

*youth*  
civic and character measures  
**TOOLKIT**



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## A. Roots of Engaged Citizenship Project

The Roots of Engaged Citizenship Project – a multi-phase, mixed-methods research endeavor – was launched in July 2012 with the purpose of studying how young people become good citizens and identifying the developmental roots of active participation in communities and society. Research has shown that civic engagement is good for young people’s well-being and functioning in other areas of life, and that youth engagement makes our communities and society stronger. For more information about the project and to access products of this research, please visit our website: [www.civicroots.org](http://www.civicroots.org).

An early goal of this project was to develop and rigorously test a set of civic engagement and character strength measures that were appropriate for youth in middle childhood and adolescence, and that were reliable, valid, and theoretically consistent. This toolkit summarizes our study measures, using data collected in Wave 1 in Spring 2014. These measures are organized around five domains: (a) civic beliefs and values, (b) civic behaviors, (c) civic skills, (d) civic socialization, and (e) character strengths.

**Sample Description.** In Wave 1, we recruited 2,467 youth ages 9–18 ( $M = 13.2$ ) enrolled in Grades 4–12 from 16 schools in three socioeconomically, racially, and ethnically diverse regions of the US: suburban southern California, urban Minnesota, and rural West Virginia. Data were collected in 5 elementary, 5 middle, and 5 high schools, 1 K–8 school, and 243 classrooms. Classrooms were selected in collaboration with school administrators to achieve a sample representative of the student body.

In Wave 1 we recruited the parents and primary caregivers of each participating young person to also take part in the study. A total of 842 parents participated; including 641 mothers, 89 fathers, and 18 other parenting adults. We collected data from 218 parents of elementary school students, 280 parents of middle school students, and 344 parents of high school students. Parents’ report of their family income indicated considerable variability in family socioeconomic status (15% = < \$25,000, 36% = \$25,000–\$49,999, 26% = \$50,000–\$74,999, 20% = ≥ \$75,000, and 12% preferred not to report family income).

**Table 1.** Youth demographics by school level.

| School Level  | N     | 1 <sup>st</sup> or 2 <sup>nd</sup><br>Generation<br>Immigrant | Parent Education        |                             | Financial Strain |
|---------------|-------|---|-------------------------|-----------------------------|------------------|
|               |       |   | High school<br>or below | College degree<br>or higher |                  |
| Elementary    | 514   | 32%   | 12%                     | 27%                         | 36%              |
| Middle School | 815   | 40%   | 22%                     | 28%                         | 41%              |
| High School   | 1,138 | 40%   | 33%                     | 31%                         | 42%              |

*Note.* Financial Strain = % of youth who reported their family “has just enough money for the things they need” or “has a hard time buying the things they need.”

School district partners with high numbers of economically vulnerable youth were recruited with the goal of giving voice to the experiences of this understudied population. Rates of student eligibility for free or reduced priced lunch (a proxy for economic vulnerability) varied, but were fairly high (26–95%). The overall sample, with youth indicating all racial and ethnic categories that applied, was 50% White, 30% Hispanic or Latino/a, 10% Black or African American, 7% Asian, 4% American Indian or Alaska Native, 2% Native Hawaiian or Other Pacific Islander, and 8% identified as another race or ethnicity.

## B. Measure Development

A five-step mixed methods process was used to develop psychometrically sound, and developmentally appropriate measures of civic engagement and character strengths for elementary-, middle school, and high school-aged youth.

### Q-sort and Qualitative Interviews

Our measure development work began with engaging a small subset of youth representative of our intended sample ( $n = 90$ ,  $M_{\text{age}} = 13$ ,  $SD = 2.7$ , Range = 9–19, 51% female) in a Q-sort task followed by a qualitative interview. The sample was evenly distributed across research sites and school levels (elementary, middle school, and high school). Our goal was to assess young people's understanding of different civic-related character strengths and the perceived links between these character strengths and different forms of civic involvement such as voting, volunteering, protesting, and environmental activities. A full description of this research methodology and findings can be found in Metzger, Syvertsen, Oosterhoff, Wray-Lake, and Babskie (in press). Youths' qualitative narratives about what it means to be civically engaged at their age and organic definitions of various character strengths directly informed the development of survey items.

### Item Identification and Development

Items come from three primary sources. The source of each “adopted” or “adapted” item is stated in the notes section accompanying each measure. Unless references are specified, items were developed by the authors for this study and should be cited accordingly.

- *Adopted items.* Items were drawn directly from the existing literature. The sources of “adopted” items are stated in the notes section accompanying each measure.
- *Adapted items.* Items were heavily revised from existing sources or written by taking inspiration from the existing literature. Adaptations were made to align items more sharply with our theoretical aims, research questions, and the reading abilities of study participants. The sources of adapted items are stated in the notes section accompanying each measure.
- *Original items.* When no appropriate measure could be identified in the existing literature, new items were developed. These items were developed by drawing on theory, our reading of the civic and character literatures, and the experiences offered by young people in our qualitative interviews.

## Cognitive Interviews

Once the survey items were drafted, we engaged 16 elementary, middle, and high school youth across the three sites in hour-long cognitive interviews. The goal of these one-on-one interviews was to identify whether survey items achieved our intended measurement purpose and, if not, where and how they could be improved. A variety of cognitive probes were used to assess youths' abilities to comprehend and accurately respond to the items intended to assess study constructs. The cognitive interviews helped our team identify potential comprehension problems (particularly for the youngest participants) and illuminated the challenge across all ages that reverse-coded items pose. Key learnings from the cognitive interviews informed the revision and simplification of several survey items.

## Parent Survey Development

The parent survey was designed to collect parent report of their children's civic engagement and character strengths. Parent survey items directly mirrored youth items when appropriate. Parents were also asked to report on several key demographic (e.g., income) and family process variables (e.g., adolescent decision making, family conflict).

## Pilot Studies

The pilot youth survey was administered to 213 youth in southern California that were enrolled in different schools than our target sample for the full survey ( $M_{\text{age}} = 13$ ,  $SD = 2.7$ , Range = 9–17, 59% female). Examination of the item- and scale-level psychometric properties in the pilot study data resulted in several survey revisions.

The parent survey was piloted using Amazon Mechanical Turk (Mturk). Mturk is an online crowdsourcing platform increasingly being used to collect high-quality data from a sample that largely simulates the general adult population (see Paolacci & Chandler, 2014). A total of 270 parenting adults (70% mothers) of children ages 10–18 participated. Parents ranged in age from 21–61 years ( $M_{\text{age}} = 39$ ). The majority of participating parents reported being White (81%), with the remainder being Black or African American (8%), Hispanic (5%), Asian (4%), American Indian or Alaskan Native (2%), and Native Hawaiian or Pacific Islander (< 1%). In terms of annual family income, 18% of parents reported making less than \$25,000, 43% \$25,000–\$50,000, 36% \$50,000–\$74,999, and 3%  $\geq$  \$75,000. Confirmatory factor analyses (CFAs) of piloted measures suggested improvements for parsimony and reliability.

# C. Surveys

## Youth Version

Youth completed the paper-and-pencil survey in school during a 40–50 minute class period. The number of survey items varied by school level: elementary version = 96 items, middle school version = 149–153 items, high school version = 167–173 items. Participants were entered into a drawing for a \$25 gift card per class.

