

# CENTRAL NEW JERSEY REGIONAL SOCIAL CAPITAL BENCHMARK SURVEY

## Study Sponsors:

**Princeton Regional Chamber of Commerce Foundation**

and

**Princeton Area Community Foundation**

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*Social Capital Community Benchmark Survey, Saguaro Seminar:  
Civic Engagement in America Project, John F. Kennedy School of Government, Harvard University*

**870 telephone interviews of residents of the central New Jersey region  
(Mercer County and adjacent parts of Somerset and Middlesex Counties)**

Margin of Error = +/- **3.3%**  
(at the 95% confidence level and 50/50 margins)

Weighted to age and sex (weighted  $N=870$ )

Fielded May 1 through June 8, 2007

## DISCUSSION AND PRESENTATION OF SOCIAL CAPITAL INDICES

### **Social Capital Indices: Introduction**

For our purposes, the term “social capital” most commonly refers to “connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them.”<sup>1</sup> We care about the level of social capital because, over the last decade or so, scholars have made a solid case that “[c]ommunities with higher levels of social capital are likely to have higher educational achievement, better performing governmental institutions, faster economic growth, and less crime and violence. And the people living in these communities are likely to be happier, healthier, and to have a longer life expectancy.”<sup>2</sup>

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<sup>1</sup> Putnam, Robert D. (2000). *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster), p. 19. For an expansive treatment of the historical development of the concept of social capital, see pp. 8-26.

<sup>2</sup> <http://www.cfsv.org/communitysurvey/faqs.html>.

The Harvard community social capital survey model specifies ten composite measures, or indices,<sup>3</sup> that can be constructed from the raw data to measure various aspects of social capital. Given the Central New Jersey regional study sponsors' motivations for fielding the survey, the survey administration leadership selected seven particularly relevant indices on which to focus:

- Social Trust
- Inter-Racial Trust
- Associational Involvement
- Diversity of Friendship
- Faith-Based Engagement
- Informal Socializing
- Civic Leadership

Three additional indices round out the model set of ten, i.e., Giving and Volunteering, Electoral Politics, and Protest Politics. However, given the focus on the seven more-relevant indices, and especially for the sake of the economy of survey administration, the questionnaire was edited in such a way that only the “volunteering” component of the data required for the Giving and Volunteering index was collected, and no data were collected that would permit the generation of the Electoral Politics or Protest Politics indices. Thus, we constructed seven of the ten indices by following the Harvard model closely; these indices are comparable to other indices constructed from similarly situated survey administrations.<sup>4</sup> while the modified Volunteering index is useful to assess the state of volunteering in the survey catchment region, it is not comparable to other Giving and Volunteering indices.

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<sup>3</sup> In this context, an “index” is a “group of individual measures that, when combined, are meant to indicate some more general characteristic” Vogt, W. Paul (1999). *Dictionary of Statistics and Methodology*, 2<sup>nd</sup> ed. (Thousand Oaks: Sage Publications), p.138. Vogt notes, correctly, that “[m]any writers do not distinguish between a scale and an index; it is fairly common to use the terms interchangeably to refer to any composite measure or summated scale” (*id.* at 256).

<sup>4</sup> *A note on comparability*: The 2000 national and companion local administrations of the community social capital survey generated these indices as the mean (or, where appropriate, the aggregate) of responses to a set of questions, and used the national norms to standardize the local values. Thus, we have the national point estimates for all ten indices from the 2000 survey administration. However, the data from which those indices were constructed were collected before George W. Bush was elected twice, before the horrific events of September 11, 2001, and before the wars in Afghanistan and Iraq. Thus, given the dramatic changes in the political, cultural, and social environments (as well as the mere passage of seven years), it is virtually impossible to achieve a theoretically defensible comparison of the 2000 national indices to the 2007 Central New Jersey regional indices. Moreover, while the Harvard group repeated a national-local partnership administration of the community social capital survey in 2006, they have not – at least as of this writing – yet released the resulting social capital indices, nor the underlying data from which those indices could be generated (*see* entry for “Data” indicating that “When these data are publicly available, we will post a notice here” <http://www.ksg.harvard.edu/saguaro/2006sccs.htm>). The Harvard group has, however, released a combined weighted marginals profile report for the 2006 data, which can be found here: <http://www.ksg.harvard.edu/saguaro/pdfs/2006SCCSbanner.pdf>.

