American Center for
Political Leadership

# National Survey of American Civic Health
# American Center for Political Leadership (ACPL)
# Southeastern University

## Technical Appendix

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## Survey Purpose and Suppositions

The *National Survey of American Civic Health* was constructed for the purposes of understanding the beliefs, practices, and experiences of Americans that differ in their civic knowledge, behaviors, and dispositions. Specifically, it aims to investigate how Americans vary in their overall levels of civic literacy (basic knowledge of the Constitution and political processes), civic engagement (voting, political advocacy, and volunteerism) and capacity for constructive political deliberation (tolerance for political difference and humility in political discourse).

The *National Survey* was launched with the idea that building a healthy democracy rests on three dimensions:

> **Civic literacy**. Americans must have a basic knowledge of the U.S. Constitution and our political processes.
>
> **Capacity for constructive political deliberation**. Americans must be tolerant of political differences and humble in deliberations when engaging across deep ideological divisions.
>
> **Civic engagement**. Americans must form habits of productive engagement in the political process such as voting and political advocacy. They should also develop habits of volunteerism and charitable giving to support the health and well-being of their communities.

Informed by these three dimensions of "civic health," this database has the capability to answer a wide range of questions, including:

- *What explains why some Americans score high on various dimensions of civic health and low on other dimensions? Across all civic dimensions, what are the attributes of high vs. low scorers?*
- *What is the relationship between scores on the three measures of civic health and experiences in institutions such as schools, colleges, religious communities, workplaces, and the military?*
- *What role does family of origin and parental support play in explaining disparities in levels of civic health across populations?*
- *Where should we best direct our efforts to turn the tide of incivility and develop citizens who can work together to solve the problems we face in our nation and the world?*

## Instrument Development and IRB Approval

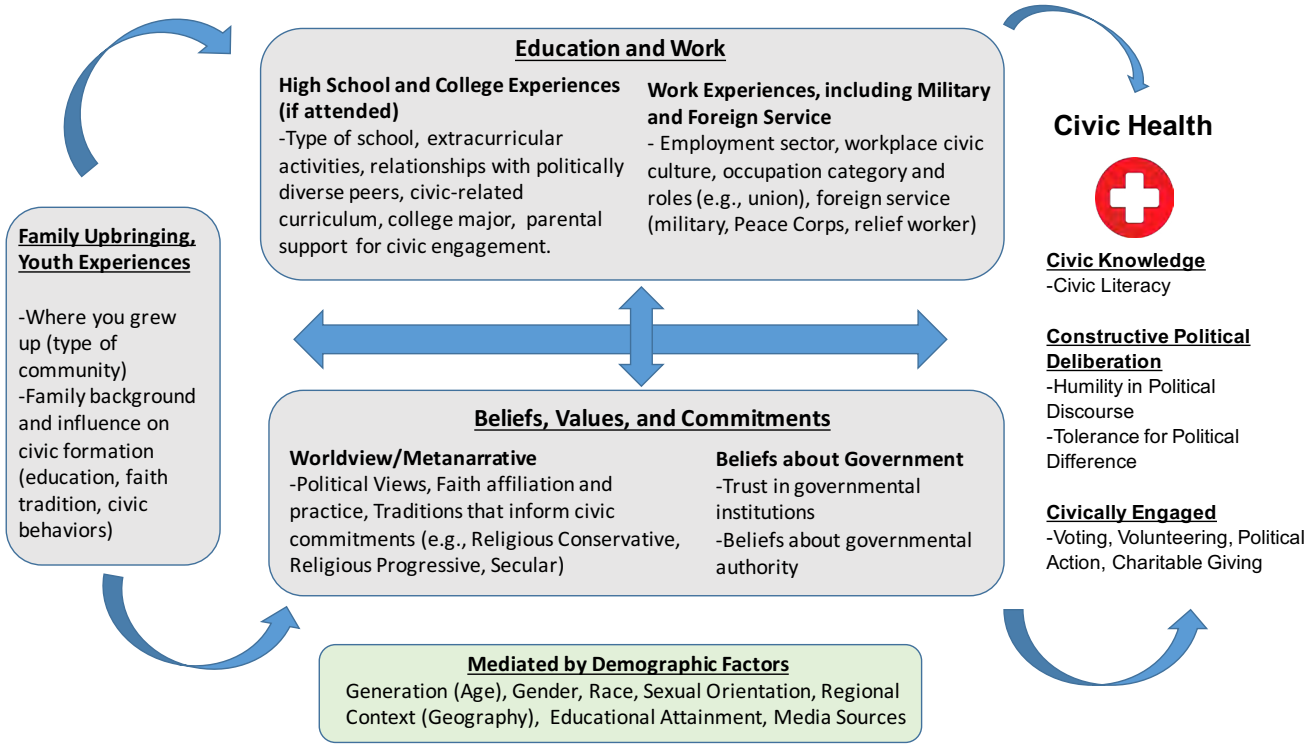
The survey instrument was designed by project investigators Alberto Cabrera, David Weerts, and Kristin Van Dorn. The instrument draws on literature from several fields and disciplines such as political science, education, and social psychology. The literature review that informed the development of the constructs and associated items was conducted by Kristin Van Dorn. The survey was programmed in Qualtrics by the University of Minnesota Office of Measurement Services (OMS) in January 2021. The instrument and all data collection protocols were approved by the University of Minnesota IRB in March 2021.