A three-form planned missing design was employed in the youth survey. The design represents an efficient way to maximize the number of survey questions asked in a fixed time frame. The design reduces cognitive demands on participants, produces surveys that are developmentally responsive to participants' abilities, and increases the likelihood of survey completion and thus minimizes less desirable forms of missing data (Graham, 2012; Little & Rhemtulla, 2013). Given that these missing data were controlled by the researcher and are thus missing completely at random (MCAR), modern missing data approaches (e.g., FIML, multiple imputation) can easily accommodate this type of missingness.

### **Parent Version**

The 338-item parent survey, available in both English and Spanish, was administered to parents either via an online electronic survey or paper-and-pencil survey based on their preference. Participants were compensated \$25.

Parents who participated were mostly mothers: 76% mothers, 12% fathers, 1% stepmothers, 1% grandmothers, 1% other relation, and 11% did not report their relationship to the participating child. Several strategies were used to help parents focus on the target child when answering survey questions. For example, the instruction page specifically identified by name the "target child" who participated in the study. Information provided by the child in the youth survey was used to tailor the gendered pronouns (he vs. she) in each parent's survey. For purposes of simplicity, female gendered pronouns are used in the parent items summarized in this toolkit.

The parent version of the survey included three core domains: (a) parent report on parallel civic and character measures asked of youth to triangulate findings through multiple reporters; (b) parent report on their own civic engagement; and, (c) additional measures about the family and community contexts. A subset of these parent survey items are reported in this toolkit, prioritizing measures of youth civic behaviors and character strengths.

## **D. Statistical Approach**

Confirmatory factor analyses (CFAs) were conducted on each measure with three or more items to examine the scale's measurement properties. We primarily used *Mplus* version 7.2, a structural equation modeling (SEM) software program. A SEM methodological approach is ideal for testing measurement models because it uses items to estimate a conceptual model and accounts for measurement error. Factor loadings along with model fit, latent means, and latent standard deviations come from CFA models.

Internal reliability calculations assess the extent to which items measure the same general construct. In reporting internal reliability, we report two coefficients: Cronbach's alpha coefficient and McDonald's omega coefficient. Cronbach's alpha coefficient is overwhelmingly the most common reliability statistic used in the social science literature. This statistic assumes that the scale is unidimensional, an assumption that does not always hold in practice. Thus, in addition to the alpha coefficient, we also report McDonald's omega coefficient, calculated in our data

using R's PSYCH package. If data meet the assumptions of alpha, alpha and omega coefficients will provide an equivalent conclusion. But if the assumptions of alpha are violated, omega is the more appropriate statistic and tends to outperform alpha (Dunn, Baguley, & Brunsten, 2014). Correlation coefficients are presented for each measure with two items to indicate the strength of their association. Single-item measures were estimated as manifest indicators in SEM in order to account for missing data.

## E. Interpretation

For each measure, we include a table that provides key descriptive and psychometric information. Below is a brief overview on how to interpret each parameter.

**Age groups.** The youth survey included young people in Grades 4–12, which is a larger age range than is typical in most studies. In order to present information that was maximally useful in this toolkit, we present results separately for elementary (E = Grades 4–5;  $n = 514$ ), middle school (MS = Grades 6–8;  $n = 815$ ), and high school (HS = Grades 9–12;  $n = 1,138$ ) aged youth. Missing data in a particular school-level column means that we did not ask those items of that particular age group.

**Parent data.** For measures asked of youth and parents, a fourth column is added to the summary tables to reflect the psychometric properties of the scale in the sample of parents. This column is abbreviated with a P.

**Factor loadings.** Factor loadings can be interpreted as a correlation between an item and the underlying factor. We report standardized factor loadings, which range from 0 to 1. Higher loadings mean that the variable is a stronger indicator of the construct. Squaring standardized factor loadings indicates how much variance in the item is explained by the latent factor. Generally, factor loadings of .4 and above are considered acceptable.

**Alpha.** Alpha coefficients range from 0 to 1. We used the general principle that a reliability of .70 or higher is acceptable for scales with small numbers of items. However, the implications of various levels of reliability for varying research objectives should be considered (see the thoughtful discussion in Lance, Butts, & Michaels, 2006). Users will note that some scales in this toolkit have marginally acceptable alphas ranging from .60–.69. Many of these are found in the elementary-aged sample, suggesting these meta-constructs may not be as cohesive or unidimensional for younger youth.

**Omega.** Omega coefficients range from 0 to 1 and can be interpreted similarly to an alpha.

**Mean.** A latent mean should be interpreted just as any other mean – as the sample average. To calculate the latent means, we utilized an effects coding procedure (Little, 2013). Effects coding is a method of scaling variables for model identification that constrains the intercepts to sum to zero and sets the factor loadings to average 1. This process allows the means of the latent constructs to be estimated.



**Standard deviation.** The standard deviation of the latent variable measures how concentrated the data are around the mean. Larger standard deviations indicate that individual responses vary more widely from the mean, and smaller standard deviations indicate that individual responses are closely gathered around the mean.

**Model fit.** Various model fit indices are used to determine whether each CFA is a good fit to the data.

$\chi^2$  = chi square. Smaller values indicate better model fit. Non-significant  $p$ -values are ideal, although not common with large sample sizes.

$df$  = degrees of freedom.

$p$  = probability, an indicator of significance level.

RMSEA = Root Mean Square Error of Approximation – smaller values are better. Values of .08 are acceptable and values of .05 or lower are recommended.

CFI = Comparative Fit Index – larger values are better. Values of .90 are acceptable and values of .95 are recommended.

TLI = Tucker Lewis Index – larger values are better. Values of .90 are acceptable and values of .95 are recommended.

SRMR = Standardized Root Mean Square Residual – smaller values are better. Values of .05 and lower are recommended.

Just-identified model = A just-identified model in SEM is a model where the number of free parameters equals the number of known values, leaving zero degrees of freedom. Although model fit is perfect by definition, the factor loadings can be interpreted as usual. All of our 3-item measures are just-identified, thus no model fit indices are provided.

**Response scale.** Standard 5-point Likert-type response scales were used for each item. Each point on the scale was labeled with a general orientation from left-to-right of negative [or less] to positive [or more].

**Notes.** Key information about the measure and the item sources are provided in this section. Items without identified sources were developed by the authors based on our reading of the literature, theory, and insights from our qualitative research.

## F. Continuous Measure Improvement

A small number of measures used in Wave 1 (Spring 2014) were revised in Wave 2 (Spring 2015) to tighten conceptual clarity or improve the psychometric properties. The revised versions of these measures are included in the Appendix. The psychometric information on these scales will be updated in the version of this document posted at [www.civicroots.org](http://www.civicroots.org) as it becomes available. Users interested in being notified when this information has been updated can sign up at [www.civicroots.org](http://www.civicroots.org).

## G. Modeling Considerations

Civic engagement is a multidimensional construct, and there are likely theoretical and conceptual reasons to model a set of civic measures together. For a thorough consideration of different approaches to modeling civic engagement multidimensionally and comparison of distinct models, see Wray-Lake, Metzger, and Syvertsen (2015).

