



CAHMI Overview of the Positive Childhood Experiences (PCEs) Cumulative Score Metric from Bethell, et. al., JAMA Pediatrics (9/09/19)

Background, Scoring and English and Spanish Item Sets

JAMA Pediatrics Paper Citation: Bethell C, Jones J, Gombojav N, Linkenbach J, Sege R. Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample: Associations Across Adverse Childhood Experiences Levels. *JAMA Pediatr.* 2019;173(11):e193007. doi:10.1001/jamapediatrics.2019.3007

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Background

To use the PCEs metric and items that comprise it we ask that you read the JAMA Pediatrics paper cited above and cite this paper in your work. We also ask that you cite this document as a reference for obtaining the details on the individual items used and the scoring and validity of the PCEs cumulative measure.

Overview of the Positive Childhood Experience Metric and Scoring

Development and Testing of the Positive Childhood Experiences Cumulative Index Measure

The Positive Childhood Experiences (PCEs) Cumulative Index Measure was developed beginning with the selection of candidate items reflecting whether or not safety, support and nurturance were consistently experienced in the home, school and community. The items were modified from a small subset of items included in 4 subdomains of the Child and Youth Resilience Measure that focused on safe, supportive and nurturing experiences. Seven items among several others that were initially included in the Wisconsin Behavioral Risk Factor Survey were selected because they reflected positive experiences, which is specifically not defined in terms of the “absence of a negative” or based on a factor that might be associated with a greater likelihood of having PCEs, but does not assess direct experience (e.g., living in a home

with both parents). As such, items related to protective factors (e.g., not having food insecurity) and similar items were not included to keep the focus on positive experiences.

The PCEs items used were then evaluated in the context of the development of the 2019 JAMA Pediatrics paper. Several steps were taken to evaluate the external validity and reliability of the items and cumulative index measure, including in depth analysis to determine score cut-points for analysis. Below is a summary of findings from the factor analysis and internal consistency tests conducted that are reported in the “eTables” for the 2019 JAMA Pediatrics PCEs paper. Many other analyses evaluating the external validity of the PCEs cumulative score measure were conducted and included the assessment of associations between PCEs and a range of outcomes (physical and mental health diagnoses and symptoms and health behaviors) before and after also adjusting for ACEs and other factors. Due to space, only two of these outcomes were evaluated in greater detail and reported on in the JAMA Pediatrics 2019 paper (Depression and Poor Mental Health and Adult Relational Health).

eTable 2: Summary of findings from psychometric analysis^a conducted on positive childhood experiences (PCEs) seven item measure

Internal Consistency (Cronbach’s alpha)	Principle components factor analysis results	Factor loading across seven items
0.77	A single Eigen value greater than 1.0 (2.95) that explained 42.2% of variance	0.57 (“felt safe/home”) to 0.72 (“family stood by/difficult times”)

1. Source: Author's analysis of the 2015 Wisconsin Behavioral Risk Factor Survey (BRFS).
2. ^aAssessment of psychometric properties on the use of the 7 PCEs items as a cumulative score measure included correlational analysis, internal consistency reliability and principal components factor analysis. See table above for summary of findings. Analyses also included assessment of the convergent and divergent validity of using a cumulative score version of the PCEs items versus each item separately. Here, we compared associations with study outcomes using the PCEs cumulative scoring approach against associations using each PCEs item separately. See Figures 1 and 2 in the main paper for findings.

Positive Childhood Experiences (PCEs) Cumulative Index Measure Items and Scoring:

The PCEs cumulative index score includes 7 items asking respondents to report how often or how much as a child they: (1) felt able to talk to their family about feelings; (2) felt their family stood by them during difficult times; (3) enjoyed participating in community traditions; (4) felt a sense of belonging in high school (not including those who did not attend school or were home schooled); (5) felt supported by friends; (6) had at least two non-parent adults who took genuine interest in them; and (7) felt safe and protected by an adult in their home. The PCEs score items were adapted from four subscales included in the Child and Youth Resilience Measure-28 (CYRM-28): (1) four items from the Psychological, Caregiving subscale (see PCEs items 1,2,7 and 6 listed above); (2) one from the Education subscale (PCEs item 4); (3) one from the Culture subscale (PCEs item 3) and (4) one from the Peer Support subscale (PCEs item 5). Items were

designed in the CRYM for cultural sensitivity, and their validity was supported by associations with improved resilience. Psychometric analyses confirmed use of a PCEs cumulative score.