This report presents brief overviews of the nature and scope of each of the eight indices constructed for the Central New Jersey regional community social capital survey administration, followed by a technical discussion of the statistical methodology for generating and validating these indices, and an overview of the visual presentation of the indices.

### *Social Trust Index*

This index assesses an overall generalized sense of interpersonal trust; to do so, it combines responses to inquiries about the degree to which Central New Jersey residents trust other people in general, people in their neighborhood, people with whom they work, people at their place of worship, people in stores in which they shop, and the police in their local community.

### *Inter-Racial Trust Index*

This index measures the degree of trust for “other” racial and ethnic groups; in other words, the measure of trust of the respondent’s own racial or ethnic group is not included in the measure. To illustrate, white respondents’ answers to whether, “generally speaking” they “would say they can trust [white people] a lot, some, only a little, or not at all,” are not included in calculating this index. Thus this index includes “out-group” measures of trust of “white people,” “African Americans or blacks,” “Asian people,” and “Hispanics or Latinos.”

### *Associational Involvement Index*

This index aggregates the number of groups in which a Central New Jersey resident has been involved in the year prior to the survey; the maximum number of potential memberships or involvements is 17 across the following possibilities:<sup>5</sup>

- organizations affiliated with religion, such as the Knights of Columbus, B’nai Brith, or a bible study group;
- adult sports clubs or leagues or outdoor activity clubs;
- youth organizations such as a youth sports league, the scouts, or 4-H or Boys or Girls Club;
- parents’ associations such as a PTA or PTO or other school support or service group;
- veterans’ groups;
- neighborhood associations such as a block, homeowners’ or tenants’ association or crime watch group;
- clubs or organizations for senior citizens or older people;
- charity or social welfare organizations;
- labor unions;
- professional, trade, farm or business associations;
- service club or fraternal organizations;
- ethnic, nationality, or civil rights organizations;
- public interest or political action groups, political clubs, or party committees;
- literary, art, discussion or study groups, or musical, dancing, or singing groups;
- hobby, investment, or garden clubs or societies;
- support groups or self-help programs for people with specific illnesses, disabilities, problems, or addictions, or for their families; and
- groups that meet only over the Internet.

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<sup>5</sup> The 2000 national administration included a final catch-all category of “any others,” which was not included in national 2006 administration, nor the Central New Jersey version.

### *Diversity of Friendship Index*

This index aggregates the number of different types of people the responding Central New Jersey resident counts as “a personal friend”; the maximum number of potential types of friends is eleven, across the following categories of people who

- own their own business;
- are manual workers;
- have been on welfare;
- own a vacation home;
- are of a different religion;
- are white;
- are Latino or Hispanic;
- are Asian;
- are black or African American;
- are gay or lesbian; and/or
- are a community leader.

### *Faith-based Engagement Index*

This index explores the degree of Central New Jersey residents’ religious participation by constructing a composite measure of inquires about church (or place of worship) membership, attendance, activities, involvement in religious groups,<sup>6</sup> and volunteering (at one’s place of worship). The national survey administration also included a question on whether respondent gave money to a religious congregation. Despite that that question was eliminated from the Central New Jersey version, the index remains substantively comparable to other community social capital-based faith-based engagement indices.

### *Informal Socializing Index*

This index assesses the degree of informal socializing between friends, relatives, and neighbors by generating a scale that determines the degree to which, over the 12 months prior to the survey, Central New Jersey residents “played cards or board games with others,” “visited relatives in person or had them visit,” “had friends over to [their] home,” “socialized with coworkers outside of work,” or “hung out with friends at a park, shopping mall, or other public place.”