## H. Civic Beliefs and Values

| <b>Civic Efficacy</b>  |                        |    |      |
|--|------------------------|----|------|
| Youth: How much do you disagree or agree with each statement?                                    | <b>Factor Loadings</b> |    |      |
|  | E                      | MS | HS   |
| I can make a positive difference in my community. <sup>1</sup>                                   | —                      | —  | .79  |
| Even though I am a teenager, there are ways for me to get involved in my community. <sup>1</sup> | —                      | —  | .79  |
| I can use what I know to solve “real-life” problems in my community. <sup>1</sup>                | —                      | —  | .78  |
| <b>Alpha Coefficient:</b>  | —                      | —  | .84  |
| <b>Omega Coefficient:</b>  | —                      | —  | .84  |
| <b>Mean:</b>   | —                      | —  | 3.55 |
| <b>Standard Deviation:</b>   | —                      | —  | .74  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.               |                        |    |      |

Note. The original version of this scale included a fourth item: “People like me don’t have any say in community decisions.” This item was reverse-scored. Due to a low factor loading, the item was dropped from the measure.

<sup>1</sup> Item adapted from Reeb, Katsuyama, Sammon, and Yoder (1998).

| 1                 | 2        | 3  | 4     | 5              |
|-------------------|----------|--|-------|----------------|
| Strongly disagree | Disagree | Somewhat disagree<br>and somewhat<br>agree | Agree | Strongly agree |

| <b>Critical Consciousness</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How much do you disagree or agree with each statement?                                | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| In America, some groups do not have equal chances to participate in government. <sup>1</sup> | .58                    | .75  | .82  |
| In America, political leaders only listen to the opinions of certain groups. <sup>1</sup>    | .56                    | .46  | .59  |
| In America, certain groups have fewer chances to get ahead. <sup>1</sup>                     | .75                    | .80  | .92  |
| <b>Alpha Coefficient:</b>  | .67                    | .71  | .82  |
| <b>Omega Coefficient:</b>  | .67                    | .73  | .76  |
| <b>Mean:</b>   | 3.11                   | 3.33 | 3.49 |
| <b>Standard Deviation:</b>   | .55                    | .64  | .82  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.           |                        |      |      |

<sup>1</sup> Item adapted from Flanagan, Cumsille, Gill, and Gallay (2007).

| 1                 | 2        | 3  | 4     | 5              |
|-------------------|----------|--|-------|----------------|
| Strongly disagree | Disagree | Somewhat disagree<br>and somewhat<br>agree | Agree | Strongly agree |

| <b>Social Responsibility Personal Beliefs</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How much do you disagree or agree with each statement?  | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| I am responsible for protecting our planet.  | —                      | .71  | .66  |
| I have a responsibility to improve my community.   | —                      | .82  | .89  |
| I often think about ways that I can make the world a better place.   | —                      | .66  | .57  |
| I have a responsibility to help others in my neighborhood.   | —                      | .75  | .75  |
| <b>Alpha Coefficient:</b>  | —                      | .82  | .83  |
| <b>Omega Coefficient:</b>  | —                      | .81  | .82  |
| <b>Mean:</b>   | —                      | 3.42 | 3.36 |
| <b>Standard Deviation:</b>   | —                      | .75  | .70  |
| <b>Model Fit.</b> MS: $\chi^2 = .72$ , $df = 2$ , $p = .699$ ; RMSEA = .00, CFI = 1.00, TLI = 1.01, SRMR = .01<br>HS: $\chi^2 = 4.41$ , $df = 2$ , $p = .110$ ; RMSEA = .03, CFI = 1.00, TLI = .99, SRMR = .01 |                        |      |      |

Note. The authors wrote these items for the current study with the goal of distinguishing social responsibility beliefs from social responsibility values. In writing these items, several sources were consulted, including Pancer, Pratt, Hunsberger, and Alisat (2007) and Starrett (1996) who have published social responsibility scales.

|                   |          |  |       |                |
|-------------------|----------|--|-------|----------------|
| 1                 | 2        | 3  | 4     | 5              |
| Strongly disagree | Disagree | Somewhat disagree<br>and somewhat<br>agree | Agree | Strongly agree |

| <b>Social Responsibility Personal Values</b>   |                        |      |      |
|--|------------------------|------|------|
| Youth: How important are the following to you?   | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| It is important to me to consider the needs of other people.   | .67                    | .76  | .71  |
| It is important to me to help those who are less fortunate. <sup>1</sup>   | .70                    | .82  | .78  |
| It is important to me to make sure that all people are treated fairly. <sup>2</sup>  | .53                    | .70  | .70  |
| It is important to me to think about how my actions affect people in the future. <sup>1</sup>  | .44                    | .60  | .62  |
| <b>Alpha Coefficient:</b>  | .67                    | .81  | .80  |
| <b>Omega Coefficient:</b>  | .63                    | .79  | .77  |
| <b>Mean:</b>   | 4.03                   | 3.90 | 3.36 |
| <b>Standard Deviation:</b>   | .62                    | .73  | .70  |
| <b>Model Fit.</b> E: $\chi^2 = 6.10$ , $df = 2$ , $p = .047$ ; RMSEA = .06, CFI = .99, TLI = .96, SRMR = .02<br>MS: $\chi^2 = 12.95$ , $df = 2$ , $p = .002$ ; RMSEA = .08, CFI = .99, TLI = .97, SRMR = .02<br>HS: $\chi^2 = 14.73$ , $df = 2$ , $p = .001$ ; RMSEA = .08, CFI = .99, TLI = .97, SRMR = .02 |                        |      |      |

1 Item adapted from Flanagan, Syvertsen, and Stout (2007).

2 Item adapted from Search Institute (2011).

|                      |                    |                    |                 |                     |
|----------------------|--------------------|--------------------|-----------------|---------------------|
| 1                    | 2                  | 3                  | 4               | 5                   |
| Not at all important | A little important | Somewhat important | Quite important | Extremely important |

| <b>Self-Interest Values</b>  |                        |    |      |
|--|------------------------|----|------|
| <b>Youth:</b> How important are the following to you?  | <b>Factor Loadings</b> |    |      |
|  | E                      | MS | HS   |
| It is important to me to have many expensive possessions. <sup>1</sup>   | —                      | —  | .73  |
| It is important to me to be admired by many people. <sup>1</sup>   | —                      | —  | .67  |
| It is important to me to put my own needs before the needs of others.  | —                      | —  | .56  |
| It is important to me to do what I want, regardless of what other people might want.                           | —                      | —  | .45  |
| <b>Alpha Coefficient:</b>  | —                      | —  | .69  |
| <b>Omega Coefficient:</b>  | —                      | —  | .63  |
| <b>Mean:</b>   | —                      | —  | 2.54 |
| <b>Standard Deviation:</b>   | —                      | —  | .71  |
| <b>Model Fit.</b> HS: $\chi^2 = 55.51$ , $df = 2$ , $p = .000$ ; RMSEA = .15, CFI = .89, TLI = .68, SRMR = .06 |                        |    |      |

1 Item adapted from Kasser and Ryan (1996).

| 1                    | 2                  | 3                  | 4               | 5                   |
|----------------------|--------------------|--------------------|-----------------|---------------------|
| Not at all important | A little important | Somewhat important | Quite important | Extremely important |