Scoring: The PCEs metric is cumulative score index using 0-2, 3-5 and 6-7 categories. Other scoring options were evaluated and the cumulative score (versus categorical or item by item scoring) demonstrated the strongest validity properties. In this scoring approach, “often/very often” and “most of the time/all of the time” response options were combined to indicate the presence of that PCE. “Yes/No” response options were not used or considered to ensure adults who only “sometimes” experienced a PCE were counted as having consistently had that PCE.

Treatment of missing responses: Prior to analysis, data were cleaned to remove “don’t know” and “refused” responses. Consideration was given to keeping “don’t know” and/or “refused” responses as indicators of not having the PCE assessed. However, to be conservative, cases with these response choices were removed from the analysis. These responses as well as missing cases (non-response) did not exceed 3% of all responses for any PCE item. Note that cases that are missing because a person stopped taking the survey before the PCEs item were ever encountered were not counted as missing. Rather, they were counted as “system missing” since they dropped out of the survey before the PCE items were administered or refused to answer the survey at all. Each individual was assigned a PCEs score if they responded to at least 5 of the 7 PCEs items. Alternative decisions about treatment of missing cases may be considered.

The ENGLISH LANGUAGE PCEs Item Set

Framing Statement: The next questions refer to the time-period before you were 18 years of age.

Now, looking back before you were 18 years of age ...

- 1. For how much of your childhood was there an adult in your household who made you feel safe and protected?**

Would you say never, a little of the time, some of the time, most of the time, or all of the time?

(NOTE: OK TO PROBE. THIS COULD BE ANY ADULT IN THE HOUSEHOLD, NOT JUST A PARENT.)

1 = NEVER

2 = A LITTLE OF THE TIME

3 = SOME OF THE TIME

4 = MOST OF THE TIME

5 = ALL OF THE TIME

7 = DON'T KNOW

9 = REFUSED

- 2. How often did you feel that you belonged at your high school?
Would you say never, rarely, sometimes, often, or very often?**

(NOTE: IF R ATTENDED MULTIPLE HIGH SCHOOLS, ASK R TO RESPOND ABOUT THE HIGH SCHOOLS IN GENERAL.)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

3. How often did you feel supported by your friends?

Would you say never, rarely, sometimes, often, or very often?

(NOTE: IF R SAYS SOME FRIENDS DID/DIDN'T, ASK R TO ANSWER ABOUT FRIENDS IN GENERAL.)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

4. How often were there at least two adults, other than your parents, who took a genuine interest in you?

(Would you say never, rarely, sometimes, often, or very often?)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

5. How often did you feel that you were able to talk to your family about your feelings?

(Would you say never, rarely, sometimes, often, or very often?)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

6. How often did you enjoy participating in your community's traditions?

Would you say never, rarely, sometimes, often, or very often?

(NOTE: IF R ASKS WHAT WE MEAN BY “COMMUNITY” OR “TRADITIONS”, SAY “whatever it means to you”.)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

7. How often did you feel your family stood by you during difficult times?

(Would you say never, rarely, sometimes, often, or very often?)

(NOTE: IF R SAYS SOME FAMILY MEMBERS DID/DIDN'T, ASK R TO ANSWER ABOUT FAMILY IN GENERAL. IF R'S FAMILY SITUATION WAS COMPLICATED, SAY "whoever you considered your family when you were growing up".)

- 1 = NEVER
- 2 = RARELY
- 3 = SOMETIMES
- 4 = OFTEN
- 5 = VERY OFTEN
- 7 = DON'T KNOW
- 9 = REFUSED

SPANISH LANGUAGE PCEs Item Set

The next questions refer to the time before you were eighteen years of age.

Las próximas preguntas también tienen que ver con la época anterior a que cumpliera los dieciocho años de edad.

1. For how much of your childhood was there an adult in your household who made you feel safe and protected?

Would you say never, a little of the time, some of the time, most of the time, or all of the time?

(INTERVIEWER: OK TO PROBE.

THIS COULD BE ANY ADULT IN THE HOUSEHOLD, NOT JUST A PARENT.)

NEVER

A LITTLE OF THE TIME

SOME OF THE TIME

MOST OF THE TIME

ALL OF THE TIME

DON'T KNOW / NOT SURE

REFUSED

1a. ¿Durante cuánto tiempo de su niñez hubo un adulto en su casa que lo/la hizo sentir que tenía seguridad y protección?

¿Diría usted que nunca, pocas veces, de vez en cuando, la mayoría de las veces o siempre?

(INTERVIEWER: OK TO PROBE.

THIS COULD BE ANY ADULT IN THE HOUSEHOLD, NOT JUST A PARENT.)

NUNCA

POCAS VECES

DE VEZ EN CUANDO

LA MAYORÍA DE LAS VECES

SIEMPRE

NO SABE/NO ESTÁ SEGURO

SE NIEGA A CONTESTAR

2. How often did you feel that you belonged at your high school?
Would you say never, rarely, sometimes, often, or very often?

