4.18 | 27 |
| ACE | 1 | 3.81 | 0.0901 | 3.63 | 3.98 | 69 |
| ACE + OCS | 0 | 3.66 | 0.0378 | 3.59 | 3.74 | 641 |
| ACE + OCS | 1 | 3.53 | 0.0235 | 3.49 | 3.58 | 1258 |
| None | 0 | 4.09 | 0.1011 | 3.89 | 4.29 | 69 |
| None | 1 | 3.95 | 0.0764 | 3.80 | 4.10 | 156 |
| OCS | 0 | 3.83 | 0.0397 | 3.75 | 3.91 | 542 |
| OCS | 1 | 3.71 | 0.0255 | 3.66 | 3.76 | 1057 |
|  |  |  |  |  |  |  |

| Test 'ACE + OCS' vs. 'ACE only' by discrimination | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among individuals not included | -0.2506 | 0.1399 | -1.791 | 0.09903 |
| diff among study 3 sample | -0.2730 | 0.0931 | -2.932 | 0.00434 |
| did study 3 vs. rest | -0.0224 | 0.1681 | -0.133 | 0.84919 |

Takeaway: Experiencing certain OCS (such as experiencing basic needs, community stressors or lack of love and affection) in addition to ACE worsen the general health score more than experiencing ACEs only. This difference was quite similar between the population that is the focus of study 3 and the rest of the population.

**Appendix**

| Adjusted predicted values (DR) by discrimination | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **ace\_ocs** | **d** | **Est** | **SE** | **ci\_l** | **ci\_u** | **Freq** |
| ACE | 0 | 3.90 | 0.1478 | 3.61 | 4.19 | 27 |
| ACE | 1 | 3.82 | 0.0882 | 3.65 | 3.99 | 67 |
| ACE + OCS | 0 | 3.69 | 0.0431 | 3.61 | 3.77 | 503 |
| ACE + OCS | 1 | 3.53 | 0.0255 | 3.48 | 3.58 | 1099 |
| None | 0 | 4.08 | 0.1054 | 3.87 | 4.29 | 68 |
| None | 1 | 3.97 | 0.0734 | 3.83 | 4.11 | 153 |
| OCS | 0 | 3.88 | 0.0412 | 3.80 | 3.96 | 444 |
| OCS | 1 | 3.70 | 0.0274 | 3.65 | 3.76 | 957 |
|  |  |  |  |  |  |  |

| Doubly Robust Test 'ACE + OCS' vs. 'ACE only' by discrimination | | | | |
| --- | --- | --- | --- | --- |
| **contrasts** | **coefficients** | **sigma** | **tstat** | **pvalues** |
| diff among individuals not included | -0.211 | 0.1342 | -1.576 | 0.15282 |
| diff among study 3 sample | -0.286 | 0.0885 | -3.236 | 0.00154 |
| did study 3 vs. rest | -0.075 | 0.1602 | -0.468 | 0.67674 |

Takeaway: Experiencing certain OCS (such as experiencing basic needs, community stressors or lack of love and affection) in addition to ACE worsen the general health score more than experiencing ACEs only. After implementing additional adjustments, this difference was estimated to be somewhat larger in the population that is the focus of study 3 (individuals experiencing discrimination) than among the rest of the population. The difference, however, was not significant.