## I. Civic Behaviors

| <b>Informal Helping</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How often do you do each of the following?   | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I have stood up for a classmate who was being picked on. <sup>1</sup>  | .60                    | .55  | .58  | —    |
| I have helped a classmate with homework. <sup>1</sup>  | .52                    | .66  | .57  | —    |
| I have helped out around the house by doing chores such as cleaning, cooking, or yard work. <sup>1</sup>   | .44                    | .45  | .41  | —    |
| I have shared school supplies with a fellow student who needed them. <sup>1</sup>  | .50                    | .63  | .57  | —    |
| I have helped my neighbors with projects for no pay. <sup>1</sup>  | .60                    | .60  | .67  | —    |
| I have helped baby sit kids in my neighborhood for no pay. <sup>1</sup>  | .49                    | .46  | .57  | —    |
| <b>Parent:</b> Please answer the following about your target child.  |                        |      |      |      |
| My child helps out around the house by doing chores such as cleaning, cooking, or yard work.   | —                      | —    | —    | .51  |
| My child helps our neighbors with projects for no pay.   | —                      | —    | —    | .78  |
| My child helps babysit kids in our neighborhood for no pay.  | —                      | —    | —    | .42  |
| <b>Alpha Coefficient:</b>  | .71                    | .73  | .72  | .57  |
| <b>Omega Coefficient:</b>  | .52                    | .65  | .64  | .60  |
| <b>Mean:</b>   | 3.09                   | 3.30 | 3.45 | 2.66 |
| <b>Standard Deviation:</b>   | .63                    | .65  | .62  | .61  |
| <b>Model Fit.</b> E: $\chi^2 = 43.30$ , $df = 9$ , $p = .000$ ; RMSEA = .09, CFI = .92, TLI = .86, SRMR = .05<br>MS: $\chi^2 = 116.34$ , $df = 9$ , $p = .000$ ; RMSEA = .12, CFI = .88, TLI = .80, SRMR = .06<br>HS: $\chi^2 = 174.81$ , $df = 9$ , $p = .000$ ; RMSEA = .13, CFI = .87, TLI = .78, SRMR = .06<br>P: Model is just identified, thus no fit statistics are reported. |                        |      |      |      |

*Note.* The discrepancy between the alpha and omega coefficients suggests possible multidimensionality in this construct. Exploratory factor analysis indicates a single factor; however, alternative factor structures may also be viable. Depending on the research questions, users may – for example – consider splitting the items by context (i.e., home vs. school vs. neighborhood) or focusing on only one context. Users should also consider whether youth in the target sample have opportunities to engage in these types of informal helping behaviors or whether these opportunities might be limited by age (e.g., babysitting for non-familial children) or rurality.

<sup>1</sup> Item drawn from Wray-Lake (2013).

### Youth and Parent:

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |

| <b>News Consumption</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| Youth:   | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| In a typical week, how often do you access information about politics and current events on TV, the radio, in the newspaper, or on news websites?                                | —                      | —    | —    | —    |
| Parent:  |                        |      |      |      |
| In a typical week, how often does your child have access to information about politics and current events? For example: on TV, the radio, in the newspaper, or on news websites. | —                      | —    | —    | —    |
| <b>Mean:</b>   | 3.28                   | 3.07 | 3.18 | 3.16 |
| <b>Standard Deviation:</b>   | 1.42                   | 1.32 | 1.29 | 1.11 |

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |

| <b>Political Engagement</b>   |                        |      |      |
|---|------------------------|------|------|
| Youth: Have you ever done or plan to do the following?  | <b>Factor Loadings</b> |      |      |
|   | E                      | MS   | HS   |
| Attend community meetings about an issue that affects people where I live.  | —                      | .74  | .70  |
| Volunteer to campaign for a political candidate.  | —                      | .71  | .76  |
| Contact politicians, governments, or authorities about issues that are important to me.   | —                      | .76  | .86  |
| Participate in a rally or protest for a cause.  | —                      | .68  | .67  |
| <b>Alpha Coefficient:</b>   | —                      | .83  | .84  |
| <b>Omega Coefficient:</b>   | —                      | .79  | .79  |
| <b>Mean:</b>  | —                      | 2.81 | 2.77 |
| <b>Standard Deviation:</b>  | —                      | .79  | .82  |
| <b>Model Fit.</b> MS: $\chi^2 = 6.40$ , $df = 2$ , $p = .041$ ; RMSEA = .05, CFI = .99, TLI = .98, SRMR = .02<br>HS: $\chi^2 = 13.87$ , $df = 2$ , $p = .001$ ; RMSEA = .07, CFI = .99, TLI = .97, SRMR = .02 |                        |      |      |

*Note.* Parents were not asked to report on young people's political behaviors as the response scale referred to intentions rather than actual behavior due to the age-graded nature of some political activities. These items were written for this study but represent fairly standard items across studies. For example, similar items are found in Flanagan, Syvertsen, and Stout (2007) and in Keeter, Zukin, Adolina, and Jenkins (2002).

| 1                  | 2                           | 3           | 4                       | 5  |
|--------------------|-----------------------------|-------------|-------------------------|--|
| I wouldn't do this | I probably wouldn't do this | I am unsure | I probably will do this | I will do this or have already done this |

| <b>Volunteering</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b>  | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| In a typical month, about how many hours do you spend VOLUNTEERING (not part of a class project, graduation requirement, or court-ordered requirement) to help other people or to help make your community a better place? | —                      | —    | —    | —    |
| <b>Parent:</b>   |                        |      |      |      |
| In a typical MONTH, about how many hours does your target child spend volunteering to help other people or to help make your community a better place?   | —                      | —    | —    | —    |
| <b>Mean:</b>   | 2.60                   | 2.55 | 2.78 | 2.71 |
| <b>Standard Deviation:</b>   | 2.71                   | 2.61 | 3.39 | 1.65 |

**Youth and Parent:**

| 1       | 2      | 3       | 4       | 5       | 6               |
|---------|--------|---------|---------|---------|-----------------|
| 0 hours | 1 hour | 2 hours | 3 hours | 4 hours | 5 or more hours |

| <b>Family Volunteering</b>   |                        |
|--|------------------------|
| <b>Parent:</b>   | <b>Factor Loadings</b> |
| In a typical MONTH, about how many hours do two or more members of your immediate family spend volunteering to help other people in your community through a school, church, or synagogue, or some other place? <sup>1</sup> | —                      |
| <b>Mean:</b>   | 2.99                   |
| <b>Standard Deviation:</b>   | 1.76                   |

<sup>1</sup> Item adopted from Syvertsen, Roehlkepartain, and Scales (2011).

| 1       | 2      | 3       | 4       | 5       | 6        |
|---------|--------|---------|---------|---------|----------|
| 0 hours | 1 hour | 2 hours | 3 hours | 4 hours | 5+ hours |



| <b>Voting</b>   |                        |           |           |
|---|------------------------|-----------|-----------|
| <b>Youth:</b> Have you ever done or plan to do the following? | <b>Factor Loadings</b> |           |           |
|   | <b>E</b>               | <b>MS</b> | <b>HS</b> |
| Vote in national elections.                                   | —                      | —         | —         |
| <b>Mean:</b>  | 3.46                   | 3.56      | 3.77      |
| <b>Standard Deviation:</b>                                    | 1.15                   | 1.21      | 1.13      |

| 1                  | 2                              | 3           | 4                          | 5   |
|--------------------|--------------------------------|-------------|----------------------------|---|
| I wouldn't do this | I probably<br>wouldn't do this | I am unsure | I probably<br>will do this | I will do this or have<br>already done this |

