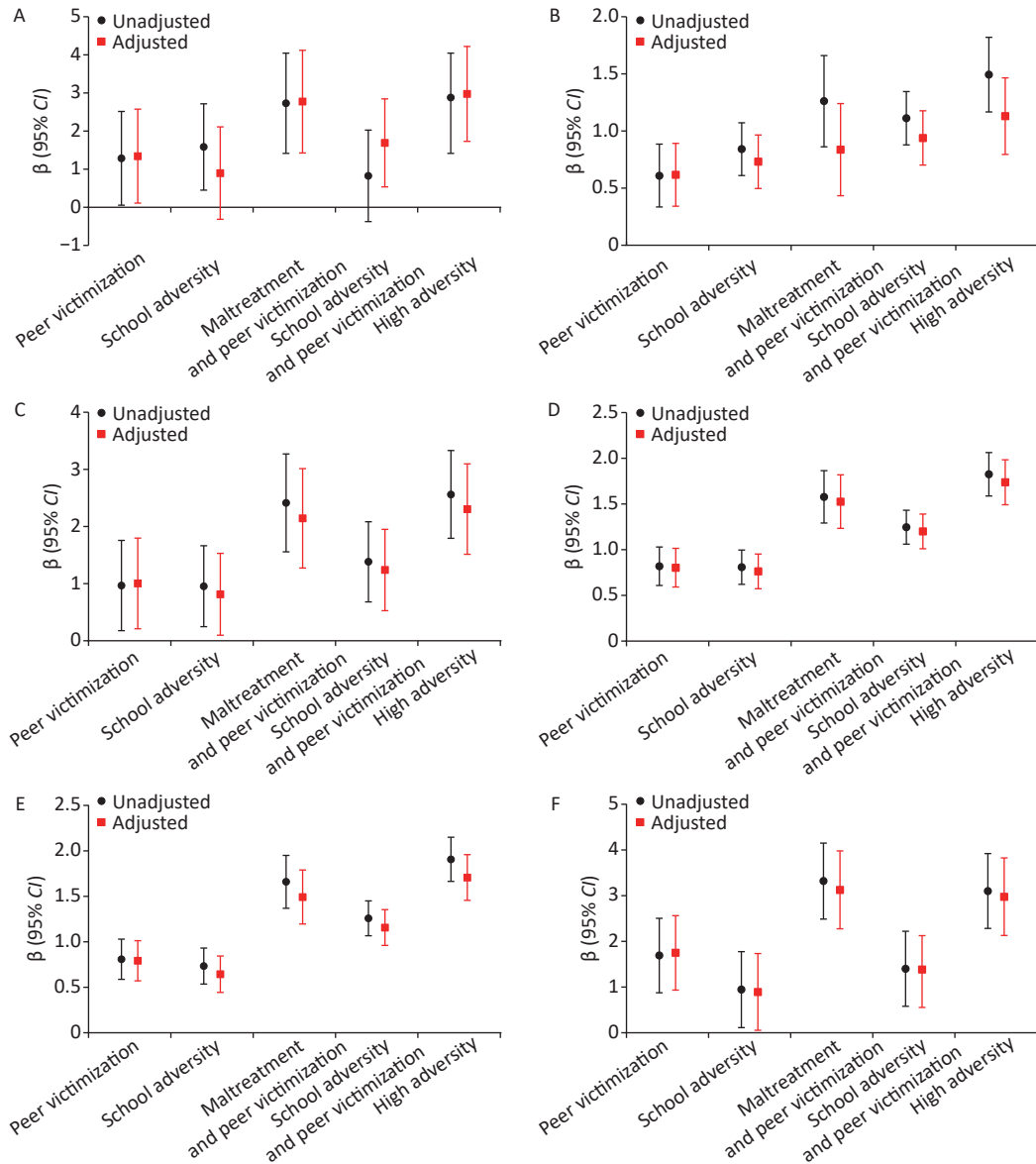
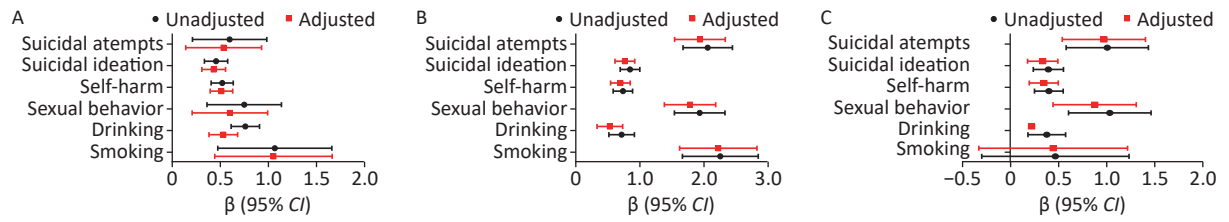


