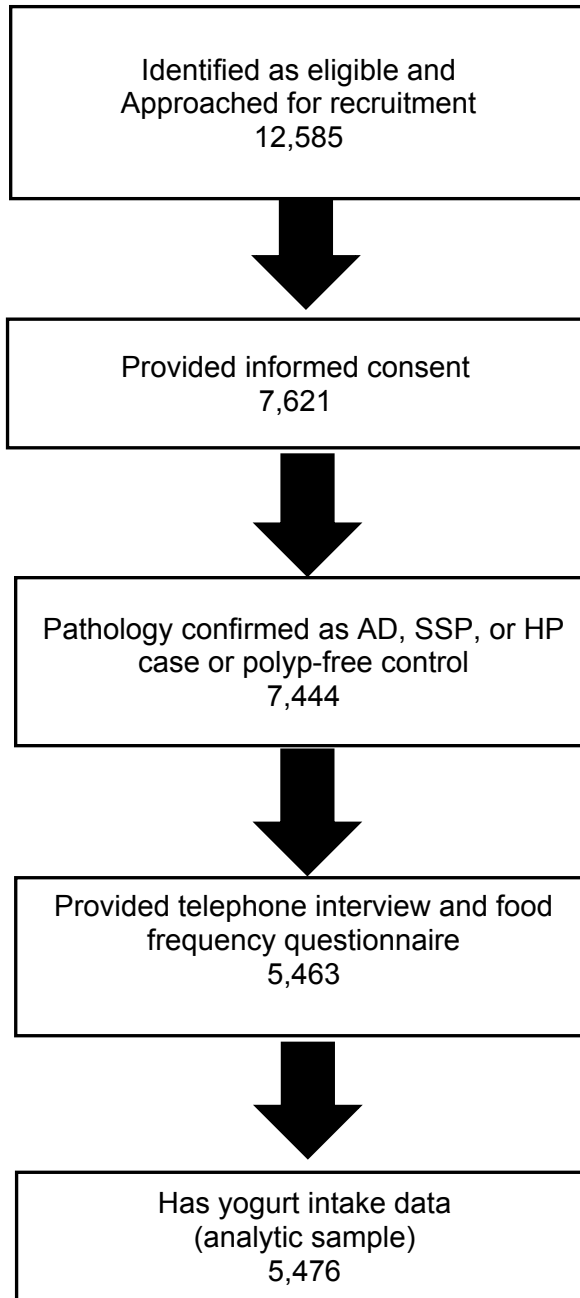
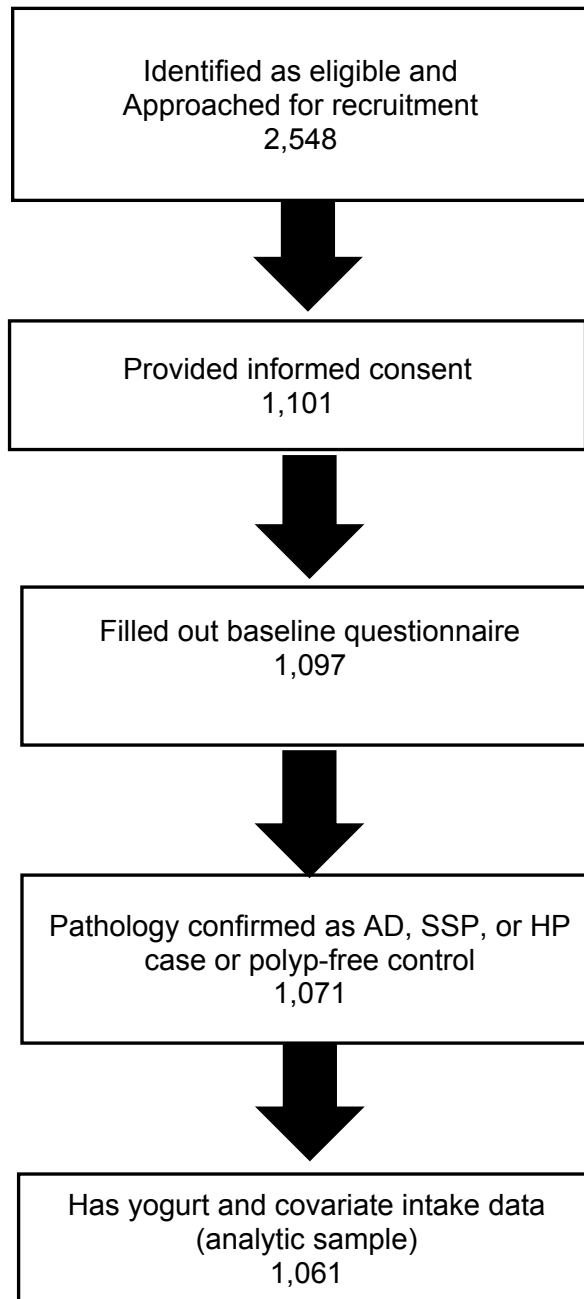


