

California 4-H
Survey Measure Tool Information

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Measure: Program Experience

Source:

- *Items 10-17, 20-22, 27-28, 33, 40-47, 50-51*: Thrive Foundation for Youth/YMCA/Camp Fire
- *Items 23-26, 29-32*: Zeldin, S., Krauss, S. E., Collura, J., Lucchesi, M. and Sulaiman, A. H. (2014). Conceptualizing and measuring youth–adult partnership in community programs: A cross national study. *American Journal of Community Psychology*, 54, 337–347.
- *Items 1-9, 18-19, 34-39, 48-49, 52-53*: Developed by Academic Coordinators and Cooperative Extension Specialists at California 4-H.

Description: This measure contains 53 questions related to program experiences of youth. The sections of the measure (as well as the questions) align with the adult Program Quality tool. Some programs/project may choose to implement only certain sections of the tool. See the supporting documentation for this measure for the specific sources by item.

Scoring for the measure: Create an average of each set of items. There are 6 proposed subscales. Note that “Community Involvement” (item 34) and “Extended Learning” (item 53) include only 1 item, and therefore do not make a scale.

1. Safety: items 1-17
2. Relationship Building: items 18-21
3. Youth Engagement: items 22-33
4. Skill Building: items 35-42
5. Content: items: 43-46
6. Teaching Methods: 47-52

This survey also includes 2 open-ended questions:

1. What do you like the most about 4-H?
2. If you could change one thing what would it be?

Items to be reverse coded: N/A

Sample SPSS Syntax:

COMPUTE y6t2safety=mean(y6t2pe1 to y6t2pe14).

COMPUTE y6t2relationship=mean(y6t2h18 to y6t2pe16).

COMPUTE y6t2engagement=mean(y6t2pe17 to y6t2pe28).

COMPUTE y6t2skill=mean(y6t2pe30 to y6t2pe34).

COMPUTE y6t2content=mean(y6t2pe35 to y6t2pe38).

COMPUTE y6t2teaching=mean(y6t2pe39 to y6t2pe44).

EXECUTE.

Measure: Career & College Readiness

Source: National 4-H Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 39 questions related to career and college readiness: professionalism (communication, intrapersonal skills, contributions), college decision making, and career decision-making. This measure is designed for youth in grades 8 to 12 only. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

Scoring for the measure: There are no proposed scales. Items will be analyzed individually.

Items to be reverse coded: None

Measure: Civic Engagement

Source: National 4-H Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 23 to civic engagement with the following outcomes: engagement in community and engagement with community issues, understanding of the democratic process, contributions, and awareness of community and community issues. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

Scoring for the measure: There are no proposed scales. Items will be analyzed individually.

Items to be reverse coded: None.

Measure: Healthy Living

Source: National 4-H Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 29 items related to healthy living: choose food consistent with the dietary guidelines, contributions, improve physical activity practices, risk prevention/avoid negative behaviors, and food preparation skills. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

See “Healthy Living Supplemental Questions” for information regarding additional questions that were added about healthy living.

Scoring for the measure: There are no proposed scales. Items will be analyzed individually.

Items to be reverse coded: None.

Measure: Healthy Living Supplemental Questions

Source: Developed by Academic Coordinators and Cooperative Extension Specialists at California 4-H.

Description: This measure contains 4 items related to healthy living and healthy environments. Note: this scale previously included 5 other items; these items were integrated into the Program Experience measure in Spring 2017.

Scoring for this measure: There are no proposed scales. Each item should be analyzed separately.

Items to be reverse coded: None

Sample SPSS Syntax

```
*Compute descriptive statistics and frequencies:
FREQUENCIES VARIABLES=hl0 hl1 hl2 hl43
/STATISTICS=STDDEV MEAN
/ORDER=ANALYSIS.
```

Measure: Science Literacy (Science Common Measure), Grades 4 to 7

Source: National 4-H Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 19 items related to science interest and thinking. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

Scoring for the measure: There are no proposed scales. Items will be analyzed individually.

Items to be reverse coded: None

Measure: Science Literacy (Science Common Measure), Grades 8 to 12

Source: National 4-H Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 33 items related to science: science interest and thinking, science skills and abilities, and engineering skills and abilities. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

Scoring for the measure: There are no proposed scales. Items will be analyzed individually.