(INTERVIEWER: IF R ATTENDED MULTIPLE HIGH SCHOOLS, ASK R TO RESPOND ABOUT THE HIGH SCHOOLS IN GENERAL.)

NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN

2a. *¿Con qué frecuencia pensó que se sentía a gusto en su escuela secundaria?*

¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?

(NOTA: SI EL ENCUESTADO FUE A VARIAS ESCUELAS SECUNDARIAS, PÍDALE AL ENCUESTADO QUE DÉ LA RESPUESTA TENIENDO EN CUENTA LAS ESCUELAS SECUNDARIAS EN GENERAL)

NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO

3. How often did you feel supported by your friends?
Would you say never, rarely, sometimes, often, or very often?

(INTERVIEWER: IF R SAYS SOME FRIENDS DID/DIDN'T, ASK R TO ANSWER ABOUT FRIENDS IN GENERAL.)

NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN

DON'T KNOW / NOT SURE
REFUSED

3a. *¿Con qué frecuencia pensó sentirse apoyado por sus amigos?*

¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?

*(NOTA: SI EL ENCUESTADO DICE QUE ALGUNOS AMIGOS SÍ O NO,
PÍDALE AL ENCUESTADO QUE DÉ LA RESPUESTA SOBRE LOS AMIGOS EN
GENERAL)*

*NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO*

*NO SABE/NO ESTÁ SEGURO
SE NIEGA A CONTESTAR*

4. How often were there at least two adults, other than your parents, who took a genuine interest in you?

(Would you say never, rarely, sometimes, often, or very often?)

*NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN*

*DON'T KNOW / NOT SURE
REFUSED*

4a. ¿Con qué frecuencia hubo al menos dos adultos que no eran sus padres, que llegaron a tener un interés genuino en usted?

(¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?)

*NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO*

*NO SABE/NO ESTÁ SEGURO
SE NIEGA A CONTESTAR*

5. How often did you feel that you were able to talk to your family about your feelings?

(Would you say never, rarely, sometimes, often, or very often?)

NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN

DON'T KNOW / NOT SURE
REFUSED

5a. *¿Con qué frecuencia pensó que podía conversar con su familia sobre sus sentimientos?*

(¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?)

*NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO*

*NO SABE/NO ESTÁ SEGURO
SE NIEGA A CONTESTAR*

6. How often did you enjoy participating in your community's traditions?
Would you say never, rarely, sometimes, often, or very often?

(INTERVIEWER: IF R ASKS WHAT WE MEAN BY "COMMUNITY" OR
"TRADITIONS",
SAY "WHATEVER IT MEANS TO YOU".)

NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN

DON'T KNOW / NOT SURE
REFUSED

6a. *¿Con qué frecuencia disfrutó participar en las tradiciones de su comunidad?*

¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?

(NOTA: SI EL ENCUESTADO PREGUNTA QUÉ QUEREMOS DECIR POR “COMUNIDAD” O “TRADICIONES”, DIGA “lo que signifique para usted”)

*NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO*

*NO SABE/NO ESTÁ SEGURO
SE NIEGA A CONTESTAR*

7. How often did you feel your family stood by you during difficult times?
(Would you say never, rarely, sometimes, often, or very often?)

(INTERVIEWER: IF R SAYS SOME FAMILY MEMBERS DID/DIDN'T, ASK R TO ANSWER ABOUT FAMILY IN GENERAL. IF R'S FAMILY SITUATION WAS COMPLICATED, SAY "whoever you considered your family when you were growing up".)

*NEVER
RARELY
SOMETIMES
OFTEN
VERY OFTEN*

*DON'T KNOW / NOT SURE
REFUSED*

7a. *¿Con qué frecuencia pensó que su familia lo apoyó durante momentos difíciles?*

(¿Diría usted que nunca, muy pocas veces, de vez en cuando, a menudo o muy a menudo?)

(NOTA: SI EL ENCUESTADO DICE QUE ALGUNOS FAMILIARES SÍ O NO, PÍDALE AL ENCUESTADO QUE RESPONDA ACERCA DE LA FAMILIA EN GENERAL. SI LA SITUACIÓN DE LA FAMILIA DEL ENCUESTADO ERA COMPLICADA, DIGA "aquéllos que usted consideraba familiares a medida que se hacía adulto")

*NUNCA
MUY POCAS VECES
DE VEZ EN CUANDO
A MENUDO
MUY A MENUDO*

*NO SABE/NO ESTÁ SEGURO
SE NIEGA A CONTESTAR*