

Appendix 1: Supplementary tables 1-4 [posted as supplied by the authors]

Supplementary table 1. Derivation of the Adverse Childhood Experiences (ACE) score from information obtained via medical records abstraction

Score item*	Medical record data (examples of text)
Q1: Did a parent or another adult in the household <i>often or very often</i> ...swear at you, insult you, put you down, or humiliate you? Or act in a way that made you afraid that you might be physically hurt?	<ul style="list-style-type: none"> When he/she came home drunk, he/she used to swear at all of us. I dreaded seeing him/her. Was very distant but had outbursts of anger when he/she thought things were not done his/her way. Very mean to us for no reason, my siblings and I did not know what was in his/her mind. Patient stated she was emotionally abused.
Q2: Did a parent or another adult in the household <i>often or very often</i> ...push, grab, slap, or throw something at you? Or ever hit you so hard that you had marks or were injured?	<ul style="list-style-type: none"> Several times a week we had a brawl. I was so scared but I had no way to avoid it. He/she would hit me with a belt for stupid reason or throw me against the wall; I had to go to the emergency room. Patient stated she was physically abused.
Q3: Did an adult or person at least five years older than you <i>ever</i> ...touch or fondle you or have you touch their body in a sexual way? Or attempt to touch you or touch you inappropriately or sexually abuse you?	<ul style="list-style-type: none"> I was drugged and intoxicated, I would wake up naked with pain in my vagina or anus. I was very young and he would fondle me (older brother, father, stepfather, boyfriend of my mother). I did not know what to do even though it happened for years, many times a week. He would come to my room many times a week and do what he wanted to me. Patient mentioned sexual abuse or rape but did not give further details.
Q4: Did you <i>often or very often</i> feel that...no one in your family loved you or thought you were important or special? Or feel that your family members didn't look out for one another, feel close to one another, or support one another?	<ul style="list-style-type: none"> My father had 2 jobs to maintain his drug or alcohol abuse, or the substance abuse of my mother, or of both. They were never here for us children. My parents were absent most of the time. I had to go to my grandmother's home. He/she always put my sibling before me. My mother was always commenting of me being flawed (obese or not good looking). I never felt loved or attached. They were too aloof. I could never express my feelings they were so "buttoned up".
Q5: Did you <i>often or very often</i> feel that...you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? Or that your parents were too drunk or high to take care of you or take you to the doctor if you needed it?	<ul style="list-style-type: none"> Most of the time when I was sick, my parents were not there or were too self-centered. I would go to the doctor with a friend and then I was reprimanded for that. As a child I would count every penny for food, clothes, and shoes, for my siblings and myself. Father/mother were physically disabled/abusing alcohol or drugs; my siblings and I were dirty and poor, and left to ourselves. Father and mother came from a very impoverished background but we were never able to get out of that and seeing us suffer did not make things better.
Q6: Was a biological parent <i>ever</i> lost to you through divorce, abandonment, or another reason?	<ul style="list-style-type: none"> Father died in car accident, and we had many years of a very difficult time to get by. My father/mother left us and never showed up again. It was difficult to get by without explanations. My parents divorced, and the situation after that was very complex. My parents divorced and my mother had a new boyfriend not very attentive to us; we felt we were a nuisance. My father died suddenly of liver disease, and we found out he was a closet alcoholic....such a bad time.

Supplementary table 1. Derivation of the Adverse Childhood Experiences (ACE) score from information obtained via medical records abstraction (continued)

Score item*	Medical record data
Q7: Was your mother or stepmother <i>often or very often</i> pushed, grabbed, slapped, or have something thrown at her? Or was she <i>sometimes, often, or very often</i> kicked, bitten, hit with a fist, or hit with something hard? Or ever repeatedly hit over the course of at least a few minutes or threatened with a gun or knife?	<ul style="list-style-type: none"> • Father used to come home drunk and hit my mother. • He lost his temper very quickly and hit my mother for no reason. He scared us to death, and still now I can't forgive him. • One night he hit my mother then left. A few days later I learned that he was engaged and planned to marry his young secretary.
Q8: Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?	<ul style="list-style-type: none"> • Alcoholic all his/her life. • Closet alcoholic. Died young of liver disease. • Patient stated that a family member was an alcoholic (no additional detail) or a drug user (no additional details).
Q9: Was a household member depressed or mentally ill, or did a household member attempt suicide?	<ul style="list-style-type: none"> • Severe depression or persistent depressive disorder with or without delusional features. • Bipolar disorder or exacerbation of it. • Depression and anxiety with nervous breakdown that required hospitalization. • Suicide attempt and hospitalizations. • Schizophrenia.
Q10: Did a household member go to prison?	<ul style="list-style-type: none"> • Reported in the medical records.