## Survey Elements

Many complex and interrelated factors predict individual pathways to civic health. Figure 1 illustrates that family upbringing and youth experiences create the foundation for developing civic behavioral

habits, gaining civic knowledge, and forming dispositions for constructive political deliberation. These experiences shape beliefs, values, and commitments that can be life-long (e.g., worldview and beliefs about government). Likewise, the type of media that one consumes both shapes and reflects these beliefs. All of these elements are mediated by one's educational experiences (high school and college if attended) and experiences in the workforce. Moreover, exposure to military and foreign service may distinctively influence one's propensity for civic health. Finally, the aforementioned factors are related to important demographic characteristics such as generational differences, and differences in race and gender.

**Figure 1: Antecedents of Civic Health (Weerts, Cabrera, & Van Dorn, 2022)**

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The *National Survey* was designed to capture the key concepts in Figure 1. The specific items representing the constructs in Figure 1 are listed in Tables 1- 12 below.

## CIVIC HEALTH DIMENSIONS (OUTCOME VARIABLES)

### Capacity for Constructive Political Deliberation

Table 1

Humility in Political Discourse
Tolerance for Political Difference

**Civic Engagement** Table 2

Voting Behavior
Political Advocacy Behavior
Volunteer Behavior
Charitable Giving Behavior

**Civic Knowledge** Table 3

Civic Literacy

## PREDICTORS OF CIVIC HEALTH (INDEPENDENT VARIABLES)

### Youth/Family Upbringing

**Region of Origin** Table 4

Community of Origin Size/Permanence of Residence
Community of Origin Diversity

**Family of Origin** Table 5

Parents' Educational Attainment
Family Religious Influence
Family Civic Influences

### Education and Work

**High School Experiences** Table 6

High School Type
Extracurricular Activities and Organizations
Parental Encouragement for Civic Activities
Relationships with Politically Diverse Classmates
Civic-Focused Coursework

**Two-Year College Graduate Experiences** Table 7

Institution Type
Academic Distinction
Extracurricular Activities and Organizations
Parental Encouragement for Civic Activities
Relationships with Politically Diverse Classmates
Civic-Focused Coursework
Living and Work Arrangements

**Four-Year College Graduate Experiences** Table 8

Institution Type
Academic Distinction
Extracurricular Activities and Organizations
Parental Encouragement for Civic Activities
Relationships with Politically Diverse Classmates
Civic-Focused Coursework
Living and Work Arrangements

**Work Experiences, including Military-Foreign Service** Table 9
Employment Profile
Workplace Civic Culture
Military-Foreign Service

## Values and Beliefs

**Beliefs about Government** Table 10
Trust in Governmental Institutions
Beliefs about Governmental Authority and Transparency

**Worldview** Table 11
Political Views
Religious Affiliation (including no affiliation)
Association with Conservative Faith Traditions
Association with Progressive Faith Traditions
Association with Secular Traditions
Frequency of Religious Practice
Size of Place of Worship

## Demographic Profile Table 12

Age
Gender
Race
Sexual Orientation
Educational Attainment
Primary Residence
Media Content and Consumption

## Methodology

The scales and allied items that make up the *National Survey* were tested in a pilot study which included a national sample of 1,743 individuals collected by Dynata Inc. in April 2020. The sample matched the US Census based on variables related to age, race, ethnicity, gender, and educational attainment. After eliminating "speeders," individuals who cursorily perused over the survey, we ended up with an effective sample of 1,610 cases. The pilot sample intentionally overrepresented the proportion of college educated individuals. We wanted to make certain we had a large sample allowing us to develop scales distinguishing the unique collegiate experiences of those individuals who attended a community college from those who attended a four-year institution.