### *Civic Leadership Index*

To explore the degree to which a Central New Jersey resident is a civic leader, we construct an index that probes whether s/he was involved in a neighborhood association (such as a block association, homeowner or tenant association, or crime watch group), whether s/he was involved in any public interest group, political action group, political club, or party committee, whether s/he served as an officer or served on a committee of any local club or organization, and the degree to which s/he attended club meetings or any public meeting in which there was discussion of town or school affairs. To better suit our local focus, we added to these national model variables two questions that probed whether the respondent had served on “a local government committee” or on “the board of a non-profit

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<sup>6</sup> The “involvement in religious groups” is also included in the construction of the associational involvement index.

organization.” Even with the addition of these two questions, this index remains comparable to other community social capital-based civic leadership indices.

### *Volunteering Index*

In the national model, the “charitability” index explores this facet of respondents’ social capital on two dimensions, “giving” and “volunteering.” To better suit our local purposes, and, again, for the sake of the economy of survey administration, we recalibrated this index to explore only the degree to which a respondent volunteered her/his time. As a result, this index is not comparable to other community social capital-based giving and volunteering indices.

### **Social Capital Indices: Methodology**

All of the indices were constructed by following the Harvard model as closely as possible. Each scale was standardized by first recoding all constituent variables to a logical answer value format, such that the commonly understood lowest value – for e.g., “don’t trust them at all” – was represented by the lowest numerical answer value, such as zero or one.<sup>7</sup> Moreover, each scale was further standardized by forcing the mean of the scale to zero and the variance to one.<sup>8</sup> This approach better facilitates future comparisons, as well as comparisons with similarly constructed scales from theoretically comparable data (for e.g., scales constructed from different 2006 local or regional survey administrations). Moreover, and again, to facilitate future comparisons, all scale values were then forced to range from a low of zero to a high of one.<sup>9</sup>

Of the eight scales generated from the Central New Jersey data, two were simple aggregations, i.e., they are comprised of the count of respondents’ affirmative answers to a set of yes-no inquiries.<sup>10</sup> The other six were true mean-based comparison scales.<sup>11</sup> Following the general approach of the Harvard model, the zero to one array of these six scales were split at equal break-points. As such, for each, the “low” category includes all values including and between 0 to .3333, the “medium” category includes all values including and between .3334 and .6666, and the “high” category is constituted of all values including and between .6667 and 1.

The construction of each scale was validated in three ways: (1) by assuring that the vast majority of cases included in each scale had an adequate number of valid responses across the set of constituent variables; (2) by checking the correlation of the raw array of scale values to the forced range of scale values, and then by correlating those values to the final grouped values; and, (3) by calculating and

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<sup>7</sup> This step was validated by examining a matrix of a cross-tabulation of the initial variable with the recoded variable and finding the expected diagonal vector.

<sup>8</sup> Technically, it is the *items* that are standardized to the 0 mean / variance 1 format prior to summing; the net effect, though, is a robust standardized scale.

<sup>9</sup> The common approach to a 0-1 forced range is to subtract the lowest outcome value from all values in the array (to force the low value to equal 0) and to then divide all values in the array by the unadjusted array range (i.e., the true high value minus the true low value); this forces the high value to equal one.

<sup>10</sup> These are the associational involvement and diversity of friendship indices.

<sup>11</sup> These are the social trust, inter-racial trust, faith-based engagement, informal socializing, civic leadership, and volunteering indices.

assessing the Cronbach's alpha statistic for each scale. Each validation effort is discussed immediately below.

### *Case Count Validation*

Optimally, every survey respondent will provide a valid answer to every survey question; in the real world, however, respondents may generate a "user" missing value by proffering "nonresponse" such as refusing to answer certain questions, indicating that they "don't know" the answer, or providing an unintelligible answer. Similarly, if a respondent ceases to answer questions before the end of the survey, the remaining questions' answer values will be "system missing," in that they were never asked of that respondent.