## J. Civic Skills

| <b>Critical Information Analysis</b>  |                        |      |      |
|---|------------------------|------|------|
| Youth: How much are the following like you?   | <b>Factor Loadings</b> |      |      |
|   | E                      | MS   | HS   |
| I listen to people talk about politics even when I know that I already disagree with them. <sup>1</sup>                         | —                      | .56  | .71  |
| When I see or read a news story about an issue, I try to figure out if they're just telling one side of the story. <sup>1</sup> | —                      | .82  | .86  |
| When I hear about politics, I try to figure out what is REALLY going on. <sup>1</sup>   | —                      | .77  | .84  |
| <b>Alpha Coefficient:</b>   | —                      | .79  | .85  |
| <b>Omega Coefficient:</b>   | —                      | .80  | .86  |
| <b>Mean:</b>  | —                      | 2.65 | 2.92 |
| <b>Standard Deviation:</b>  | —                      | .91  | 1.01 |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.  |                        |      |      |

1 Item adopted from Flanagan, Syvertsen, and Stout (2007).

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

| <b>Participation Skills</b>   |                        |      |      |
|---|------------------------|------|------|
| Youth: Below is a list of skills. Rate how well you can do each skill.  | <b>Factor Loadings</b> |      |      |
|   | E                      | MS   | HS   |
| Create a plan to address a problem. <sup>1</sup>  | .51                    | .69  | .72  |
| Get other people to care about a problem. <sup>1</sup>  | .64                    | .70  | .70  |
| Express my views to others in-person or in writing. <sup>1</sup>  | .57                    | .77  | .75  |
| Contact someone in a leadership position about a problem. <sup>1</sup>  | .59                    | .67  | .70  |
| Listen to conflicting viewpoints and identify where they agree and disagree. <sup>1</sup>   | .67                    | .72  | .77  |
| Summarize what another person said to make sure I understood. <sup>1</sup>  | .53                    | .70  | .78  |
| <b>Alpha Coefficient:</b>   | .79                    | .89  | .90  |
| <b>Omega Coefficient:</b>   | .72                    | .84  | .84  |
| <b>Mean:</b>  | 3.47                   | 3.57 | 3.86 |
| <b>Standard Deviation:</b>  | .62                    | .68  | .66  |
| <b>Model Fit.</b> E: $\chi^2 = 15.07$ , $df = 9$ , $p = .089$ ; RMSEA = .04, CFI = .99, TLI = .97, SRMR = .03<br>MS: $\chi^2 = 21.73$ , $df = 9$ , $p = .010$ ; RMSEA = .04, CFI = .99, TLI = .98, SRMR = .02<br>HS: $\chi^2 = 42.88$ , $df = 9$ , $p = .000$ ; RMSEA = .06, CFI = .98, TLI = .97, SRMR = .02 |                        |      |      |

1 Item adapted from Kahne, Middaugh, and Schutjer-Mance (2005) and Keeter, Zukin, Andolina, and Jenkins (2002). Flanagan, Syvertsen, and Stout (2007) originally framed these items in response to a short vignette about a community problem.

| 1                  | 2                | 3                    | 4              | 5                |
|--------------------|------------------|----------------------|----------------|------------------|
| I definitely can't | A probably can't | I am unsure if I can | I probably can | I definitely can |

## K. Civic Socialization

| <b>Civic Modeling – Parents</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How often do your parents do the following?   | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| My parents vote in elections.  | .39                    | .49  | .50  |
| My parents follow news about politics and current events.  | .56                    | .54  | .61  |
| My parents are active in improving our neighborhood.   | .64                    | .77  | .75  |
| My parents volunteer in our community.   | .69                    | .70  | .69  |
| My parents take actions to protect the environment. ( <i>Examples: recycling, using less electricity</i> )   | —                      | .55  | .56  |
| My parents take action when they see others being treated unfairly.  | —                      | .59  | .54  |
| <b>Alpha Coefficient:</b>  | .68                    | .81  | .80  |
| <b>Omega Coefficient:</b>  | .63                    | .71  | .65  |
| <b>Mean:</b>   | 3.11                   | 3.24 | 3.06 |
| <b>Standard Deviation:</b>   | .71                    | .73  | .73  |
| <b>Model Fit.</b> E: $\chi^2 = 20.43$ , $df = 2$ , $p = .000$ ; RMSEA = .13, CFI = .91, TLI = .72, SRMR = .06<br>MS: $\chi^2 = 77.70$ , $df = 9$ , $p = .000$ ; RMSEA = .10, CFI = .91, TLI = .85, SRMR = .07<br>HS: $\chi^2 = 235.53$ , $df = 9$ , $p = .000$ ; RMSEA = .15, CFI = .82, TLI = .70, SRMR = .09 |                        |      |      |

*Note.* The discrepancy between the alpha and omega coefficients suggests possible multidimensionality in this construct. Exploratory factor analysis indicates a single factor; however, alternative factor structures may also be viable. Depending on the research questions, users may consider dividing the more politically-focused (Items 1-2) and the more community-focused (Items 3-6) civic modeling items into separate measures.

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |

| <b>Civic Modeling – Teachers</b>   |                        |    |      |
|--|------------------------|----|------|
| Youth: How often do your teachers or classes do the following?                     | <b>Factor Loadings</b> |    |      |
|  | E                      | MS | HS   |
| My teachers volunteer in the community.  | —                      | —  | .62  |
| My teachers take actions to protect the environment.                               | —                      | —  | .70  |
| My teachers take action when they see others being treated unfairly.               | —                      | —  | .60  |
| <b>Alpha Coefficient:</b>  | —                      | —  | .68  |
| <b>Omega Coefficient:</b>  | —                      | —  | .68  |
| <b>Mean:</b>   | —                      | —  | 3.17 |
| <b>Standard Deviation:</b>   | —                      | —  | .58  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |    |      |

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |

| <b>Civic Modeling – Friends</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How often do your friends do the following?                                 | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| My friends volunteer in the community.   | —                      | .68  | .70  |
| My friends take actions to protect the environment.                                | —                      | .85  | .80  |
| My friends take action when they see others being treated unfairly.                | —                      | .54  | .60  |
| <b>Alpha Coefficient:</b>  | —                      | .74  | .73  |
| <b>Omega Coefficient:</b>  | —                      | .75  | .74  |
| <b>Mean:</b>   | —                      | 3.10 | 3.06 |
| <b>Standard Deviation:</b>   | —                      | .73  | .68  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |

| <b>Sociopolitical Discussions – Parents</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How often does your family do the following?                                | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| In my family, we talk about politics and current events. <sup>1</sup>              | .51                    | .68  | .71  |
| In my family, we talk about times when people are treated unfairly.                | .48                    | .72  | .83  |
| In my family, we talk about problems facing our community. <sup>1</sup>            | .76                    | .82  | .88  |
| <b>Alpha Coefficient:</b>  | .65                    | .81  | .85  |
| <b>Omega Coefficient:</b>  | .66                    | .81  | .86  |
| <b>Mean:</b>   | 3.06                   | 2.78 | 2.86 |
| <b>Standard Deviation:</b>   | .66                    | .56  | .91  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |

<sup>1</sup> Item adapted from Kahne, Middaugh, and Schutjer-Mance (2005).