**Supplementary Figure S1.** Poisson regression models for unadjusted and adjusted  $\beta$  (95% CI) for the association between ACE scores and risky health behaviors among adolescents (Reference group = None): (A) smoking, (B) drinking, (C) sexual intercourse, (D) self-harm, (E) suicidal ideation, and (F) suicidal attempts. In the adjusted models, we adjusted the sociodemographic covariates, including sex, grade, self-perceived family socioeconomic status, self-perceived relation with mother and father, number of friends, only-child status and character trait, and academic performance.



**Supplementary Figure S2.** Poission regression models for unadjusted and adjusted  $\beta$  (95% CI) for the association between ACE latent class risky health behaviors among adolescents (Reference group = Low adversity). In the adjusted models, we adjusted the sociodemographic covariates, including sex, grade, self-perceived family socioeconomic status, self-perceived relationship with mother and father, number of friends, only-child status and character trait, and academic performance.



**Supplementary Figure S3.** Poission regression models for unadjusted and adjusted  $\beta$  (95% CI) for the association between (A) being physically punished by a teacher (Reference group = No), (B) sexual abuse (Reference group = No) and (C) Family trauma (Reference group = No) and risky health behaviors among adolescents. In the adjusted models, we adjusted the sociodemographic covariates, including sex, grade, self-perceived family socioeconomic status, self-perceived relationship with mother and father, number of friends, only-child status and character trait, and academic performance.

**Supplementary Table S1.** Descriptive statistics for the LCA classes by different sociodemographic characteristics

Variables	<i>n</i>	High adversity <i>n</i> (%)	Peer victimization <i>n</i> (%)	School adversity <i>n</i> (%)	Maltreatment and peer victimization <i>n</i> (%)	School adversity and peer victimization <i>n</i> (%)	Low adversity <i>n</i> (%)	$\chi^2$ value	<i>P</i> value
Sex								28.421	< 0.001
Males	2,848	119 (58.6)	442 (50.6)	720 (45.5)	92 (62.6)	568 (19.9)	907 (50.1)		
Females	2,878	84 (41.4)	432 (49.4)	861 (54.5)	55 (37.4)	554 (18.9)	902 (49.9)		
Grade								74.350	< 0.001
Middle	2,958	99 (3.3)	517 (59.2)	722 (45.7)	86 (58.5)	515 (46.3)	1,019 (56.3)		
High	2,768	104 (3.8)	357 (40.8)	859 (54.3)	61 (41.5)	597 (53.7)	790 (43.7)		
Self-perceived family status								149.701	< 0.001
Poor	800	52 (25.6)	101 (11.6)	216 (19.4)	24 (16.3)	268 (17.0)	139 (7.7)		
Medium	4,377	136 (67.0)	678 (77.6)	833 (74.9)	112 (76.2)	1,167 (73.8)	1,451 (80.2)		
Good	549	15 (7.4)	95 (10.9)	63 (5.7)	11 (7.5)	146 (9.2)	219 (12.1)		
Only child								102.941	< 0.001
No	2,469	76 (37.4)	422 (48.3)	589 (37.3)	62 (42.2)	399 (35.9)	921 (50.9)		
Yes	3,257	127 (62.6)	452 (51.7)	992 (62.7)	85 (57.8)	713 (64.1)	888 (49.1)		
Family structure								42.718	< 0.001
Nuclear family	3,792	128 (63.1)	561 (64.2)	1,031 (65.2)	106 (72.1)	736 (66.2)	1,230 (68.0)		
Lager family	1,353	41 (20.2)	241 (27.6)	355 (22.5)	26 (17.7)	260 (23.4)	430 (23.8)		
Single-parent family	469	26 (12.8)	59 (6.8)	161 (10.2)	10 (6.8)	90 (8.1)	123 (6.8)		
Others	112	8 (3.9)	13 (1.5)	34 (2.2)	5 (3.4)	26 (2.3)	26 (1.4)		
Relationship with father								138.630	< 0.001
Poor	1,911	123 (60.6)	269 (30.8)	529 (33.5)	70 (47.6)	438 (39.4)	482 (26.6)		
Good	3,815	80 (39.4)	605 (69.2)	1,052 (66.5)	77 (52.4)	674 (60.6)	1,327 (73.4)		
Relationship with mother								125.274	< 0.001
Poor	1,353	94 (46.3)	175 (20.0)	370 (23.4)	64 (43.5)	304 (27.3)	346 (19.1)		
Good	4,373	109 (53.7)	699 (80.0)	1,211 (76.6)	83 (56.5)	808 (72.7)	1,463 (80.9)		
Character trait								40.795	< 0.001
Introvert	1,278	52 (25.6)	161 (18.4)	347 (21.9)	24 (16.3)	311 (28.0)	383 (21.2)		
Neutral	2,281	78 (38.4)	355 (40.6)	652 (41.2)	52 (35.4)	421 (37.9)	723 (40.0)		
Extrovert	2,167	73 (36.0)	358 (41.0)	582 (36.8)	71 (48.3)	380 (34.2)	703 (38.9)		
Academic performance								186.560	< 0.001
Low	1,380	80 (39.4)	143 (16.4)	452 (28.6)	52 (35.4)	347 (31.2)	306 (16.9)		
Medium	3,201	87 (42.9)	502 (57.4)	870 (55.0)	75 (51.0)	583 (52.4)	1,084 (59.9)		
High	1,145	36 (17.7)	229 (26.2)	259 (16.4)	20 (13.6)	182 (16.4)	419 (23.2)		
Number of friends								61.828	< 0.001
< 3	1,439	79 (38.9)	212 (24.3)	383 (24.2)	35 (23.8)	350 (31.5)	380 (21.0)		
≥ 3	4,287	124 (61.1)	662 (75.7)	1,198 (75.8)	112 (76.2)	762 (68.5)	1,492 (79.0)		

