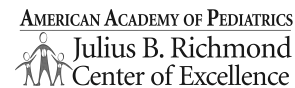


# The Social Climate Survey of Tobacco Control: A Mixed-Mode Approach

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## Abstract

The Social Climate Survey of Tobacco Control (SCS-TC) measures tobacco control indicators using data from random samples of the US population. From 2000-2008, we have administered this annual cross-sectional survey to a representative sample of US adults using Random Digit Dialing (RDD) methods. However, data from the NHIS highlight the growing problem of wireless substitution for survey researchers. The purpose of this study is 1) to compare two alternative sampling design approaches to RDD survey administration (N=1,532) in terms of cost, response rate, demographics, estimates on SCS-TC indicators, and burden on the survey administrators; and 2) to examine weighting strategies to create a valid mixed-mode data set from the RDD data set and the two alternative samples. The two alternative approaches are 1) an Internet Panel sample, N=1,731 (by Knowledge Networks); and 2) a cell-phone sample frame (N=1,509). Analyses reveal that the Knowledge Networks panel had the highest percentage of people with lower levels of education and the cell phone sample included the highest percentage of young adults. Age and education are correlated with many tobacco control indicators, and thus estimates from the cell phone sample and the Knowledge Networks panel were typically less favorable (from the perspective of tobacco control) than estimates from the RDD frame. This study will help guide tobacco and other public health researchers in selecting survey methods that will provide more representative samples of US adults, and therefore more valid survey results.

## Completion Rate & Sample Size

|                 | RDD Telephone Survey | Knowledge Networks Survey |
|-----------------|----------------------|---------------------------|
| Completion Rate | 79.2% / 53.6%        | 64.1%                     |
| Sample Size     | 1,532                | 1,731                     |

## Demographic Characteristics

|                                  | RDD Survey           | Knowledge Networks Survey | Merged Data |
|----------------------------------|----------------------|---------------------------|-------------|
| <b>Sex</b>                       | Unweighted, Weighted | Unweighted, Weighted      |             |
| Male                             | 34.7, 45.9           | 48.4, 48.2                | 47.2        |
| Female                           | 65.3, 54.1           | 51.6, 51.8                | 52.8        |
| <b>Race</b>                      |                      |                           |             |
| Hispanic                         | 4.5, 6.4             | 10.6, 13.6                | 10.4        |
| White, non-Hispanic              | 83.8, 80.4           | 72.8, 68.7                | 74.2        |
| Black, non-Hispanic              | 9.8, 11.1            | 10.0, 11.3                | 10.9        |
| Other, non-Hispanic              | 1.8, 2.1             | 6.6, 6.4                  | 4.0         |
| <b>Education</b>                 |                      |                           |             |
| Less than high school            | 7.0, 5.5             | 12.1, 14.2                | 9.9         |
| High school diploma              | 26.9, 26.5           | 31.9, 30.9                | 28.2        |
| Some college or more             | 30.1, 31.3           | 28.0, 27.7                | 30.2        |
| College degree                   | 36.0, 36.8           | 28.0, 27.1                | 31.6        |
| <b>Marital status</b>            |                      |                           |             |
| Married or living with a partner | 66.1, 66.3           | 61.0, 59.9                | 62.2        |
| Separated/divorced               | 10.6, 9.3            | 13.5, 12.8                | 11.4        |
| Widowed                          | 11.8, 6.5            | 6.0, 5.3                  | 5.0         |
| Never married single             | 11.6, 17.9           | 19.5, 22.1                | 20.8        |
| <b>Age</b>                       |                      |                           |             |
| 18-24                            | 3.5, 11.1            | 8.2, 11.0                 | 12.2        |
| 25-44                            | 22.4, 36.5           | 34.5, 37.2                | 38.2        |
| 45-64                            | 42.0, 34.6           | 38.6, 34.4                | 33.0        |
| 65+                              | 32.1, 17.8           | 18.7, 17.4                | 16.5        |

## Household Telephone Access

|                          | RDD Survey | Knowledge Networks Survey |
|--------------------------|------------|---------------------------|
| Cell phone only          | -----      | 13.2                      |
| Land-line only           | 15.2       | 19.2                      |
| Land-line and cell phone | 84.8       | 66.3                      |
| No telephone             | -----      | 1.4                       |

## Comparison of Weighted Prevalence Estimates

|  | RDD Survey | Knowledge Networks Survey | Merged Data |
|--|------------|---------------------------|-------------|
| Current Smoking                        | 17.4       | 21.1                      | 19.2        |
| At least one quit attempt in past year | 49.8       | 44.3                      | 47.7        |

## Comparison of Weighted Social Climate Indicators

|  | RDD Survey | Knowledge Networks Survey | Merged Data |
|--|------------|---------------------------|-------------|
| Smoking is not allowed inside of the home                                | 79.9       | 67.4                      | 72.9        |
| Smoking is not allowed inside of vehicle                                 | 76.2       | 72.1                      | 73.0        |
| Thirdhand smoke harms babies and children                                | 84.8       | 75.2                      | 78.8        |
| Indoor work areas should be smoke free                                   | 72.9       | 72.0                      | 72.4        |
| Indoor work areas are smoke free   | 80.8       | 71.6                      | 75.5        |
| Restaurants in community are smoke free                                  | 43.3       | 68.0                      | 64.1        |
| Bars in community are smoke free   | 24.5       | 41.4                      | 39.9        |
| Outdoor parks in community are smoke free                                | 20.5       | 15.7                      | 16.8        |
| Restaurants should be smoke free   | 79.6       | 72.1                      | 75.4        |
| Bars should be smoke free  | 44.3       | 37.9                      | 39.8        |
| Outdoor parks should be smoke free                                       | 36.5       | 28.9                      | 32.2        |
| Public sidewalks should be smoke free                                    | 32.1       | 32.0                      | 32.1        |
| Smoking should not be allowed within 20 feet of a public doorway         | 67.3       | 64.6                      | 65.7        |
| People should NOT be allowed to smoke in a car when children are present | 85.1       | 74.8                      | 78.6        |

## Conclusions

**Financial costs:** The Knowledge Networks Panel survey was slightly less expensive than the landline survey. The address-based frame survey was the least expensive, however the costs are harder to project. The cell phone survey is the most expensive.

**Time costs:** The Knowledge Networks Panel was the quickest, followed by the landline survey. The address-based frame and cell phone surveys required the most time to administer. Also, there is no finite end point for a mail-out survey.

**Head Ache Factor:** The address-based frame survey was the most time-consuming to administer and manage – mostly because this survey was administered in-house rather than contracted to survey vendors. The cell phone survey was challenging for our research center's survey lab due to the high number of completed calls to cell phones owned by minors.

**Response Rates:** The Knowledge Network Panel survey had the highest response rate. It should be noted, however, that their response rate does not include the people who were recruited for, but refused to participate in their panel.

**Demographics:** The Knowledge Network Panel survey was the best at including adults with lower levels of education, as well as Hispanics.

**Key Indicators:** The Knowledge Network Panel survey and landline produced similar estimates for the prevalence of smoking. However, the landline survey tended to produce higher estimates for support of smoke free practices and policies.