|       |        |           |       |            |
|-------|--------|-----------|-------|------------|
| 1     | 2      | 3         | 4     | 5          |
| Never | Rarely | Sometimes | Often | Very often |

| <b>Sociopolitical Discussions – Teachers</b>                                       |                        |      |      |
|--|------------------------|------|------|
| Youth: How often do you do the following?  | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| In my classes, we talk about politics and current events. <sup>1</sup>             | .53                    | .61  | .52  |
| In my classes, we talk about times when people are treated unfairly.               | .79                    | .75  | .57  |
| In my classes, we talk about problems facing our community. <sup>1</sup>           | .57                    | .81  | .85  |
| <b>Alpha Coefficient:</b>  | .65                    | .77  | .68  |
| <b>Omega Coefficient:</b>  | .66                    | .77  | .69  |
| <b>Mean:</b>   | 3.08                   | 2.85 | 3.10 |
| <b>Standard Deviation:</b>   | .63                    | .57  | .20  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |

<sup>1</sup> Item adapted from Kahne, Middaugh, and Schutjer-Mance (2005).

|       |        |           |       |            |
|-------|--------|-----------|-------|------------|
| 1     | 2      | 3         | 4     | 5          |
| Never | Rarely | Sometimes | Often | Very often |

| <b>Sociopolitical Discussions – Friends</b>  |                        |      |      |
|--|------------------------|------|------|
| Youth: How often do you do the following?  | <b>Factor Loadings</b> |      |      |
|  | E                      | MS   | HS   |
| My friends and I talk about politics and current events. <sup>1</sup>              | —                      | .67  | .67  |
| My friends and I talk about times when people are treated unfairly.                | —                      | .71  | .70  |
| My friends and I talk about problems facing our community. <sup>1</sup>            | —                      | .83  | .82  |
| <b>Alpha Coefficient:</b>  | —                      | .80  | .78  |
| <b>Omega Coefficient:</b>  | —                      | .80  | .79  |
| <b>Mean:</b>   | —                      | 2.44 | 2.59 |
| <b>Standard Deviation:</b>   | —                      | .79  | .79  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |

1 Item adapted from Kahne, Middaugh, and Schutjer-Mance (2005).

|       |        |           |       |            |
|-------|--------|-----------|-------|------------|
| 1     | 2      | 3         | 4     | 5          |
| Never | Rarely | Sometimes | Often | Very often |

| <b>Child Socialization of Parent Involvement</b>                                   |  |
|--|--|
| Parent: Please answer the following about your target child.                       | <b>Factor Loadings</b>   |
|  | My child inspires me to participate in the community. <sup>1</sup> |
| My child makes me proud by participating in the community. <sup>1</sup>            | .87  |
| My child encourages our family to get involved in activities that help others.     | .79  |
| <b>Alpha Coefficient:</b>  | .88  |
| <b>Omega Coefficient:</b>  | .88  |
| <b>Mean:</b>   | 3.56   |
| <b>Standard Deviation:</b>   | .79  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |  |

1 Item adopted from Wray-Lake (2013).

|                   |          |  |       |                |
|-------------------|----------|--|-------|----------------|
| 1                 | 2        | 3  | 4     | 5              |
| Strongly disagree | Disagree | Somewhat disagree<br>and somewhat<br>agree | Agree | Strongly agree |

## L. Character Strengths

| <b>Future-mindedness</b>   |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How much are the following like you?                                   | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I am hopeful about my future. <sup>1</sup>   | .85                    | .58  | .67  | —    |
| When I make a decision, I consider the impact it will have on my future.             | .53                    | .75  | .63  | —    |
| I think about who I will be when I'm older.  | .55                    | .72  | .68  | —    |
| <b>Parent:</b> Please answer the following about your target child.                  |                        |      |      |      |
| My child is hopeful about the future. <sup>1</sup>                                   | —                      | —    | —    | .53  |
| When my child makes a decision, she considers the impact it will have on her future. | —                      | —    | —    | .65  |
| My child has plans for her future.   | —                      | —    | —    | .86  |
| <b>Alpha Coefficient:</b>  | .71                    | .76  | .71  | .80  |
| <b>Omega Coefficient:</b>  | .72                    | .76  | .71  | .81  |
| <b>Mean:</b>   | 3.79                   | 3.89 | 4.11 | 3.74 |
| <b>Standard Deviation:</b>   | .69                    | .73  | .62  | .77  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.   |                        |      |      |      |

<sup>1</sup> Item adopted from Betts, Appleton, Reschly, Christenson, and Huebner (2010) for the youth survey, then adapted for the parent survey.

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Gratitude</b>  |                        |      |      |      |
|---|------------------------|------|------|------|
| Youth: How much are the following like you?   | <b>Factor Loadings</b> |      |      |      |
|   | E                      | MS   | HS   | P    |
| I feel thankful for everyday things. <sup>1</sup>   | .65                    | .68  | .70  | —    |
| When good things happen to me, I think about the people who helped me. <sup>1</sup>           | .76                    | .69  | .79  | —    |
| I find it easy to thank people. <sup>1</sup>  | .67                    | .66  | .61  | —    |
| <b>Parent:</b> Please answer the following about your target child.                           |                        |      |      |      |
| My child feels thankful for everyday things. <sup>1</sup>                                     | —                      | —    | —    | .77  |
| When good things happen to my child, she thinks about the people who helped her. <sup>1</sup> | —                      | —    | —    | .81  |
| My child finds it easy to thank people. <sup>1</sup>  | —                      | —    | —    | .65  |
| <b>Alpha Coefficient:</b>   | .77                    | .77  | .76  | .83  |
| <b>Omega Coefficient:</b>   | .76                    | .76  | .76  | .83  |
| <b>Mean:</b>  | 3.94                   | 3.78 | 3.81 | 3.90 |
| <b>Standard Deviation:</b>  | .71                    | .68  | .69  | .77  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.            |                        |      |      |      |

<sup>1</sup> Item adopted from Lippman, Guzman, and Moore (2012) for the youth survey, then adapted for the parent survey.

**Youth:**

| 1                     | 2                   | 3                   | 4                | 5                    |
|-----------------------|---------------------|---------------------|------------------|----------------------|
| Not at all<br>like me | A little<br>like me | Somewhat<br>like me | A lot<br>like me | Very much<br>like me |

**Parent:**

| 1                           | 2                         | 3                         | 4                      | 5                          |
|-----------------------------|---------------------------|---------------------------|------------------------|----------------------------|
| Not at all<br>like my child | A little<br>like my child | Somewhat<br>like my child | A lot<br>like my child | Very much<br>like my child |



| <b>Humility</b>   |                                 |    |      |      |
|---|---------------------------------|----|------|------|
| <b>Youth:</b> How much are the following like you?                            | <b>Factor Loadings</b>          |    |      |      |
|   | E                               | MS | HS   | P    |
| I try not to draw attention to myself when I do something well.               | —                               | —  | —    | —    |
| I'm uncomfortable bragging about what I've done or achieved.                  | —                               | —  | —    | —    |
| <b>Parent:</b> Please answer the following about your target child.           |                                 |    |      |      |
| My child tries not to draw attention to herself when she does something well. | —                               | —  | —    | —    |
| My child is uncomfortable bragging about what she's done or achieved.         | —                               | —  | —    | —    |
|   | <b>Mean:</b>                    | —  | 3.23 | 3.09 |
|   | <b>Standard Deviation:</b>      | —  | 1.10 | 1.14 |
|   | <b>Correlation Coefficient:</b> | —  | .42  | .45  |
| <b>Correlation Significance. All: <math>p &lt; .001</math>.</b>               |                                 |    |      |      |

*Note.* Original items developed for this study, based on the writings of Tangney (2000) and Templeton (1997). The original youth version of this scale included a third item: "I am better than most people." This item was reverse-scored. Due to a low factor loading, the item was dropped from the measure.