Online Supporting Material



Supplementary Figure 1. Tennessee Colorectal Polyp Study Participant Flowchart

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Supplementary Figure 2. Biofilm Study Participant Flowchart

Online Supporting Material

Supplementary Table 1. Associations between yogurt consumption and probiotic use with risk of colorectal polyps using classification by all adenomatous polyps and all serrated polyps (HP, SSP).

Frequency of yogurt intake	Case-Control Comparisons					Case-Case Comparisons					
	n	n	OR (95% CI)	n	OR (95% CI)	n	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	
	No Polyp Controls	Adenomatous Polyps (AP)	Serrated Polyps Only (SP)	Both SP + AP	SP vs. AP	SP+AP vs. AP	SP+AP vs. SP				
Tennessee Colorectal Polyp Study^a											
ALL											
Never/Rarely	1581	715	1.00 (ref)	320	1.00 (ref)	256	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	
Monthly Less than Weekly	591	204	1.00(0.82-1.23)	102	1.01(0.78-1.32)	55	0.86(0.61-1.21)	1.01(0.75-1.36)	0.86(0.59-1.23)	0.85(0.57-1.27)	
Weekly Less than Daily	845	237	0.91(0.74-1.10)	128	0.99(0.77-1.28)	69	0.97(0.70-1.35)	1.1(0.82-1.47)	1.07(0.76-1.53)	0.98(0.67-1.45)	
Daily	241	73	1.03(0.76-1.39)	20	0.56(0.34-0.93)	10	0.38(0.17-0.84)	0.55(0.32-0.95)	0.37(0.16-0.84)	0.68(0.27-1.68)	
P_{trend}			0.58		0.19		0.11		0.42	0.22	0.61
MALES											
Never/Rarely	1129	588	1.00 (ref)	247	1.00 (ref)	211	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	
Monthly Less than Weekly	288	123	1.00(0.78-1.28)	51	0.91(0.64-1.30)	32	0.73(0.47-1.14)	0.92(0.62-1.35)	0.74(0.46-1.17)	0.8(0.48-1.35)	
Weekly Less than Daily	286	118	1.01(0.78-1.31)	50	1.01(0.71-1.45)	47	1.38(0.94-2.04)	1(0.67-1.49)	1.37(0.9-2.08)	1.36(0.84-2.21)	
Daily	77	42	1.40(0.92-2.12)	6	0.37(0.15-0.95)	4	0.34(0.10-1.10)	0.27(0.10-0.70)	0.24(0.07-0.80)	0.9(0.21-3.87)	
P_{trend}			0.34		0.25		0.94		0.09	0.54	0.44
FEMALES											
Never/Rarely	452	127	1.00 (ref)	73	1.00 (ref)	45	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)	
Monthly Less than Weekly	303	81	0.95(0.68-1.33)	51	1.17(0.77-1.77)	23	0.98(0.55-1.75)	1.22(0.75-1.99)	1.03(0.55-1.92)	0.84(0.43-1.64)	
Weekly Less than Daily	559	119	0.77(0.56-1.04)	78	1.04(0.7-1.52)	22	0.54(0.3-0.99)	1.35(0.86-2.13)	0.71(0.37-1.36)	0.53(0.27-1.04)	
Daily	164	31	0.71(0.44-1.13)	14	0.75(0.4-1.42)	6	0.39(0.13-1.14)	1.06(0.51-2.24)	0.55(0.17-1.72)	0.51(0.15-1.74)	
P_{trend}			0.05		0.63		0.02		0.36	0.20	0.07
Johns Hopkins Biofilm Study^b											
ALL											