Items to be reverse coded: None

Measure: Science and Me (Views about Science)

Source:

- *Items 1-12*: Fennema, E., & Sherman, J. (1976). Fennema-Sherman Mathematics Attitudes Scales. *JSAS Catalog of Selected Documents in Psychology*, 6.
- *Items 13-16*: Owen, S. V., Toepperwein, M. A., Pruski, L. A., Blalock, C. L., Liu, Y., Marshall, C. E., & Lichtenstien, M. J. (2007). Psychometric Reevaluation of the Women in Science Scale (WiSS). *Journal of Research in Science Teaching*, 44, 1461-1478.
- *Items 17-23*: Fortus, D., & Vedder-Weiss, D. (2014). Measuring students' continuing motivation for science learning. *Journal of Research in Science Teaching*, 51(4), 497-522.
- *Items 24-30*: Academic Coordinators and Cooperative Extension Specialists at California 4-H.

Description: This measure contains 4 subscales (23 items) related to attitudes toward science. Data collected from youth in California 4-H Community Club program showed that these measures differ from science mindset and the National Common Measure (1.0) on Science (see <http://www.joe.org/joe/2015june/rb4.php>). These subscales are: usefulness of science, confidence in science, gender bias in science, and continuing motivation for science learning.

Scoring for the measure: Create an average of each set of items. There are 4 proposed subscales.

1. Usefulness: items 1-6
2. Confidence: items 7-12
3. Gender bias: items 13-16
4. Motivation: items 17-23

Items to be reverse coded: 3, 4, 5, 6, 8, 9, 10, 11, 12, 15, 16, 20, 22, 23

Sample SPSS Syntax

Reverse Code:

```
RECODE views3 views4 views5 views6 views8 views9 views10 views11 views12 views15
views16 views20 views22 views23 (1=5) (2=4) (3=3) (4=2) (5=1) INTO views3R views4R
views5R views6R views8R views9R views10R views11R views12R views15R views16R
views20R views22R views23R.
```

Scale Creation:

*Usefulness.

```
COMPUTE use_sci= mean(views1, views2, views3R TO views6R).
```

```
VARIABLE LABELS use_sci 'Usefulness of Science'.
```

```
EXECUTE.
```

*Confidence.

```
COMPUTE conf_sci=mean (views7, views8R TO views12R).
```

```
VARIABLE LABELS conf_sci 'Confidence in Science'.
```

```
EXECUTE.
```

*Gender Bias.

```
COMPUTE wiss=mean (views13, views14, views15R, views16R).
```

```
VARIABLE LABELS wiss 'Women in Science'.
```

```
EXECUTE.
```

*Motivation

```
COMPUTE sci_mot=mean(views17, views18, views19, views20R, views21, views22R,  
views23R).
```

```
VARIABLE LABELS sci_mot 'Science Motivation'.
```

```
EXECUTE.
```

Measure: Youth Development (“Universal”)

Source: National 4-H; Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 23 items related to positive youth development: personal mindset and social skills. The Common Measures contain “core” and “full” versions; we utilize the “full” (longer) version.

Scoring for the measure: Create an average of each set of items. There is 1 proposed subscales.

1. Universal Skills: Items 1, 3-11, 13-16, 18-23

Items to be reverse coded: 2, 12, 17

Measure: Social-Emotional Development

Source: 4-H Military Partnership, National 4-H; Common Measure: <http://www.4-h.org/about/youth-development-research/>

Description: This measure contains 11 subscales (73 items) related to social-emotional development. Note that teamwork, appreciation for cultural diversity and civic responsibility are adapted from the Career and College Readiness and Citizenship National Common Measures (1.0). The Connection and Contribution subscales are from the PYD measure (Arnold et al. 2012). **The full measure is used only for military-connected youth; for club and group enrolled youth, only the “Lead a team” and “Teamwork” items are used.**

Scoring for the measure: Create an average of each set of items. There are 11 proposed subscales.

1. Confidence: items 1-6
2. Self-efficacy: items 7-11
3. Emotion regulation: items 12-20
4. Self-reliance and optimism: items 21-25
5. Empathy: items 26-28
6. Connection: items 29-35
7. Contribution: items 36-40
8. Lead a team: items 41-46
9. Teamwork: items 47-60
10. Appreciation of cultural diversity: items 61-66
11. Civic responsibility: items 67-73

Items to be reverse coded: 2, 4, 5, 12, 13, 14, 15, 16

Sample SPSS Syntax

Reverse Code:

```
RECODE se2 se4 se5 se12 se13 se14 se15 se16 (1=5) (2=4) (3=3) (4=2) (5=1) INTO se2R se4R se5R se12R se13R se14R se15R se16R.
```

Standardize Items:

```
DESCRIPTIVES VARIABLES = se12R se13R se14R se15R se16R se17 se18 se19 se20 /SAVE.
```

Scale Creation:

*Confidence.

```
COMPUTE conf=mean(se1, se2R, se3, se4R, se5R).
```

```
VARIABLE LABELS conf 'Confidence'.
```

```
EXECUTE.
```

*Self-efficacy.

```
COMPUTE selfeff=mean(se7, se8, se9, se10, se11).
```

```
VARIABLE LABELS selfeff 'Self-efficacy'.
```

EXECUTE.