We examined the pilot data through four methods: 1) descriptive statistics, 2) factor analysis (FA's), 3) alpha reliability analysis, and 4) item response theory. We also followed Tourangeau, Rips and Rasinski' (2000) precepts of writing items that attend to the basic cognition stages individuals undergo when answering surveys; namely, understanding the concept embedded into the item, and being able to recall events associated with the concept embedded in the item. Accordingly, we sought to provide examples and contextual information to help survey respondents recall their experiences with the trait we sought to measure (e.g., participation in civic activities).

In examining the internal consistency of our scales, we relied on Cronbach's alpha reliability along with IRT's information functions. Although widely used, Cronbach's alpha reliability method is not the best indicator of the internal consistency of a scale (DeSanti, 2011). It assumes that the reliability of the scale is constant across the domain of the construct; an assumption that IRT has long questioned (Sharkness, 2014). Cronbach's alpha also fails to provide a good measure of the internal consistency of each of the items that make up the scale (Acock, 2018; Sharkness & DeAngelo, 2011). Consequently, we decided to complement the information provided by Cronbach's alpha with IRT indicators of internal consistency (Acock, 2018, Raykov & Marcoulides, 2018, Thissen, 2000).

In short, our methodological approach sought to produce a survey capturing the different dimensions of civic health with content valid items that would communicate high levels of information about the US population. Below, we provide a more detailed description of our methodological approach. We illustrate it by relying on one section of the survey capturing experiences with high school governance (HS governance).

## Descriptive statistics

Descriptive statistics allowed us to examine the extent to which the items were relevant for our target population. We were looking for items with low levels of skewness, and with distributions covering the whole range of the Likert scale associated with the item in a balanced manner. Consider the case of the items comprising participation in high school governance, for instance. The levels of skewness of the 8 items ranged from small (0.44) to high (1.62) (see 5th column in Table 1). A large percentage of respondents reported never being engaged in the specific type of prosocial behavior under consideration (see 2nd column in Table 1). Upon close inspection, we realized the low levels of engagement may have resulted from the lack of examples for each of the student prosocial behaviors. We addressed this lack of clarity in the final survey. For example, we included being a class representative, and serving as student class representative as illustrations of having participated in high school prosocial behaviors. In the final survey, we also adopted a yes/no scale instead of the original 3-Likert point scale (1. Never, 2. Occasionally, and 3. Frequently). All 12 high school prosocial behavior items displayed a bipolar distribution (see 2nd column in Table 1).

| Table 1. Descriptive statistics for HS student governance based on 1,610 cases | | | | | |
|---|---|---|---|---|---|
| **Item** | **% Never Engaged** | **Mean** | **Std. Dev** | **Skewness** | **Kurtosis** |
| Student government (q59_1) | 60.5 | 1.52 | 0.512 | 0.99 | 2.60 |
| Environmental organizations (q59_2) | 68.0 | 1.43 | 0.677 | 1.30 | 3.34 |
| Partisan groups (q59_3) | 74.4 | 1.35 | 0.648 | 1.62 | 4.23 |
| Charitable groups (q59_4) | 53.5 | 1.61 | 0.732 | 0.74 | 2.21 |
| Study abroad programs (q59_5) | 74.2 | 1.37 | 0.669 | 1.58 | 4.02 |
| Religious organizations (q59_6) | 61.0 | 1.53 | 0.529 | 0.99 | 2.55 |
| Intramural sports (q59_7) | 48.5 | 1.74 | 0.804 | 0.50 | 1.72 |
| Varsity athletics (q59_8) | 55.2 | 1.68 | 0.822 | 0.66 | 1.79 |
| Ethnic/cultural organizations (q59_9) | 68.9 | 1.42 | 0.676 | 1.34 | 3.43 |
| Visual/performing arts (q59_10) | 55.8 | 1.64 | 0.794 | 0.73 | 1.96 |
| Honors program (q59_11) | 48.4 | 1.78 | 0.833 | 0.44 | 1.58 |
| Professional organizations (q59_12) | 62.2 | 1.52 | 0.726 | 1.03 | 2.62 |