* The wording of the questions is the original from Nakazawa's book.²⁶

Supplementary table 2. Characteristics of cases and controls for each adverse childhood experience

Characteristic of adverse experience	Bilateral oophorectomy (cases; N = 128)		Women without oophorectomy (controls; N = 128)		p Value*
	N	%	N	%	
Q1: verbal or emotional abuse	47	36.7	27	21.1	0.006
Multiple instances of abuse	43	33.6	27	21.1	0.02
Earliest age of onset†					0.01
No experience	81	63.3	101	78.9	
Birth through age 12 years	26	20.3	10	7.8	
Age 13 through 18 years	18	14.1	15	11.7	
Unknown age	3	2.3	2	1.6	
Perpetrator of abuse‡					
Mother or stepmother	14	10.9	11	8.6	0.53
Father or stepfather	36	28.1	12	9.4	<0.001
Boyfriend or spouse	12	9.4	12	9.4	1.00
Other or unknown	0	0.0	3	2.3	0.25
Q2: physical abuse	25	19.5	6	4.7	<0.001
Multiple instances of abuse	24	18.8	6	4.7	<0.001
Earliest age of onset†					0.002
No experience	103	80.5	122	95.3	
Birth through age 12 years	12	9.4	2	1.6	
Age 13 through 18 years	11	8.6	4	3.1	
Unknown age	2	1.6	0	0.0	
Perpetrator of abuse‡					
Mother or stepmother	5	3.9	1	0.8	0.21
Father or stepfather	15	11.7	3	2.3	0.006
Boyfriend or spouse	10	7.8	2	1.6	0.03
Other or unknown	1	0.8	1	0.8	1.00
Q3: sexual abuse	10	7.8	6	4.7	0.30
Multiple instances of abuse	5	3.9	4	3.1	1.00
Earliest age of onset†					0.55
No experience	118	92.2	122	95.3	
Birth through age 12 years	4	3.1	3	2.3	
Age 13 through 18 years	4	3.1	3	2.3	
Unknown age	2	1.6	0	0.0	

Supplementary table 2. Characteristics of cases and controls for each adverse childhood experience (continued 1)

Characteristic of adverse experience	Bilateral oophorectomy (cases; N = 128)		Women without oophorectomy (controls; N = 128)		p Value*
	N	%	N	%	
Perpetrator of abuse†					
Mother or stepmother	0	0.0	0	0.0	--
Father or stepfather	1	0.8	0	0.0	1.00
Boyfriend or spouse	3	2.3	2	1.6	1.00
Other or unknown	7	5.5	5	3.9	0.55
Q4: emotional neglect	23	18.0	19	14.8	0.50
Earliest age of onset†					0.66
No experience	105	82.0	109	85.2	
Birth through age 12 years	14	10.9	9	7.0	
Age 13 through 18 years	5	3.9	4	3.1	
Unknown age	4	3.1	6	4.7	
Q5: physical neglect	6	4.7	11	8.6	0.21
Earliest age of onset†					0.48
No experience	122	95.3	117	91.4	
Birth through age 12 years	4	3.1	6	4.7	
Age 13 through 18 years	0	0.0	0	0.0	
Unknown age	2	1.6	5	3.9	
Q6: parental separation	22	17.2	16	12.5	0.29
Earliest age of onset†					0.66
No experience	106	82.8	112	87.5	
Birth through age 12 years	12	9.4	10	7.8	
Age 13 through 18 years	8	6.3	5	3.9	
Unknown age	2	1.6	1	0.8	
Type of separation					0.44
No separation	106	82.8	112	87.5	
Death of parent	8	6.3	4	3.1	
Separation or divorce	14	10.9	12	9.4	
Q7: witnessed domestic violence	7	5.5	4	3.1	0.36
Earliest age of onset†					0.39
No experience	121	94.5	124	96.9	
Birth through age 12 years	6	4.7	2	1.6	
Age 13 through 18 years	0	0.0	1	0.8	
Unknown age	1	0.8	1	0.8	

Supplementary table 2. Characteristics of cases and controls for each adverse childhood experience (continued 2)