*Emotion Regulation.

COMPUTE emot=mean(Zse12R, Zse13R, Zse14R, Zse15R, Zse16R, se17, se18, se19, se20).

VARIABLE LABELS emot 'Emotion Regulation'.

EXECUTE.

*Self-reliance and Optimism.

COMPUTE selfrel=mean(se21, se22, se23, se24, se25).

VARIABLE LABELS selfrel 'Self-reliance and Optimism'.

EXECUTE.

*Empathy.

COMPUTE emp=mean(se26, se27, se28).

VARIABLE LABELS emp 'Empathy'.

EXECUTE.

*Connection.

COMPUTE conn=mean(se29, se30, se31, se32, se33, se34, se35).

VARIABLE LABELS conn 'Connection'.

EXECUTE.

*Contribution.

COMPUTE contr=mean(se36, se37, se38, se39, se40).

VARIABLE LABELS contr 'Contribution'.

EXECUTE.

*Lead a Team.

COMPUTE lead=mean(se41, se42, se43, se44, se45, se46).

VARIABLE LABELS lead 'Lead a Team'.

EXECUTE.

*Teamwork.

COMPUTE teamwk=mean(se47 TO se60).

VARIABLE LABELS teamwk 'Teamwork'.

EXECUTE.

*Appreciation of Cultural Diversity.

COMPUTE cult=mean(se61, se62, se63, se64, se65, se66, se67).

VARIABLE LABELS cult 'Appreciation of Cultural Diversity'.

EXECUTE.

*Civic Responsibility.

COMPUTE civic=mean(se67, se68, se69, se70, se71, se72, se73).

VARIABLE LABELS civic 'Civic Responsibility'.

EXECUTE.

Measure: Positive Youth Development

Source: Arnold, M.E., Nott, B. D., & Meinhold, J. L. (2012). The Positive Youth Development Inventory (Revised 2012). © Oregon State University. All Rights Reserved.

Description: This measure contains the 6 C's of positive youth development: Caring, Character, Competence, Confidence, Connection, and Contribution. The original source contains 55 items, broken down into the 6 C's as outlined below. California 4-H currently utilizes only 30 of these items. Please see the "Long" and "Short" versions of the surveys.

Scoring for the measure: Create an average of each set of items. There are 6 proposed subscales.

1. Competence: items 1-14
2. Character: items 15-23
3. Connection: items 24-31
4. Caring: items 32-39
5. Confidence: items 40-48
6. Contribution: items 49-55

An average of all 55 (or 30) items is also created to have a scale of overall positive youth development.

Items requiring reverse coding: None

Sample SPSS Syntax

Scale Creation:

*Competence.

```
COMPUTE pydcomp=mean(pyd1 TO pyd14).
VARIABLE LABELS pydcomp 'PYD Competence'.
EXECUTE.
```

*Character.

```
COMPUTE pydcha=mean(pyd15 TO pyd23).
VARIABLE LABELS pydcha 'PYD Character'.
EXECUTE.
```

*Connection.

```
COMPUTE pydconn=mean(pyd24 TO pyd31).
VARIABLE LABELS pydconn 'PYD Connection'.
EXECUTE.
```

*Caring.

```
COMPUTE pydcare=mean(pyd32 TO pyd39).
VARIABLE LABELS pydcare 'PYD Caring'.
EXECUTE.
```

*Confidence.
 COMPUTE pydconf=mean(pyd40 TO pyd48).
 VARIABLE LABELS pydconf 'PYD Confidence'.
 EXECUTE.

*Contribution.
 COMPUTE pydcont=mean(pyd49 TO pyd55).
 VARIABLE LABELS pydcont 'PYD Contribution'.
 EXECUTE.

*Positive youth development.
 COMPUTE pyd=mean(pydcomp, pydcha, pydconn, pydcare, pydconf, pydcont).
 VARIABLE LABELS pyd 'PYD'.
 EXECUTE.