## Factor analysis

Factor analysis allowed us to examine the extent to which the correlations among the items could be explained by common factors. It also helped us simplify subsequent scales by eliminating items whose factor loadings were below 0.50 (Brown, 2015). In our example, exploratory factor analysis reported that 2 factors explained 58% of the variance of the correlation matrix among the 12 high school prosocial behavior items (see Table 2). Factor 1 accounted for most of the variance explained (37%). This factor grouped together 8 items. With the exception of having participated in study abroad programs (q59_5), all 7 items share in common a civic engagement stem. The second factor grouped together indicators of HS athletics (q59_7 & q59_8). Participation in visual/performing arts cross loaded across the two factors. In terms of reliability, factor 1 is the most reliable of the two with an alpha index of 0.897. Factor two has a marginally acceptable reliability of 0.677, or 0.7 if rounded up.

| Table 2. Factor analysis (varimax rotation) | | | |
|---|---|---|---|
| **Item** | **Factor 1** | **Factor 2** | **Uniqueness** |
| Student government (q59_1) | **0.685** | 0.347 | 0.410 |
| Environmental organizations (q59_2) | **0.774** | 0.252 | 0.338 |
| Partisan groups (q59_3) | **0.796** | 0.216 | 0.320 |
| Charitable groups (q59_4) | **0.565** | 0.443 | 0.484 |
| Study abroad programs (q59_5) | **0.792** | 0.180 | 0.341 |
| Religious organizations (q59_6) | **0.618** | 0.267 | 0.547 |
| Intramural sports (q59_7) | 0.209 | **0.849** | 0.236 |
| Varsity athletics (q59_8) | 0.194 | **0.810** | 0.307 |
| Ethnic/cultural organizations (q59_9) | **0.761** | 0.204 | 0.379 |
| Visual/performing arts (q59_10) | 0.454 | 0.405 | 0.630 |
| Honors program (q59_11) | 0.403 | 0.515 | 0.572 |
| Professional organizations (q59_12) | **0.625** | 0.395 | 0.453 |
| *Proportion of variance explained by the factor* | **37.1%** | **21.1%** | |
| *Alpha reliability of the factor* | **0.897** | **0.676** | |

Factor analysis results led us to eliminate 5 items for the final survey. Four items had a stem not related to civic engagement during high school. Two items' stem dealt with participation in sports (q59_7 & q59_8). The remaining two items' topics had to do with participation in liberal arts activities (q59_9 & q59_10). Participation in the honors program (q59_11) had cross loadings in the two factors.

## Item response theory analysis

After conducting factor analyses, we performed IRT analyses. These IRT analyses ranged from graded response modeling (GRM), item information functions to test information functions. GRM assesses survey items in two ways. The first is through the item discrimination parameter (denoted as *ai*), which appraises how well an item measures an intended behavior or trait (Raykov & Marcoulides, 2018). Under GRM, the strength of the item discrimination parameter can range from being very low (0.01 to 0.34), low (0.35 to 0.64), moderate (0.65 to 1.34), high (1.35 to 1.70), to very high (above 1.70) (Baker, 2001; Sharkness & DeAngelo, 2011; Wang & Lee, 2019). The second assessment of quality is through the item threshold, or difficulty, parameter (denoted as *bij*), which measures the probability of selecting one of the response choices on the Likert scale ( Raykov & Marcoulides, 2018). The item threshold is represented by a continuum, where the probability of selecting a given response or higher is 0.50, and the probability of selecting a given response or lower is also 0.50 (Baker, 2001; Sharkness & DeAngelo, 2011; Wang & Lee,

2019). The preferred items are those whose range covers both positive and negative values in the domain of the trait (Baker, 2001; Raykov & Marcoulides, 2018). We complemented GRM analyses with item and scale information functions. These methods index both the amount of information and accuracy of the items and the scale (Acock, 2018; Raykov & Marcoulides, 2018).