Characteristic of adverse experience	Bilateral oophorectomy (cases; N = 128)		Women without oophorectomy (controls; N = 128)		p Value*
	N	%	N	%	
Q8: substance abuse in household§	61	47.7	44	34.4	0.03
Earliest age of onset†					0.003
No experience	67	52.3	84	65.6	
Birth through age 12 years	54	42.2	30	23.4	
Age 13 through 18 years	4	3.1	3	2.3	
Unknown age	3	2.3	11	8.6	
Person who abused substances‡					
Mother or stepmother	12	9.4	12	9.4	1.00
Father or stepfather	40	31.3	33	25.8	0.33
Other or unknown	27	21.1	18	14.1	0.14
Alcohol abuse	60	46.9	44	34.4	0.04
Person who abused alcohol‡					
Mother or stepmother	12	9.4	12	9.4	1.00
Father or stepfather	39	30.5	33	25.8	0.40
Other or unknown	26	20.3	18	14.1	0.19
Drug abuse¶	12	9.4	4	3.1	0.04
Person who abused drugs‡					
Mother or stepmother	4	3.1	2	1.6	0.68
Father or stepfather	4	3.1	2	1.6	0.68
Other or unknown	6	4.7	1	0.8	0.12
Q9: mental illness in household	46	35.9	39	30.5	0.35
Earliest age of onset†					0.23
No experience	82	64.1	89	69.5	
Birth through age 12 years	37	28.9	25	19.5	
Age 13 through 18 years	4	3.1	4	3.1	
Unknown age	5	3.9	10	7.8	
Suicidal ideation or attempt**	4	3.1	3	2.3	1.00
Type of mental illness‡					
Depression	43	33.6	35	27.3	0.28
Anxiety	8	6.3	2	1.6	0.053
Other mental illness or unknown††	6	4.7	4	3.1	0.52

Supplementary table 2. Characteristics of cases and controls for each adverse childhood experience (continued 3)

Characteristic of adverse experience	Bilateral oophorectomy (cases; N = 128)		Women without oophorectomy (controls; N = 128)		p Value*
	N	%	N	%	
Person who was mentally ill†‡					
Mother or stepmother	25	19.5	20	15.6	0.41
Father or stepfather	15	11.7	14	10.9	0.84
Other or unknown	16	12.5	11	8.6	0.31
Q10: incarceration	1	0.8	0	0.0	1.00

* The p values were calculated using chi-squared tests or Fisher's exact tests.

† The earliest age at onset was recorded for each experience separately. Women who reported the experience as occurring during infancy, toddler years, grade school or elementary school years, or simply as occurring during "childhood" without providing a specific age were included in the birth through age 12 years category. Women who reported the experience as occurring during middle school, junior high or high school years, or simply as occurring during "teen years" without providing a specific age were included in the age 13 through 18 years category.

‡ All applicable categories were selected, so each woman may fall in more than one category.

§ Substance abuse included alcohol abuse, illegal drug abuse, or prescription drug abuse.

¶ The type of drug(s) abused were either not specified in the medical record, or only referred to as "street drugs". No specific drug type was identified for the 16 women with drug abuse in their household.

** Although 7 women experienced a household member with suicidal ideation, no household members actually committed suicide before the woman's 19th birth date.

†† Includes bipolar disorder, schizophrenia, psychosis, and other mental illnesses.

Supplementary table 3. Sensitivity analyses for adverse childhood experiences or abuse in adulthood excluding matched pairs in which the control had bilateral oophorectomy after index date

Adverse experience	Bilateral oophorectomy (cases; N = 119)		Women without oophorectomy (controls; N = 119)		Case-control analyses*	
	N	%	N	%	OR (95% CI)	p Value
Childhood (age <19 years)						
Q1: verbal or emotional abuse	44	37.0	22	18.5	2.37 (1.32, 4.26)	0.004
Q2: physical abuse	24	20.2	4	3.4	11.00 (2.59, 46.78)	0.001
Q3: sexual abuse	10	8.4	5	4.2	2.00 (0.68, 5.85)	0.21
Q4: emotional neglect	21	17.6	14	11.8	1.54 (0.77, 3.09)	0.23
Q5: physical neglect	6	5.0	8	6.7	0.60 (0.14, 2.51)	0.48
Q6: parental separation	21	17.6	15	12.6	1.55 (0.72, 3.30)	0.26
Q7: witnessed domestic violence	7	5.9	4	3.4	1.75 (0.51, 5.98)	0.37
Q8: substance abuse in household	56	47.1	39	32.8	2.00 (1.12, 3.58)	0.02
Q9: mental illness in household	40	33.6	34	28.6	1.32 (0.72, 2.39)	0.37
Q10: incarceration	1	0.8	0	0.0	--	--
Any abuse (verbal or emotional, physical, sexual)	48	40.3	24	20.2	2.41 (1.37, 4.25)	0.002
ACE score ≥ 1	93	78.2	64	53.8	3.42 (1.80, 6.50)	<0.001
ACE score ≥ 2	61	51.3	45	37.8	1.94 (1.08, 3.48)	0.03
ACE score ≥ 3	36	30.3	21	17.6	2.00 (1.08, 3.72)	0.03
ACE score ≥ 4	21	17.6	10	8.4	2.37 (1.04, 5.43)	0.04
ACE score						
0	26	21.9	55	46.2	(reference)	
1	32	26.9	19	16.0	4.05 (1.76, 9.30)	0.001
2	25	21.0	24	20.2	2.60 (1.18, 5.71)	0.02
3	15	12.6	11	9.2	3.09 (1.21, 7.92)	0.02
≥ 4	21	17.7	10	8.4	5.95 (2.16, 16.41)	<0.001
Adulthood (age 19 to index date)						
Verbal or emotional abuse	38	31.9	40	33.6	0.93 (0.55, 1.57)	0.79
Physical abuse	25	21.0	16	13.4	1.69 (0.85, 3.36)	0.13
Sexual abuse	7	5.9	1	0.8	7.00 (0.86, 56.89)	0.07
Any abuse (verbal or emotional, physical, sexual)	43	36.1	41	34.5	1.07 (0.64, 1.79)	0.79
Cumulative experience from birth to index date						
Verbal or emotional abuse	59	49.6	46	38.7	1.54 (0.92, 2.58)	0.10
Physical abuse	34	28.6	19	16.0	2.15 (1.12, 4.16)	0.02
Sexual abuse	14	11.8	5	4.2	2.80 (1.01, 7.77)	0.048
Any abuse (verbal or emotional, physical, sexual)	63	52.9	47	39.5	1.67 (1.00, 2.76)	0.048