Measure: Academic Performance

Source: Tufts Study of Positive Youth Development:
<http://ase.tufts.edu/iaryd/researchPositive4HpydResources.htm>

Lerner, R. M., & Lerner, J. V. (2013, December). *The positive development of youth: Comprehensive findings from the 4-h study of positive youth development*. Retrieved from Chevy Chase, MD: <http://www.4-h.org/About-4-H/Research/PYD-Wave-9-2013.dwn>

Description: This measure contains 8 items related to academics and academic performance in youth. Items were adapted from the Tufts Study of Positive Youth Development.

Scoring for the measure: Create an average of each set of items. There is 1 proposed subscale.

1. Effort: items 3-6

Items to be reverse coded: 3

Sample SPSS Syntax

Reverse Code:

```
RECODE acad3 (1=5) (2=4) (3=3) (4=2) (5=1) INTO acad3R.
```

Scale Creation:

*Academic Performance.

```
COMPUTE acad_effort=mean(acad3R, acad4, acad5, acad6).  

VARIABLE LABELS acad_effort 'Academic Effort'.  

EXECUTE.
```

Measure: Goal Management

Source: Freund, A. M., & Baltes, P. B. (2002). Life-management strategies of selection, optimization and compensation: Measurement by self-report and construct validity. *Journal of Personality and Social Psychology*, 82, 642-662.

Also cite the following sources when the measure is used in Grades 5-7:

- Zimmerman, S., Phelps, E., & Lerner, R. M. (2007). Intentional self-regulation in early adolescence: Assessing the structure of selection, optimization, and compensations processes. *European Journal of Developmental Science*, 1(3), 272-299.
- Gestsdóttir, S., & Lerner, R. M. (2007). Intentional self-regulation and positive youth development in early adolescence: Findings from the 4-H Study of Positive Youth Development. *Developmental Psychology*, 43, 508-521.

Likert version:

- Geldhof, G. J., Gestsdottir, S., Stefansson, K., Johnson, S. K., Bowers, E. P., & Lerner, R. M. (2014). Selection, optimization, and compensation: The structure, reliability, and validity of forced-choice versus Likert-type measures in a sample of late adolescents. *International Journal of Behavioral Development*, 0165025414560447.

Item 10 was developed by California 4-H Academic Coordinators. Items 4 and 8 were also adapted from the original wording for clarity.

Description: This measure contains 10 items related to setting and managing goals. These items were adapted for youth from an adult measure. California 4-H currently uses a Likert-scale version of this measure, as opposed to the original binary version.

Scoring for this measure: Create an average of each set of items.

1. Goal management: items 1-10

Items to be reverse coded: None

Sample SPSS Syntax

Scale Creation:

*Youth selection, optimization, and compensation.

```
COMPUTE ysoc=mean(ysoc1, ysoc2, ysoc3, ysoc4, ysoc5, ysoc6, ysoc7, ysoc8, ysoc9, ysoc10).
VARIABLE LABELS ysoc 'Youth Selection, Optimization, and Compensation'.
EXECUTE.
```

Measure: Mindset (Flex Your Brain)

Source:

- Items 1-6: Blackwell, L., Trzesniewski, K., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78, 246–263.
- Items 7-16: Items related to health and science were developed by J. Singleton, K. Lewis, and K. Trzesniewski of California 4-H for a series of studies on science mindset.

Description: This measure contains 4 subscales (16 items) related to growth mindset. Three domains of mindset are measured: intelligence, science, and health.

Scoring for the measure: Create an average of each set of items. There are 4 proposed subscales.

1. Flex (short version): items 1-4
2. Flex B (long version): items 1-6
3. Scientific ability: items 7-12
4. Health: items 13-16

Items to be reverse coded: 1, 2, 5, 7, 9, 11, 13, 14, 15, 16

Sample SPSS Syntax

Reverse Code:

```
RECODE flex1 flex2 flex5 mindsci7 mindsci9 mindsci11 hl13 hl14 hl15 hl16 (1=5) (2=4) (3=3)
(4=2) (5=1) INTO flex1R flex2R flex5R mindsci7R mindsci9R mindsci11R hl13R hl14R hl15R
hl16R.
```

Scale Creation:

*Intelligence.

```
COMPUTE flex=mean(flex1R, flex2R, flex3, flex4).
```

```
VARIABLE LABELS flex 'Intelligence Short Version'.
```

```
EXECUTE.
```

*Intelligence.

```
COMPUTE flexb=mean(flex1R, flex2R, flex3, flex4, flex5R, flex6).
```

```
VARIABLE LABELS flexb 'Intelligence Long Version'.
```

```
EXECUTE.
```