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Never/Rarely	196	118	1.00 (ref)	42	1.00 (ref)	35	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 or more/month	110	57	0.94 (0.62, 1.42)	29	1.48 (0.85, 2.58)	25	1.50 (0.82, 2.72)	1.58 (0.87, 2.88)	1.60 (0.85, 3.00)	1.01 (0.49, 2.09)
1 or more/week	271	104	0.74 (0.52, 1.05)	54	1.02 (0.63, 1.65)	28	0.71 (0.40, 1.24)	1.38 (0.82, 2.33)	0.96 (0.53, 1.73)	0.69 (0.35, 1.36)
P_{trend}			0.08		1.00		0.23	0.23	0.93	0.31
MALES										
Never/Rarely	106	75	1.00 (ref)	18	1.00 (ref)	25	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 or more/month	34	30	1.25 (0.68, 2.32)	13	2.94 (1.25, 6.93)	13	1.75 (0.76, 4.04)	2.35 (0.97, 5.70)	1.40 (0.60, 3.24)	0.60 (0.21, 1.69)
1 or more/week	93	44	0.71 (0.43, 1.18)	22	1.77 (0.84, 3.72)	9	0.44 (0.19, 1.03)	2.49 (1.13, 5.50)	0.61 (0.25, 1.49)	0.25 (0.09, 0.71)
P_{trend}			0.21		0.12		0.09	0.02	0.40	0.01
FEMALES										
Never/Rarely	90	43	1.00 (ref)	24	1.00 (ref)	10	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 or more/month	76	27	0.72 (0.39, 1.31)	16	0.85 (0.40, 1.79)	12	1.46 (0.57, 3.75)	1.18 (0.51, 2.72)	2.03 (0.75, 5.55)	1.73 (0.58, 5.13)
1 or more/week	178	60	0.66 (0.40, 1.10)	32	0.60 (0.32, 1.14)	19	1.01 (0.42, 2.39)	0.91 (0.45, 1.86)	1.51 (0.61, 3.77)	1.67 (0.62, 4.47)
P_{trend}			0.12		0.11		0.91	0.77	0.43	0.34
Probiotic use	No Polyp Controls									
ALL										
Yes	119	42	0.80 (0.53, 1.21)	20	0.78 (0.46, 1.35)	10	0.64 (0.31, 1.31)	0.98 (0.53, 1.79)	0.80 (0.37, 1.70)	0.82 (0.35, 1.89)
No	458	237	1.00 (ref)	105	1.00 (ref)	78	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
MALES										
Yes	27	17	1.15 (0.57, 2.31)	2	0.31 (0.07, 1.40)	6	1.56 (0.56, 4.32)	0.27 (0.06, 1.27)	1.36 (0.47, 3.92)	4.99 (0.91, 27.47)
No	206	132	1.00 (ref)	51	1.00 (ref)	41	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
FEMALES										
Yes	92	25	0.66 (0.39, 1.12)	18	1.00 (0.54, 1.87)	4	0.34 (0.11, 1.00)	1.51 (0.73, 3.13)	0.51 (0.16, 1.59)	0.34 (0.10, 1.10)
No	254	105	1.00 (ref)	54	1.00 (ref)	37	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)

^a Adjusted for sex, study location, age, regular alcohol drinking status, BMI, smoking status, physical activity in the past 10 years, educational attainment, NSAID use, red meat intake, dietary energy intake, and frequency of non-yogurt dairy intake

^b Adjusted for sex, age, cigarette use (current/former/never), overweight (BMI less than or greater than 25 kg/m²), prior colon polyp (yes/no), history of GI surgery (yes/no), history of cholecystectomy (yes/no), diabetes mellitus diagnosis (yes/no), hypertension diagnosis (yes/no), and hyperlipidemia diagnosis (yes/no).

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Supplementary Table 2. Associations between yogurt consumption and probiotic use with risk of colorectal polyps using classification by anatomical location of polyps.