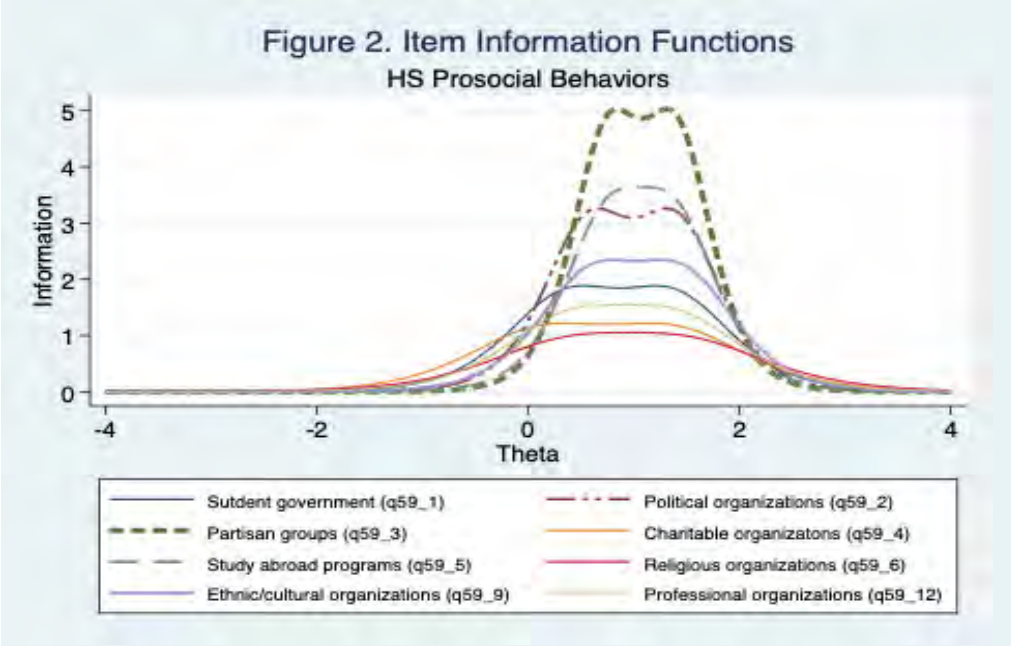
In the case of the high school prosocial behaviors, we found that all of its 8 constituent items display discrimination indexes well above Baker's (2001) excellent threshold of 1.70 (see Table 15). Participation in partisan groups in HS is the marker indicator for this factor. This item's discrimination index is well above that of the remaining 7 items. Participation in partisan groups also has the highest loading. In a close second place, one can find participation in study abroad programs. This prosocial behavior item has the second highest item discrimination index and loading in the factor. Given the size of the item difficulty index, it is evident that all 8 items discriminate best between the highest and lowest the level of involvement in the construct.

**Table 3. IRT-GRM analyses**

| Item | Loading | Item Discrimination ($a_i$) | SE | Item Difficulty ($b_1$) | Item Difficulty ($b_2$) |
|---|---|---|---|---|---|
| Student government (q59_1) | 0.685 | 2.64 | 0.146 | 0.37 | 1.36 |
| Environmental organizations (q59_2) | 0.774 | 3.51 | 0.212 | 0.58 | 1.39 |
| Partisan groups (q59_3) | 0.796 | 4.34 | 0.306 | 0.76 | 1.39 |
| Charitable groups (q59_4) | 0.565 | 2.12 | 0.114 | 0.15 | 1.36 |
| Study abroad programs (q59_5) | 0.792 | 3.59 | 0.234 | 0.76 | 1.37 |
| Religious organizations (q59_6) | 0.618 | 1.92 | 0.108 | 0.42 | 1.47 |
| Ethnic/cultural organizations (q59_9) | 0.761 | 2.93 | 0.173 | 0.61 | 1.44 |
| Professional organizations (q59_12) | 0.625 | 2.35 | 0.131 | 0.43 | 1.37 |

## Item information function

In our example of high school prosocial behaviors, participation in partisan groups (q59_3) provides most of the information for this construct (see Figure 2). In second place, we find study abroad programs (q59_5). Notice that the items bring most of the information for people with ranging from average to high levels of participation in high school prosocial behaviors; this is to say for people whose standardized scores fall within the mean and 2 standard deviation units above the mean, or for 48% of the population. The scale provides less information for individuals who have low levels of participation in high school prosocial behaviors. This is to say individuals whose standardized scores are slightly below the mean, or for 19% of the population (see Figure 2).




While the item information function allowed us to appraise the amount of information each item provides about the scale, the test information function does the same for the scale itself (Acock, 2018). Figure 3 indicates that the scale provides high and accurate information of participation in high school prosocial behaviors for those individuals with average or above average levels of participation, or subjects scoring within -0.5 and 2 standard deviation. In other words, 67% of the population reported this range of participation in high school prosocial behaviors in our pilot sample. Evidently, the shape of the test information function follows the similar pattern as the one displayed by participation in partisan groups (q59_3): a high two-peaked distribution followed by a steep downward slope.