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Leadership</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How much are the following like you?                                 | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I am good at leading others to reach a goal.                                       | .78                    | .78  | .71  | —    |
| My peers consider me to be a leader.   | .69                    | .77  | .85  | —    |
| I am usually the one who suggests activities to my friends. <sup>1</sup>           | .48                    | .64  | .54  | —    |
| <b>Parent:</b> Please answer the following about your target child.                |                        |      |      |      |
| My child is good at leading others to reach a goal.                                | —                      | —    | —    | .78  |
| My child's peers consider her to be a leader.                                      | —                      | —    | —    | .84  |
| My child is usually the one who suggests activities to her friends. <sup>1</sup>   | —                      | —    | —    | .65  |
| <b>Alpha Coefficient:</b>  | .72                    | .80  | .78  | .82  |
| <b>Omega Coefficient:</b>  | .73                    | .81  | .78  | .82  |
| <b>Mean:</b>   | 3.16                   | 3.19 | 3.29 | 3.41 |
| <b>Standard Deviation:</b>   | .77                    | .44  | .74  | .84  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |      |

<sup>1</sup> Item adapted from Rydell, Hagekull, and Bohlin (1997).

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Perseverance</b>   |                        |      |      |      |
|---|------------------------|------|------|------|
| Youth: How much do you disagree or agree with each statement?                                       | <b>Factor Loadings</b> |      |      |      |
|   | E                      | MS   | HS   | P    |
| When I get stuck on something I'm working on, I keep trying until I figure it out.                  | .66                    | .62  | .58  | —    |
| I almost always finish things that I start. <sup>1</sup>  | .79                    | .63  | .66  | —    |
| I am a hard worker.   | .67                    | .63  | .71  | —    |
| <b>Parent:</b> Please answer the following about your target child.                                 |                        |      |      |      |
| When my child gets stuck on something she is working on, she keeps trying until she figures it out. | —                      | —    | —    | .73  |
| My child almost always finishes things that she starts. <sup>1</sup>                                | —                      | —    | —    | .81  |
| My child is a hard worker.  | —                      | —    | —    | .70  |
| <b>Alpha Coefficient:</b>   | .75                    | .65  | .69  | .80  |
| <b>Omega Coefficient:</b>   | .75                    | .66  | .69  | .81  |
| <b>Mean:</b>  | 3.83                   | 3.96 | 3.89 | 3.73 |
| <b>Standard Deviation:</b>  | .81                    | .56  | .56  | .75  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.                  |                        |      |      |      |

<sup>1</sup> Item adapted from Duckworth, Peterson, Matthews, and Kelly (2007), then adapted for the parent survey.

**Youth:**

| 1                 | 2        | 3  | 4     | 5              |
|-------------------|----------|--|-------|----------------|
| Strongly disagree | Disagree | Somewhat disagree<br>and somewhat<br>agree | Agree | Strongly agree |

**Parent:**

| 1                           | 2                         | 3                         | 4                      | 5                          |
|-----------------------------|---------------------------|---------------------------|------------------------|----------------------------|
| Not at all<br>like my child | A little<br>like my child | Somewhat<br>like my child | A lot<br>like my child | Very much<br>like my child |

| <b>Personal Responsibility</b>   |                        |      |      |      |
|--|------------------------|------|------|------|
| Youth: How much are the following like you?  | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| If I do something wrong, I take responsibility for my actions.                     | .67                    | .77  | .70  | —    |
| When I say I'm going to do something, I do it.                                     | .43                    | .68  | .65  | —    |
| I am responsible.  | .58                    | .61  | .72  | —    |
| <b>Parent:</b> Please answer the following about your target child.                |                        |      |      |      |
| If my child does something wrong, she takes responsibility for her actions.        | —                      | —    | —    | .76  |
| When my child says she is going to do something, she does it.                      | —                      | —    | —    | .68  |
| My child is responsible.   | —                      | —    | —    | .80  |
| <b>Alpha Coefficient:</b>  | .61                    | .76  | .76  | .80  |
| <b>Omega Coefficient:</b>  | .62                    | .75  | .76  | .80  |
| <b>Mean:</b>   | 3.64                   | 3.68 | 3.84 | 3.76 |
| <b>Standard Deviation:</b>   | .60                    | .69  | .65  | .75  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |      |

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Respect</b>   |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How much are the following like you?                                 | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I treat others with respect. <sup>1</sup>  | .78                    | .89  | .86  | —    |
| I mostly use good manners. <sup>1</sup>  | .57                    | .67  | .63  | —    |
| I treat others the way I want to be treated.                                       | .63                    | .63  | .78  | —    |
| <b>Parent:</b> Please answer the following about your target child.                |                        |      |      |      |
| My child treats others with respect. <sup>1</sup>                                  | —                      | —    | —    | .82  |
| My child mostly uses good manners. <sup>1</sup>                                    | —                      | —    | —    | .71  |
| My child treats others the way she wants to be treated.                            | —                      | —    | —    | .87  |
| <b>Alpha Coefficient:</b>  | .72                    | .80  | .81  | .86  |
| <b>Omega Coefficient:</b>  | .73                    | .81  | .82  | .86  |
| <b>Mean:</b>   | 3.89                   | 3.98 | 4.16 | 4.21 |
| <b>Standard Deviation:</b>   | .69                    | .65  | .61  | .66  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |      |

<sup>1</sup> Item adapted from Josephson (1998).

**Youth:**

| 1                     | 2                   | 3                   | 4                | 5                    |
|-----------------------|---------------------|---------------------|------------------|----------------------|
| Not at all<br>like me | A little<br>like me | Somewhat<br>like me | A lot<br>like me | Very much<br>like me |

**Parent:**

| 1                           | 2                         | 3                         | 4                      | 5                          |
|-----------------------------|---------------------------|---------------------------|------------------------|----------------------------|
| Not at all<br>like my child | A little<br>like my child | Somewhat<br>like my child | A lot<br>like my child | Very much<br>like my child |

| <b>Spirituality</b>  |                                 |      |      |      |      |
|--|---------------------------------|------|------|------|------|
| <b>Youth:</b> How much are the following like you?   | <b>Factor Loadings</b>          |      |      |      |      |
|  | E                               | MS   | HS   | P    |      |
| I am connected to something that is holy or sacred. <sup>1</sup>   | —                               | —    | —    | —    |      |
| A spiritual person may or may not participate in a particular religion, but still feels connected to a higher power or God. In general, I consider myself to be ... <sup>2</sup> | —                               | —    | —    | —    |      |
| <b>Parent:</b> Please answer the following about your target child.  |                                 |      |      |      |      |
| My child is connected to something that is holy or sacred. <sup>1</sup>  | —                               | —    | —    | —    |      |
| A spiritual person may or may not participate in religion, but still feels connected to a higher power or God. I consider my child to be ... <sup>2</sup>                        | —                               | —    | —    | —    |      |
|  | <b>Mean:</b>                    | 3.18 | 3.24 | 3.07 | 3.28 |
|  | <b>Standard Deviation:</b>      | 1.20 | 1.23 | 1.32 | 1.23 |
|  | <b>Correlation Coefficient:</b> | .41  | .55  | .67  | .69  |
| <b>Correlation Significance. All: <math>p &lt; .001</math>.</b>  |                                 |      |      |      |      |

*Note.* The two items in this scale use different response scales. Users should use care when interpreting means.