**Supplementary Table S2.** Descriptive statistics for ACE scores, LCA classes, being corporally punished by the teacher, sexual abuse, and family trauma and adolescent risky health behaviors

Variables	<i>n</i> (%)	Smoking <i>n</i> (%)	Drinking <i>n</i> (%)	Sexual intercourse <i>n</i> (%)	Self-harm <i>n</i> (%)	Suicidal ideation <i>n</i> (%)	Suicidal attempts <i>n</i> (%)
ACEs scores							
None	843 (14.7)	2 (0.0)	40 (0.7)	4 (0.1)	57 (1.0)	58 (1.0)	2 (0.0)
1–2	1,123 (19.6)	3 (0.1)	80 (1.4)	7 (0.1)	129 (2.3)	111 (1.9)	9 (0.2)
3–5	1,507 (27.4)	9 (0.2)	182 (3.2)	27 (0.5)	283 (4.9)	248 (4.3)	21 (0.4)
≥ 6	2,190 (38.2)	30 (0.5)	408 (7.1)	65 (1.1)	734 (12.8)	686 (12.0)	73 (1.3)
LCA classes							
Low adversity	1,809 (31.6)	4 (0.2)	108 (6.0)	11 (0.6)	165 (9.1)	152 (8.4)	8 (0.4)
School adversity and peer victimization	1,112 (19.4)	12 (1.1)	202 (18.2)	27 (2.4)	353 (31.7)	329 (29.6)	20 (1.8)
Maltreatment and peer victimization	147 (2.6)	5 (3.4)	31 (21.1)	10 (6.8)	65 (44.2)	65 (44.2)	18 (12.2)
School adversity	1,581 (27.6)	8 (0.5)	219 (13.9)	25 (1.6)	324 (20.5)	277 (17.5)	18 (1.1)
Peer victimization	874 (15.3)	7 (0.8)	96 (11.0)	14 (1.6)	181 (20.7)	165 (18.9)	21 (2.4)
High adversity	203 (3.5)	8 (3.9)	54 (26.6)	16 (7.9)	115 (56.7)	115 (56.7)	20 (9.9)
Being corporally punished by the teacher							
No	4,053 (70.8)	20 (0.5)	377 (9.3)	55 (1.4)	24 (3.0)	668 (16.5)	60 (1.5)
Yes	1,673 (29.2)	24 (1.4)	333 (19.9)	48 (2.9)	112 (26.0)	435 (26.0)	45 (2.7)
Sexual abuse							
No	5,227 (91.3)	23 (0.4)	594 (11.4)	589 (23.9)	1,003 (19.2)	902 (17.3)	60 (1.1)
Yes	499 (8.7)	21 (4.2)	116 (23.2)	992 (30.5)	200 (40.1)	201 (40.3)	45 (9.0)
Family Trauma							
No	5,025 (87.8)	36 (0.7)	590 (11.7)	1,031 (27.2)	996 (19.8)	914 (18.2)	76 (1.5)
Yes	701 (12.2)	8 (1.1)	120 (17.1)	34 (30.4)	207 (29.5)	189 (27.0)	29 (4.1)