Frequency of yogurt intake	Case-Control Comparisons						Case-Case Comparisons			
	n	n	OR (95% CI) ^a	n	OR (95% CI) ^a	n	OR (95% CI) ^a	OR (95% CI) ^a	OR (95% CI) ^a	OR (95% CI) ^a
	No Polyp Controls	LEFT ONLY		RIGHT ONLY		BOTH SIDES		Right vs Left	Both vs Left	Right vs Both
Tennessee Colorectal Polyp Study^a										
ALL										
Never/Rarely	1581	673	1.00 (ref)	319	1.00 (ref)	286	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Monthly Less than Weekly	591	178	0.95(0.77-1.17)	112	1.1(0.85-1.42)	66	0.92(0.67-1.27)	1.16(0.86-1.56)	0.97(0.69-1.38)	0.84(0.57-1.22)
Weekly Less than Daily	845	200	0.87(0.71-1.07)	149	1.06(0.83-1.36)	76	0.88(0.64-1.2)	1.23(0.92-1.64)	1.01(0.71-1.43)	0.82(0.57-1.2)
Daily	241	40	0.56(0.38-0.83)	45	1.21(0.84-1.76)	17	0.77(0.44-1.33)	2.15(1.31-3.52)	1.36(0.72-2.56)	0.63(0.34-1.18)
P_{trend}			0.01		0.35		0.25	0.008	0.62	0.11
MALES										
Never/Rarely	1129	547	1.00 (ref)	251	1.00 (ref)	235	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Monthly Less than Weekly	288	96	0.87(0.66-1.14)	64	1.09(0.79-1.50)	42	0.92(0.62-1.35)	1.26(0.86-1.83)	1.06(0.69-1.62)	0.84(0.53-1.34)
Weekly Less than Daily	286	91	0.96(0.72-1.27)	75	1.23(0.89-1.69)	43	1.07(0.72-1.59)	1.28(0.88-1.87)	1.12(0.73-1.73)	0.87(0.55-1.39)
Daily	77	20	0.69(0.39-1.20)	24	1.66(1.00-2.75)	8	0.71(0.31-1.60)	2.42(1.24-4.72)	1.03(0.41-2.57)	0.42(0.17-1.04)
P_{trend}			0.26		0.04		0.77	0.01	0.65	0.11
FEMALES										
Never/Rarely	452	126	1.00 (ref)	68	1.00 (ref)	51	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
Monthly Less than Weekly	303	82	1.05(0.75-1.46)	48	1.07(0.71-1.62)	24	0.83(0.47-1.46)	1.02(0.63-1.66)	0.8(0.43-1.47)	0.78(0.4-1.51)
Weekly Less than Daily	559	109	0.8(0.58-1.1)	74	0.88(0.6-1.29)	33	0.71(0.41-1.22)	1.1(0.69-1.74)	0.88(0.49-1.6)	0.8(0.43-1.52)
Daily	164	20	0.48(0.28-0.85)	21	0.88(0.5-1.56)	9	0.83(0.38-1.84)	1.82(0.86-3.86)	1.72(0.68-4.34)	0.95(0.37-2.42)
P_{trend}			0.01		0.46		0.29	0.27	0.71	0.64
Johns Hopkins Biofilm Study^b										
	No Polyp Controls	LEFT ONLY		RIGHT ONLY		BOTH SIDES		Right vs Left	Both vs Left	Right vs Both
ALL										

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DOES NOT EAT YOGURT/RARELY 1 OR MORE/MONTH	196	61	1.00 (ref)	81	1.00 (ref)	51	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 OR MORE/WEEK	271	74	0.99 (0.65, 1.50)	73	0.70 (0.48, 1.04)	38	0.75 (0.46, 1.25)	0.71 (0.43, 1.16)	0.76 (0.43, 1.36)	0.93 (0.53, 1.63)
P_{trend}			0.92		0.07		0.28		0.17	0.38
MALES										
DOES NOT EAT YOGURT/RARELY 1 OR MORE/MONTH	106	29	1.00 (ref)	50	1.00 (ref)	39	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 OR MORE/WEEK	93	31	1.41 (0.76, 2.60)	25	0.59 (0.33, 1.06)	18	0.58 (0.29, 1.17)	0.42 (0.20, 0.88)	0.41 (0.18, 0.93)	1.02 (0.46, 2.24)
P_{trend}			0.26		0.11		0.15		0.03	0.04
FEMALES										
DOES NOT EAT YOGURT/RARELY 1 OR MORE/MONTH	91	32	1.00 (ref)	31	1.00 (ref)	12	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
1 OR MORE/WEEK	179	43	0.66 (0.38, 1.16)	48	0.69 (0.40, 1.20)	20	0.95 (0.41, 2.16)	1.05 (0.53, 2.07)	1.43 (0.57, 3.55)	0.73 (0.25, 1.91)
P_{trend}			0.15		0.19		0.84		0.90	0.47