It is important, in the construction of indices, to assure that there is an adequate sampling of response values across each index's constituent variables. While the determination of what constitutes an adequate level of constituent variable response is somewhat arbitrary, an 80% threshold is conventionally considered reasonable. This rule requires that to include all valid responses in the construction of a scale, least 80% of all respondents must have answered at least 80% of all of the constituent variables in a scale. If a scale falls below that threshold, then it is possible the scale might be overdetermined by respondents with an insufficient number of responses across the variable set and exclusion of low-responders may be necessary. If a scale falls above that number, we can – in common terms – know that the scale is well-more-than-mostly determined by respondents who answered well-more-than-most of the relevant variables. For the Central New Jersey survey, Table One shows the number of variables per index, along with the percent answering all of the constituent variables, and the percent answering at least 80% of the constituent variables.

Table One

<b>Index</b>	<i># of variables</i>	<i>% answering all constituent questions</i>	<i>% answering at least 80% of constituent questions</i>
<b>Social Trust</b>	6	61.5	92.6
<b>Inter-Racial Trust<sup>12</sup></b>	4	86.9	89.0
<b>Associational Involvement</b>	17	100.0	100.0
<b>Diversity of Friendship</b>	11	100.0	100.0
<b>Faith-based Engagement</b>	5	80.3	100.0
<b>Informal Socializing</b>	5	70.3	100.0
<b>Civic Leadership</b>	7	93.7	100.0
<b>Volunteering</b>	7	99.5	99.8

For all eight indices, 89% or more respondents answered at least 80% of the constituent questions. For five of the eight, 100% of respondents answered at least 80% of the constituent questions. The mean percentage of respondents-per-index answering all of the constituent questions was 87%. From this analysis, we may safely conclude that each of the scales is sufficiently populated with full or near-full sets of responses to represent an accurate empirical assessment of the underlying concept. In other words, we need not be concerned that any of the scales do not have adequate data to effectively convey the concept of interest.

#### *Array Change and Grouping Correlation Validation*

While in the case count validation we were concerned that scales were amply populated, here we are concerned with the possibility of operator error. As discussed above, there are two types of scales presented; the first are simple aggregative scales, which are merely counts of each respondent's affirmative answers to a set of yes-no inquiries (i.e., the Associational Involvement and Diversity of Friendship indices). These scales simply answer the question of how many of a certain type of thing is a

<sup>12</sup> For inter-racial trust, because the in-group is disqualified (i.e., response's about the respondent's own group are not included), the maximum number of valid constituent variables is three, i.e., one less than total number of constituent variables.

respondent involved, and are not forced to a zero to one range. They are, however, grouped into descriptive categories such as “very low,” “low,” “medium,” and “high,” based on the distributions specified by the Harvard model. More specifically the possible raw answer values for the Associational Involvement Index range from 0 to 17, and for the Diversity of Friendship Index they range from 0 to 11; to make these indices more tractable and understandable, they are grouped into four-point descriptive categories.<sup>13</sup>

Whenever an array of numerical values is grouped, some variance is lost and the correlation between the initial array and the subsequent grouping will be less than the perfect measure of 1.0. However, if there is no operator error, then we should still see an extremely high and near-perfectly statistically significant correlation between the initial aggregation of counts (i.e., the 0 to 17 and 0 to 11 arrays) and the reduction of those counts to the four descriptive grouped categories. As Table Two shows, the correlations here both exceed 90% covariance and therefore we can be more than reasonably confident that there has been no operator error in arithmetically constructing these two indices.

Table Two

<b>Index</b>	<i>Cross Section</i> <i>Correlation between initial array and grouped data</i> <i>(p value)</i>
<b>Associational Involvement</b>	.9067 (.0000)
<b>Diversity of Friendship</b>	.9540 (.0000)

Each of the other six scales goes through a four-step process: First, it is generated as a simple summative score divided by the number of items over which the sum is calculated,<sup>14</sup> which is then forced to a mean of zero and a variance of one. This generates an array of negative to positive numbers. Then, a two step effort is applied to force the array to a positive value range from zero to one. In the fourth and final step, the array of numbers is, as are the two aggregative scales, grouped into descriptive categories. Again, if there is no operator error, we should see perfect correlations of 1.0 between the two matches of the first untreated array with each array in the two stages of the range forcing procedure, and only a trivial decrease from a perfect correlation of the initial array to the final grouped data. As Table Three shows, since all interim correlations are perfect at 1.0, and four of the six initial array to grouped data correlations exceed (or approach) .90, and the remaining two exceed (or approach) .80, all at perfect statistical significance, we can again be confident in the arithmetic calculation of these five scales.