**Supplementary Table S3.** Fit indices for LCA models with 1–7 classes

No. of class	AIC	BIC	aBIC	LRT	Entropy
1	132054.425	132234.050	132148.252	NA	–
2	117971.518	118337.420	118162.647	$P < 0.001$	0.850
3	115306.634	115858.814	115595.065	$P < 0.001$	0.798
4	113794.595	114533.052	114180.327	$P < 0.001$	0.813
5	112946.301	113871.036	113429.335	$P < 0.001$	0.806
6	<b>112278.353</b>	<b>113389.366</b>	<b>112858.689</b>	<b>0.0032</b>	<b>0.793</b>
7	111737.474	113034.765	112415.113	0.1782	0.776

**Note.** AIC: Akaike Information Criterion; BIC: Bayesian Information Criterion; aBIC: the sample-size Adjusted BIC; LRT: Bootstrapped Likelihood Ratio Test.

## Supplementary Methods

### Details for ACEs items

Types	Items	References
<b>Childhood maltreatment</b>	<b>25 items</b>	<b>[1-2]</b>
Physical abuse (PA)	The Childhood Trauma Questionnaire	The CTQ-SF cut-off scores used in this study were as follows: PA ≥ 8; EA ≥ 9; SA ≥ 6; PN ≥ 8; and EN ≥ 10
Emotional abuse (EA)	Short Form (CTQ-SF)	
Sexual abuse (SA)		
Physical neglect (PN)		
Emotional neglect (EN)		
<b>Childhood peer victimization</b>	<b>Six items (details see our previous study<sup>[5]</sup>)</b>	<b>[3-4]</b>
Physical peer victimization	(1) hitting, kicking, pushing, shoving, or locking indoors	The response options: 1 = never; 2 = rarely; 3 = sometimes; 4 = often; and 5 = very often. We used the criterion that students were bullied sometimes to evaluate occurrences of physical, verbal and relational victimization.
Verbal peer victimization	(2) blackmailing for money or damaging things	
Relational peer victimization	(1) calling mean names or making fun or teasing in a hurtful way	
	(2) saying mean things about an accent	
	(1) excluding others from their group of friends or leaving others out of things on purpose	
	(2) telling lies or spreading false rumours about others or sending mean notes and trying to make others unpopular	
<b>Childhood family adversity</b>	<b>Ten items (details see our previous study<sup>[5]</sup>)</b>	<b>[5-6]</b>
Family financial difficulties	Response option: 0 = no and 1 = yes.	
Parents often fight or quarrel	Response option: 0 = no and 1 = yes.	
Family trauma (e.g., earthquake, fire, and theft)	Response option: 0 = no and 1 = yes.	
Parents overconsume alcohol or are addicted to gambling;	Response option: 0 = no and 1 = yes.	
Disabled family member;	Response option: 0 = no and 1 = yes.	
Parental absence;	Response option: 0 = no and 1 = yes.	
Family member involved in a crime;	Response option: 0 = no and 1 = yes.	
Parental divorce;	Response option: 0 = no and 1 = yes.	
Death of family member;	Response option: 0 = no and 1 = yes.	
Family member with a serious illness	Response option: 0 = no and 1 = yes.	
<b>Childhood school adversity</b>	<b>Eight items</b>	<b>[6-9]</b>
The teacher prejudiced against me	Response option: 0 = no and 1 = yes.	
Being scolded or insulted by a teacher	Response option: 0 = no and 1 = yes.	
Being physically punished by a teacher	Response option: 0 = no and 1 = yes.	
Reluctance to go to school	Response option: 0 = no and 1 = yes.	
Poor academic performance	Response option: 0 = no and 1 = yes.	
Having difficulty getting along with classmates	Response option: 0 = no and 1 = yes.	
Being laughed at by classmates	Response option: 0 = no and 1 = yes.	
Being insulted by classmates	Response option: 0 = no and 1 = yes.	
<b>Physical disability and chronic illness</b>	Do you have any physical disabilities or long-term health problems in childhood?" (More details are provided in our previous study <sup>[10]</sup> ).	The response options were as follows: yes, no, and not sure. the response option of "No" and "Not sure" was combined into the one group (i.e., No).

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