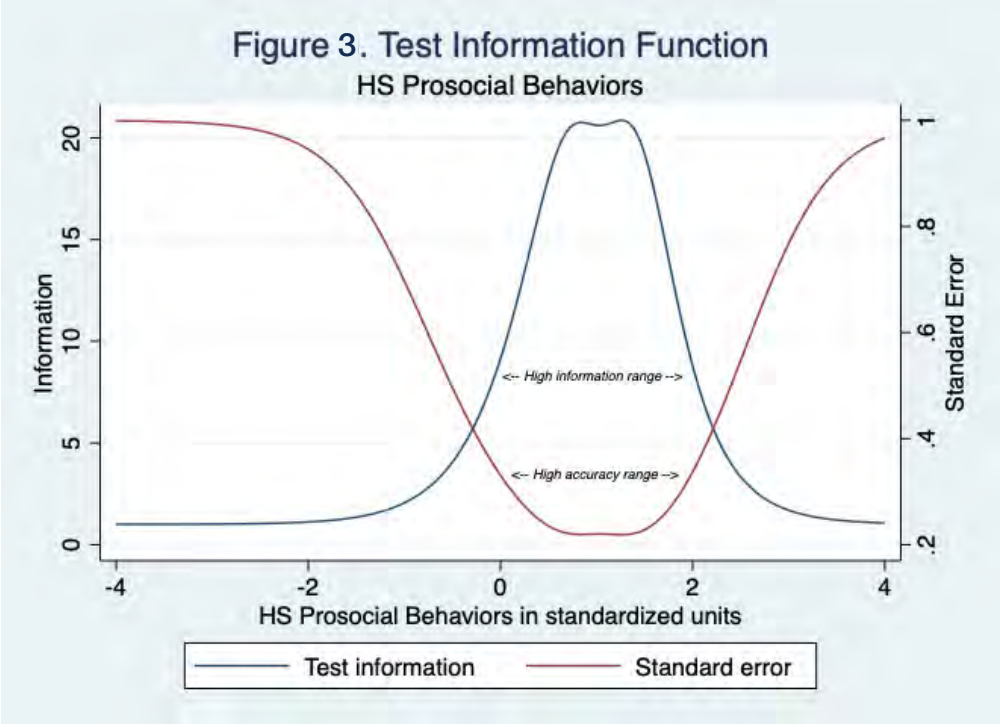


Figure 4 and Table 16 below illustrate alternative estimates of the reliability of the scale high school prosocial behaviors. Cronbach's alpha reports that the reliability of the scale, high school prosocial behaviors, is high (alpha = 0.90) and constant across the whole domain of the construct. IRT, in contrast, notes that the internal consistency of the scale varies significantly depending on the location of a person's z-score on the high school prosocial behaviors. The reliability of the estimates of the scale is rather low for those individuals whose standardized scores are one half of a standard deviation (sd) below the mean, or for 31 % of the population. However, the consistency of the scale increases substantially for subjects whose standardized scores are with a -0.5 and 2 standard deviation units, or for 69% of the population.