Probiotic use

ALL										
Yes	119	28	0.84 (0.52, 1.34)	27	0.69 (0.43, 1.11)	17	0.86 (0.47, 1.59)	0.83 (0.46, 1.50)	1.03 (0.51, 2.09)	0.80 (0.39, 1.61)
No	460	145	1.00 (ref)	172	1.00 (ref)	99	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
MALES										
Yes	27	8	1.00 (0.42, 2.37)	7	0.70 (0.29, 1.71)	10	1.50 (0.61, 3.64)	0.70 (0.24, 2.08)	1.50 (0.52, 4.33)	0.47 (0.16, 1.40)
No	206	69	1.00 (ref)	91	1.00 (ref)	63	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)
FEMALES										
Yes	92	20	0.80 (0.45, 1.42)	20	0.67 (0.38, 1.18)	7	0.56 (0.23, 1.36)	0.84 (0.41, 1.71)	0.70 (0.26, 1.88)	1.19 (0.45, 3.19)
No	254	76	1.00 (ref)	81	1.00 (ref)	36	1.00 (ref)	1.00 (ref)	1.00 (ref)	1.00 (ref)

^a Adjusted for sex, study location, age, regular alcohol drinking status, BMI, smoking status, physical activity in the past 10 years, educational attainment, NSAID use, red meat intake, dietary energy intake, and frequency of non-yogurt dairy intake

^b Adjusted for sex, age, cigarette use (current/former/never), overweight (BMI less than or greater than 25 kg/m²), prior colon polyp (yes/no), history of GI surgery (yes/no), history of cholecystectomy (yes/no), diabetes mellitus diagnosis (yes/no), hypertension diagnosis (yes/no), and hyperlipidemia diagnosis (yes/no).

Online Supporting Material

Supplementary Table 3. Associations between yogurt consumption and probiotic use with risk of colorectal polyps using classification by advanced versus non-advanced adenoma.

Frequency of yogurt intake	Case-Control Comparisons				
	n	n	OR (95% CI) ^a	n	OR (95% CI) ^a
	No Polyp Controls		Non-Advanced APs	Advanced APs	
Tennessee Colorectal Polyp Study^a					
Never/Rarely	1581	682	1.00 (ref)	279	1.00 (ref)
Monthly Less than Weekly	591	177	0.90 (0.73-1.12)	76	1.06 (0.79-1.43)
Weekly Less than Daily	845	225	0.94 (0.77-1.15)	76	0.81 (0.59-1.11)
Daily	241	61	0.92 (0.66-1.27)	22	0.87 (0.52-1.45)
P_{trend}			0.43		0.26
Johns Hopkins Biofilm Study^b					
	No Polyp Controls		Non-Advanced APs	Advanced APs	
DOES NOT EAT YOGURT/RARELY	197	117	1.00 (ref)	22	1.00 (ref)
1 OR MORE/MONTH	110	68	1.11 (0.74, 1.66)	4	0.33 (0.10, 1.03)
1 OR MORE/WEEK	272	107	0.76(0.54, 1.08)	15	0.66 (0.31, 1.40)
P_{trend}			0.12		0.23
Probiotic use					
Yes	119	40	0.66 (0.43, 1.00)	7	0.86(0.35, 2.06)
No	460	252	1.00 (ref)	34	1.00 (ref)

^a Adjusted for sex, study location, age, regular alcohol drinking status, BMI, smoking status, physical activity in the past 10 years, educational attainment, NSAID use, red meat intake, dietary energy intake, and frequency of non-yogurt dairy intake

^b Adjusted for sex, age, cigarette use (current/former/never), overweight (BMI less than or greater than 25 kg/m²), prior colon polyp (yes/no), history of GI surgery (yes/no), history of cholecystectomy (yes/no), diabetes mellitus diagnosis (yes/no), hypertension diagnosis (yes/no), and hyperlipidemia diagnosis (yes/no).