* The ORs, CIs, and p values were calculated using conditional logistic regression models (matched pairs).

ACE, Adverse Childhood Experiences.

Supplementary table 4. Sensitivity analyses for adverse childhood experiences or abuse in adulthood for women who had medical records dating back to birth year

Adverse experience	Bilateral oophorectomy (cases; N = 85)		Women without oophorectomy (controls; N = 74)		Case-control analyses*	
	N	%	N	%	OR (95% CI)	p Value
Childhood (age <19 years)						
Q1: verbal or emotional abuse	32	37.6	18	24.3	1.88 (0.94, 3.74)	0.07
Q2: physical abuse	16	18.8	5	6.8	3.20 (1.11, 9.22)	0.03
Q3: sexual abuse	6	7.1	3	4.1	1.80 (0.43, 7.45)	0.42
Q4: emotional neglect	15	17.6	10	13.5	1.37 (0.58, 3.27)	0.48
Q5: physical neglect	5	5.9	6	8.1	0.71 (0.21, 2.42)	0.58
Q6: parental separation	14	16.5	9	12.2	1.42 (0.58, 3.51)	0.44
Q7: witnessed domestic violence	5	5.9	2	2.7	2.25 (0.42, 11.95)	0.34
Q8: substance abuse in household	39	45.9	28	37.8	1.39 (0.74, 2.63)	0.31
Q9: mental illness in household	32	37.6	24	32.4	1.26 (0.65, 2.42)	0.49
Q10: incarceration	0	0.0	0	0.0	--	--
Any abuse (verbal or emotional, physical, sexual)	36	42.4	19	25.7	2.13 (1.08, 4.18)	0.03
ACE score ≥ 1	65	76.5	42	56.8	2.48 (1.25, 4.89)	0.009
ACE score ≥ 2	45	52.9	34	45.9	1.32 (0.71, 2.47)	0.38
ACE score ≥ 3	26	30.6	17	23.0	1.48 (0.73, 3.01)	0.28
ACE score ≥ 4	15	17.6	9	12.2	1.55 (0.63, 3.78)	0.34
ACE score						
0	20	23.5	32	43.2	(reference)	
1	20	23.5	8	10.8	4.00 (1.48, 10.79)	0.006
2	19	22.4	17	23.0	1.79 (0.76, 4.23)	0.19
3	11	12.9	8	10.8	2.20 (0.76, 6.40)	0.15
≥ 4	15	17.7	9	12.2	2.67 (0.98, 7.23)	0.054
Adulthood (age 19 to index date)						
Verbal or emotional abuse	25	29.4	20	27.0	1.12 (0.56, 2.25)	0.74
Physical abuse	17	20.0	8	10.8	2.06 (0.83, 5.10)	0.12
Sexual abuse	4	4.7	0	0.0	--	--
Any abuse (verbal or emotional, physical, sexual)	30	35.3	20	27.0	1.47 (0.75, 2.90)	0.26
Cumulative experience from birth to index date						
Verbal or emotional abuse	41	48.2	25	33.8	1.83 (0.96, 3.47)	0.07
Physical abuse	23	27.1	10	13.5	2.37 (1.04, 5.39)	0.04
Sexual abuse	9	10.6	3	4.1	2.80 (0.73, 10.77)	0.13
Any abuse (verbal or emotional, physical, sexual)	45	52.9	25	33.8	2.20 (1.16, 4.19)	0.02

* The ORs, CIs, and p values were calculated using conditional logistic regression models (matched pairs).

ACE, Adverse Childhood Experiences.