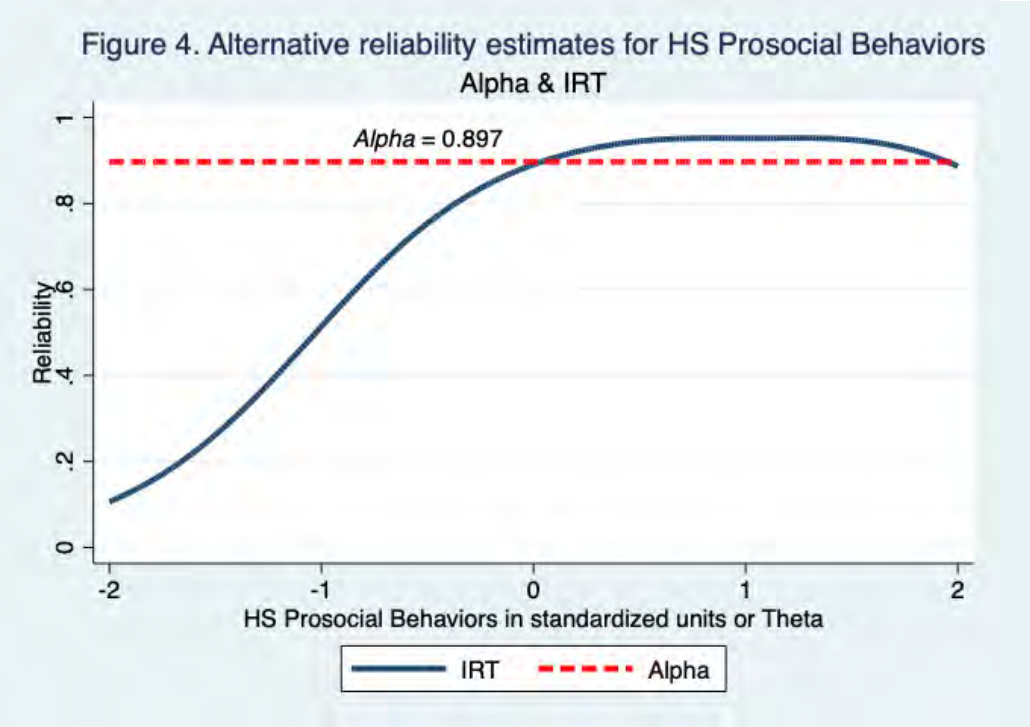



**Table 16. Alternative estimates of the reliability of high school prosocial behaviors across the range of the scale in standardized units**

| Normal Distribution | Alpha estimate | IRT estimate |
|---|---|---|
| -2.0 | 0.897 | 0.106 |
| -1.5 | 0.897 | 0.259 |
| -1.0 | 0.897 | 0.509 |
| -0.5 | 0.897 | 0.753 |
| 0 | 0.897 | 0.892 |
| 0.5 | 0.897 | 0.945 |
| 1.0 | 0.897 | 0.952 |
| 1.5 | 0.897 | 0.948 |
| 2.0 | 0.897 | 0.886 |

## Representativeness of the final sample

Informed by our pilot study, we revised the *National Survey* to address the domains of civic health that we discussed in the overview section of this appendix. In May 2021, Dynata collected a national representative sample of 5,000 individuals matching the US Census related to age, race/ethnicity, gender, and educational attainment. The sampling strategy also sought to match the unemployment rate in the US during that period. At the end of August 2021, Dynata collected nearly five thousand cases (4,990). The sampling was conducted twice to replace 932 "speeders," or individuals who spent five minutes or less completing the survey.

Overall, our sample overestimates the proportion of college educated individuals as well as the unemployment rate. According to the National Center for Education Statistics, 48% of the US population held a postsecondary degree in 2019. Our sample consists of 70% college educated individuals, overestimating the national figure by 22%. Most of this overestimating has to do with estimates of graduate education. Our sample overestimates the population with graduate education by 12 percentage points (see Table 5). As of June 2021, the overall US unemployment rate was 5.9% (Statista, 2021). Our sample overestimates this unemployment rate by 3.1% (9%).

From a demographic perspective, the sample closely resembles the US population in terms of gender. However, it slightly underestimates the proportion of the population aged 35 or older, while slightly overestimating the population aged between 18 to 34. In terms of ethnicity, our sample overestimates the African American population by 7 percentage points. The other ethnic groups are fairly close to the population estimates.

| Table 5. Representativeness of the 2021 sample | | | |
|---|---|---|---|
| | **2020 Census** | **Sample** | **Difference** |
| Gender | | | |
| Male | 48% | 49% | 1% |
| Female | 52% | 50% | -2% |
| Age | | | |
| 18-24 | 11% | 14% | 3% |
| 25-34 | 18% | 21% | 3% |
| 35-44 | 17% | 19% | 2% |
| 45-54 | 16% | 14% | -2% |
| 55-64 | 17% | 16% | -1% |
| 65 or more | 21% | 17% | -4% |
| Ethnicity | | | |
| White | 63% | 63% | - |
| Hispanic/Latinx | 16% | 14% | -2% |
| African American | 12% | 19% | 7% |
| Asian American | 6% | 8% | 2% |
| American Indian, Hawaiian | 3% | 5% | 2% |
| Education | | | |
| Some HS or less | 11% | 7% | -4% |
| HS graduate | 27% | 23% | -4% |
| Some college | 22% | 18% | -4% |
| Associate degree | 8% | 11% | 3% |
| 4-year degree | 20% | 18% | -2% |
| Some graduate education/ graduate degrees | 11% | 23% | 12% |

Source: Dynata's report of October 6, 2021

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