

Table S1 Difference between sophomore and recruit groups

Variables	Overall		Sophomore group		Recruit group		P value
	No. Pts	Median (range), Mean \pm SD or Frequency (percentage)	No. Pts	Median (range), Mean \pm SD or Frequency (percentage)	No. Pts	Median (range), Mean \pm SD or Frequency (percentage)	
Age (years)	1002	20.00 (16.00–25.00) 19.96 \pm 1.39	692	20.00 (16.00–25.00) 20.04 \pm 1.38	310	20.00 (17.00–24.00) 19.77 \pm 1.41	<0.001
Female (%)	1002	678 (67.7%)	692	658 (95.1%)	310	20 (6.5%)	<0.001
Height (m)	1002	1.66 (1.45–1.96) 1.67 \pm 0.08	692	1.63 (1.45–1.85) 1.64 \pm 0.06	310	1.75 (1.60–1.96) 1.76 \pm 0.06	<0.001
Weight (kg)	1002	60.00 (37.00–100.00) 59.95 \pm 11.18	692	54.00 (37.00–80.00) 55.61 \pm 9.39	310	69.00 (51.00–100.00) 69.63 \pm 8.46	<0.001
Body mass index (kg/m ²)	1002	20.94 (16.65–32.05) 21.20 \pm 2.31	692	20.20(16.65–32.05) 20.60 \pm 2.12	310	22.30 (17.00–29.40) 22.52 \pm 2.17	<0.001
History of surgery (%)	1002	125 (12.5%)	692	43 (6.2%)	310	82 (26.5%)	<0.001
History of gastrointestinal diseases (%)	1002	113 (11.3%)	692	99 (14.3%)	310	14 (4.5%)	<0.001
History of smoking (%)	1002	68 (6.8%)	692	8 (1.2%)	310	60 (19.4%)	<0.001
History of drinking alcohol (%)	1002	50 (5.0%)	692	21 (9.4%)	310	29 (9.4%)	<0.001
History of drinking tea (%)	1002	156 (15.6%)	692	83 (9.4%)	310	73 (23.5%)	<0.001
History of drinking coffee (%)	1002	66 (6.6%)	692	40 (5.8%)	310	26 (8.4%)	0.131
History of eating spicy food (%)	1002	494 (49.3%)	692	367 (53.0%)	310	127 (41.0%)	<0.001
History of irregular diet (%)	1002	319 (31.8%)	692	293 (56.7%)	310	26 (8.4%)	<0.001
History of eating out frequently (%)	1002	223 (22.3%)	692	171 (24.7%)	310	52 (16.8%)	0.005
History of drinking raw water (%)	1002	408 (40.7%)	692	349 (50.4%)	310	59 (19.0%)	<0.001
History of sharing drinking glasses (%)	1002	73 (7.3%)	692	64 (9.2%)	310	9 (2.9%)	<0.001
Halitosis (%)	1002	81 (8.1%)	692	66 (9.5%)	310	15 (4.8%)	0.012
Live in the countryside (%)	1002	426 (42.5%)	692	376 (54.3%)	310	200 (64.5%)	0.003
Number of family members	1002	4.00 (1.00–9.00) 3.81 \pm 1.08	692	4.00 (2.00–9.00) 3.84 \pm 1.12	310	4.00 (1.00–8.00) 3.73 \pm 0.97	0.470
Annual family income <50000 RMB (%)	1002	602 (60.1%)	692	455 (65.8%)	310	147 (47.4%)	<0.001
Family history of gastrointestinal diseases (%)	1002	36 (3.6%)	692	23 (3.3%)	310	13 (4.2%)	0.470
SCL-90 score >160 (%)	1002	72 (7.2%)	692	64 (9.2%)	310	8 (2.6%)	<0.001
Gastrointestinal symptoms (%)	1002	302 (30.1%)	692	254 (36.7%)	310	48 (15.5%)	<0.001

SD, Standard deviation; RMB, Ren min bi; SCL, Symptom checklist.

Table S2 Characteristics of included studies

First author (year)	Country	Study design	Number of patients	Type of gastrointestinal symptoms	Type of psychological problems
Aggarwal Dutta(43) (2021)	USA	Cross-sectional	110	Abdominal pain	Anxiety
Liu(45) (2021)	China	Case-control	337	Functional constipation	Depression and anxiety
Lu(41) (2020)	China	Cross-sectional	410	Diarrhea	Depression
Ballou(40) (2019)	USA	Cohort	5160	Chronic diarrhea and constipation	Depression
Beyazit(44) (2018)	USA	Case-control	166	Nausea and vomiting	Depression and anxiety
Cunningham(42) (2015)	USA	Cross-sectional	100	Abdominal pain	Anxiety