<sup>13</sup> For the Associational Involvement index the grouped categories are “very low” (0 groups), “low” (1-2 groups), “medium” (3-4 groups), and “high” (5 or more groups); for the Diversity of Friendship Index the grouped categories are “low” (0-4 types), “medium low” (5-6 types), “medium high” (7-8 types), and “high” (9 or more types).

<sup>14</sup> The outcome of this preliminary step is the arithmetic mean of the answer values of all items in the battery.

Table Three

<b>Index</b>	<i>forced range procedure step one array (p value)</i>	<i>forced range procedure step two array (p value)</i>	<i>grouped data (p value)</i>
<b>Social Trust</b>	1.0 (.0000)	1.0 (.0000)	.9164 (.0000)
<b>Inter-Racial Trust</b>	1.0 (.0000)	1.0 (.0000)	.9665 (.0000)
<b>Faith-based Engagement</b>	1.0 (.0000)	1.0 (.0000)	.9399 (.0000)
<b>Informal Socializing</b>	1.0 (.0000)	1.0 (.0000)	.7894 (.0000)
<b>Civic Leadership</b>	1.0 (.0000)	1.0 (.0000)	.8250 (.0000)
<b>Volunteering</b>	1.0 (.0000)	1.0 (.0000)	.8841 (.0000)

*The Assessment of the Internal Reliability of the Indices: Cronbach's Alpha*

So far, we have assessed the adequacy of scale population and the demonstrated the absence of operator error in the calculation of the scales. Now, however, we need to ask – from an empirical perspective – how internally reliable are these variables in forming scales? In other words, we need to assess – in common terms – how well the constituent variables “hang together” in measuring the underlying concept. In summative scales such as these, internal reliability (often referred to as “consistency”) is commonly measured using the reliability coefficient Cronbach’s alpha.<sup>15</sup> Typically, “[s]cores toward the high end of [a 0 to 1.0] range (e.g., above .70) suggest that the items in an index are measuring the same thing.”<sup>16</sup>

<sup>15</sup> As calculated here, Cronbach’s alpha is “defined as the square of the correlation between the measured scale and the underlying factor. If you think of a test as being composed of a random sample of items from a hypothetical domain of items designed to measure the same thing, alpha represents the expected correlation of one test with an alternative form containing the same number of items. The square root of alpha is the estimated correlation of a test with errorless true scores” (StataCorp. (2005). *Stata Statistical Software: Release 9, Reference A-J*, p. 25).

<sup>16</sup> Vogt 1999, p. 64. There is a large literature on the interpretation and application of alpha; a critical consideration is whether the scale in question is, as here, assessing an aggregate-level phenomenon, or where the scale seeks to measure some aspect of an individual. For a finding of adequate reliability, individual level scales require significantly higher alpha values, while, for aggregate level scales, “modest reliability of .70 or higher will suffice [and] values in excess of .80 often waste time and funds” (Nunnally, J.C. and I.H. Bernstein (1994). *Psychometric Theory*, 3<sup>rd</sup> ed. (New York: McGraw Hill).

Table Four

<b>Index</b>	<i>Cronbach's Alpha</i>
<b>Social Trust</b>	.78
<b>Inter-Racial Trust</b>	.93
<b>Associational Involvement</b>	.68
<b>Diversity of Friendships</b>	.72
<b>Faith-based Engagement</b>	.82
<b>Informal Socializing</b>	.66
<b>Civic Leadership</b>	.62
<b>Volunteering</b>	.72

Table Four shows the Cronbach's alpha values for all eight scales. The only scales not at or over .70 are the Associational Involvement, Informal Socializing and Civic Leadership indices; at .68, .66 and .62 respectively, however, even these scales may be considered adequate for these purposes to convey the underlying concepts. The mean Cronbach's alpha for the eight indices is .74, ranging from .62 to .93. Thus, overall this set of scales demonstrates sufficient internal reliability to generate statistical confidence in the social capital index approach as applied to the Central New Jersey region.