*Science Ability.

```
COMPUTE mindsci=mean(mindsci7R, mindsci8, mindsci9R, mindsci10, mindsci11R,
mindsci12).
```

```
VARIABLE LABELS mindsci 'Science Ability'.
```

```
EXECUTE.
```

*Health.

```
COMPUTE hlmind=mean(hl13R, hl14R, hl15R, hl16R).
VARIABLE LABELS hlmind 'Healthy Mindset'.
EXECUTE.
```

Measure: Sparks (“Light your Spark”)

Source:

- *Items 1-6*: Developed by Academic Coordinators and Cooperative Extension Specialists at California 4-H. Adapted from: Benson, P.L. (2008). Sparks: How parents can help ignite the hidden strengths of teenagers. San Francisco, CA: Jossey-Bass.
- *Items 7-10*: Adapted from Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., . . . Marsolais, J. (2003). Les passions de l'ame: on obsessive and harmonious passion. *Journal of Personality and Social Psychology*, 85(4), 756.
- *Items 11-16*: Developed by Academic Coordinators and Cooperative Extension Specialists at California 4-H.

Description: This measure contains 5 subscales (16 items) related to “sparks” or passion. These subscales are: external and internal influences on the development of sparks, health-related sparks, and science-related sparks. The first 2 items are not part of a subscale.

Scoring for the measure: Create an average of each set of items. There are 5 proposed subscales.

1. Sparks A: items 3-5*
2. Sparks B (external influences): items 3-6
3. Sparks C (internal influences): items 7-10
4. Health Sparks: items 11-13
5. Science Sparks: items 14-16

*As of Spring 2017, items 3-5 are being collected in the Program Experience measure.

Items to be reverse coded: None

Sample SPSS Syntax

Scale Creation:

*Sparks A.

```
COMPUTE sparkA=mean(spark3, spark4, spark5).
```

```
VARIABLE LABELS sparkA 'Sparks A'.
```

```
EXECUTE.
```

*Sparks B external influences.

```
COMPUTE sparkB=mean(spark3, spark4, spark5, spark6).
```

```
VARIABLE LABELS sparkB 'Spark B External Influences'.
```

```
EXECUTE
```

*Sparks C internal influences.

```
COMPUTE sparkC=mean(spark14, spark15, spark16, spark17).
```

```
VARIABLE LABELS sparkC 'Spark C Internal Influences'.
```

EXECUTE.

*Health sparks.

COMPUTE health=mean(spark11, spark12, spark13).

VARIABLE LABELS health 'Health Sparks'.

EXECUTE.

*Science sparks.

COMPUTE science=mean(spark14, spark15, spark16).

VARIABLE LABELS science 'Science Sparks'.

EXECUTE.

Measure: Stress (How I Feel)

Source: Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385-396.

Description: This measure contains 4 items related to stress in youth. These items are adapted from the Perceived Stress Scale.

Scoring for the measure: Create an average of each set of items. There is 1 proposed scale.

1. Stress: items 1-4

Items to be reverse coded: 2, 3

Sample SPSS Syntax

Reverse Code:

RECODE feel2 feel3 (1=5) (2=4) (3=3) (4=2) (5=1) INTO feel2R feel3R.

Scale Creation:

*Stress.

COMPUTE stress=mean(feel1, feel2R, feel3R, feel4).

VARIABLE LABELS stress 'Stress'.

EXECUTE.

Measure: Self-Esteem (How I Feel)

Source:

- *Items 5-8*: Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: University Press.
- *Items 9-12*: Harris, M. A., Donnellan, M. B., & Trzesniewski, K. H. (2017). The Lifespan Self-Esteem Scale: Initial validation of a new measure of global self-esteem. *Journal of Personality Assessment*, 1-12.

Description: This measure contains 8 items related to self-esteem in youth. These items are from the Rosenberg Self-Esteem Scale (4 items) as well as a newly developed measure from Dr. Trzesniewski and colleagues (4 items).

Scoring for the measure: Create an average of each set of items. There is 1 proposed scale.

1. Items 5-8
2. Items 9-12

Items to be reverse coded: 7, 8

Sample SPSS Syntax

Reverse Code:

```
RECODE feel7 feel8 (1=5) (2=4) (3=3) (4=2) (5=1) INTO feel7R feel8R.
```

Scale Creation:

*Self esteem.

```
COMPUTE esteem=mean(feel5, feel6, feel7R, feel8R).
```

```
VARIABLE LABELS esteem 'Self Esteem'.
```

```
EXECUTE.
```