1 Item adapted from Lippman, Guzman, and Moore (2012), then adapted for the parent survey.

2 Item adopted from Benson, Scales, Syvertsen, and Roehlkepartain (2012).

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Youth and Parent:**

| 1                      | 2                              | 3                          | 4                         | 5                       |
|------------------------|--------------------------------|----------------------------|---------------------------|-------------------------|
| Not a spiritual person | Sort of a non-spiritual person | Sort of a spiritual person | A fairly spiritual person | A very spiritual person |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Teamwork</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How much are the following like you?                                 | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I am good at working together with other group members.                            | .73                    | .74  | .70  | —    |
| When working on a team, I do my part to help my team meet its goals.               | .73                    | .75  | .76  | —    |
| When I work with others, I think about what is best for my team.                   | .69                    | .76  | .72  | —    |
| <b>Parent:</b> Please answer the following about your target child.                |                        |      |      |      |
| My child is good at working together with other group members.                     | —                      | —    | —    | .84  |
| When working on a team, my child does her part to help her team meet its goals.    | —                      | —    | —    | .77  |
| When my child works with others, she thinks about what is best for her team.       | —                      | —    | —    | .76  |
| <b>Alpha Coefficient:</b>  | .78                    | .79  | .77  | .87  |
| <b>Omega Coefficient:</b>  | .78                    | .79  | .77  | .87  |
| <b>Mean:</b>   | 3.79                   | 3.81 | 3.95 | 4.00 |
| <b>Standard Deviation:</b>   | .75                    | .77  | .66  | .74  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported. |                        |      |      |      |

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |

| <b>Thrift</b>  |                        |      |      |      |
|--|------------------------|------|------|------|
| <b>Youth:</b> How much are the following like you?                                     | <b>Factor Loadings</b> |      |      |      |
|  | E                      | MS   | HS   | P    |
| I am careful about how I spend my money. <sup>1</sup>                                  | .51                    | .66  | .64  | —    |
| There are things I don't buy today so I can save my money for the future. <sup>2</sup> | .91                    | .70  | .89  | —    |
| Reusing an item you already have is better than buying something new. <sup>3</sup>     | .43                    | .43  | .52  | —    |
| <b>Parent:</b> Please answer the following about your target child.                    |                        |      |      |      |
| My child is careful about how she spends my money.                                     | —                      | —    | —    | .82  |
| There are things my child doesn't buy today so she can save money for the future.      | —                      | —    | —    | .88  |
| My child thinks reusing an item she already has is better than buying something new.   | —                      | —    | —    | .59  |
| <b>Alpha Coefficient:</b>  | .66                    | .67  | .74  | .81  |
| <b>Omega Coefficient:</b>  | .69                    | .68  | .75  | .82  |
| <b>Mean:</b>   | 3.59                   | 3.39 | 3.47 | 3.34 |
| <b>Standard Deviation:</b>   | .81                    | .68  | .46  | .94  |
| <b>Model Fit.</b> Models are just identified, thus no fit statistics are reported.     |                        |      |      |      |

1 Item adopted from Lippman, Guzman, and Moore (2012), then adapted for the parent survey.

2 Item adapted from Lippman, Guzman, and Moore (2012).

3 Item adapted from Lastovicka, Bettencourt, Hughner, and Kuntze (1999).

**Youth:**

| 1                  | 2                | 3                | 4             | 5                 |
|--------------------|------------------|------------------|---------------|-------------------|
| Not at all like me | A little like me | Somewhat like me | A lot like me | Very much like me |

**Parent:**

| 1                        | 2                      | 3                      | 4                   | 5                       |
|--------------------------|------------------------|------------------------|---------------------|-------------------------|
| Not at all like my child | A little like my child | Somewhat like my child | A lot like my child | Very much like my child |



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# appendix

The measures included in the Appendix were revised in Wave 2 to improve conceptual clarity and/or the psychometric properties. The psychometric information on these scales will be updated in the version of this document posted at [www.civicroots.org](http://www.civicroots.org) as this information becomes available. Users interested in being notified when this information becomes available can sign up at [www.civicroots.org](http://www.civicroots.org).

| <b>Purpose</b>   |                        |           |           |
|--|------------------------|-----------|-----------|
| <b>Youth:</b> How much are the following like you?         | <b>Factor Loadings</b> |           |           |
|  | <b>E</b>               | <b>MS</b> | <b>HS</b> |
| I feel a sense of purpose in life. <sup>1</sup>            | —                      | —         | —         |
| I understand my life's meaning. <sup>2</sup>               | —                      | —         | —         |
| <b>Mean:</b>   | —                      | —         | —         |
| <b>Standard Deviation:</b>                                 | —                      | —         | —         |
| <b>Correlation Coefficient:</b>                            | —                      | —         | —         |
| <b>Correlation Significance. <i>Not yet available.</i></b> |                        |           |           |

1 Item adapted from Benson and Scales (2009).

2 Item adopted from Steger, Frazier, Oishi, and Kaler (2006).

**Youth:**

| 1                     | 2                   | 3                   | 4                | 5                    |
|-----------------------|---------------------|---------------------|------------------|----------------------|
| Not at all<br>like me | A little<br>like me | Somewhat<br>like me | A lot<br>like me | Very much<br>like me |

| <b>Environmental Behaviors</b>  |                        |    |    |
|---|------------------------|----|----|
| Youth: How often do you do the following?   | <b>Factor Loadings</b> |    |    |
|   | E                      | MS | HS |
| I turn off electronics when I'm not using them to help the environment.                         | —                      | —  | —  |
| I try to limit how much paper I use to help the environment.                                    | —                      | —  | —  |
| I conserve water by taking shorter showers to help the environment.                             | —                      | —  | —  |
| I pick up trash and throw it away to keep my neighborhood clean.                                | —                      | —  | —  |
| I have worked on a project that helps the environment. <sup>1</sup>                             | —                      | —  | —  |
| I say something to other people when they do something harmful to the environment. <sup>1</sup> | —                      | —  | —  |
| <b>Alpha Coefficient:</b>   | —                      | —  | —  |
| <b>Omega Coefficient:</b>   | —                      | —  | —  |
| <b>Mean:</b>  | —                      | —  | —  |
| <b>Standard Deviation:</b>  | —                      | —  | —  |
| <b>Model Fit. <i>Not yet available.</i></b>   |                        |    |    |

*Note.* The first four items were developed for this study, based on the writings of Kaiser, Oerke, and Bogner (2007).

<sup>1</sup> Item adapted from Lippman, Guzman, and Moore (2012).

| 1     | 2      | 3         | 4     | 5          |
|-------|--------|-----------|-------|------------|
| Never | Rarely | Sometimes | Often | Very often |