

Supplementary material

Supplementary table 1: Weighted adjusted models with and without interaction terms for of the association between racism and GHQ (coefficients table)

Variable		With interaction terms		Without interaction terms	
		B (C.I)	p-value	B (C.I)	p-value
Racism	Yes	0.71 (0.02, 1.40)	0.045	0.58 (0.156, 1.00)	0.007
Sex	Female	0.06 (-0.15, 0.28)	0.570	0.06 (-0.15, 0.26)	0.590
Race x Sex	Yes x Female	-0.04 (-0.86, 0.77)	0.915	-	-
Ethnicity	Mixed	-0.05 (-0.63, 0.53)	0.869	-0.059 (-0.65, 0.53)	0.842
	Asian	-0.33 (-1.00, 0.35)	0.345	-0.31 (-0.98, 0.37)	0.375
	Black African or Black Caribbean	-0.08 (-0.68, 0.52)	0.794	-0.15 (-0.68, 0.37)	0.572
	Other ethnic group	0.53 (-0.35, 1.41)	0.234	0.32 (-0.48, 1.12)	0.433
Race x Ethnicity	Yes x Mixed	-0.14 (-1.83, 1.54)	0.869	-	-
	Yes x Asian	0.06 (-0.89, 1.00)	0.902		
	Yes x Black African or Black Caribbean	-0.44 (-1.52, 0.64)	0.425		
	Yes x Other ethnic group	-1.60 (-3.03, -0.16)	0.029		
Religion	Christian	0.13 (-0.09, 0.35)	0.255	0.13 (-0.09, 0.35)	0.242
	Muslim	-0.44 (-1.16, 0.29)	0.236	-0.44 (-1.16, 0.29)	0.240
	Other religion	0.08 (-0.66, 0.83)	0.831	0.10 (-0.64, 0.85)	0.787
Income	£10,400 to £20,799	0.15 (-0.27, 0.56)	0.482	0.14 (-0.27, 0.56)	0.505
	£20,800 to £36,399	0.21 (-.23, 0.64)	0.347	0.20 (-0.24, 0.64)	0.367
	£36,400 to £51,999	-0.12 (-0.56, 0.31)	0.579	-0.13 (-0.57, 0.30)	0.546
	£52,000 or more	-0.20 (-0.66, 0.26)	0.391	-0.21 (-0.67, 0.25)	0.368
Parental	GCE A level	-0.173	0.208	-0.18	0.193

education	GCSE grades A-C	(-0.44, 0.10) -0.153	0.248	(-0.45, 0.09) -0.15	0.255
	Qualification at level 1 and below	(-0.41, 0.11) .182	0.441	(-0.41, 0.11) 0.19	0.433
	No qualification	(-0.28, 0.65) -0.09	0.685	(-0.28, 0.65) -0.09	0.682
		(-0.54, 0.35)		(-0.54, 0.35)	
Smoking	Used to smoke	0.256 (0.02, 0.53)	0.067	0.26 (-0.01, 0.53)	0.063
	Smokes occasionally (not every day)	.297 (-0.01, 0.60)	0.055	0.29 (-0.02, 0.59)	0.064
	Smokes everyday	0.504 (0.20, 0.81)	0.001	0.51 (0.20, 0.81)	0.001
Alcohol use	Monthly or less	-0.41 (-0.80, -0.01)	0.043	-0.41 (-0.81, -0.02)	0.039
	2-4 times a month	-0.58 (-0.97, -0.19)	0.003	-0.59 (-0.98, -0.20)	0.003
	2-3 times a week	-0.82 (-1.23, -0.40)	<0.001	-0.82 (-1.23, -0.40)	< 0.001
	4 or more times a week	-0.14 (-0.77, 0.48)	0.658	0.14 (-0.77, 0.48)	0.657
Employment at age 25	No	0.72 (0.45, 0.99)	0.000	0.71 (0.45, 0.98)	<0.001
Education/work status at age 17	Doing apprenticeship or similar training	-0.16 (-0.49, 0.16)	0.328	-0.16 (-0.48, 0.17)	0.336
	In a full-time paid job	-0.81 (-1.23, -0.39)	<0.001	-0.81 (-1.23, -.39)	<0.001
	Something else	0.04 (-0.33, 0.41)	0.825	0.04 (-0.33, 0.42)	0.820
BMI	-	.010 (-0.01, 0.03)	0.300	0.01 (-0.01, 0.03)	0.296
GHQ-12 (pre-exposure)	-	.252 (0.21, 0.30)	<0.001	0.25 (0.21, 0.30)	0.000

Supplementary table 2: Weighted adjusted models with and without interaction terms for of the association between racism and overall life satisfaction (coefficients table)

Variable		With interaction terms		Without interaction terms	
		B (C.I)	p-value	B (C.I)	p-value
Racism	Yes	0.16 (-0.22, 0.54)	0.414	0.06 (-0.17, 0.29)	0.597
Sex	Female	-0.34 (-0.47, -0.21)	<0.001	-0.33 (-0.46, -0.20)	<0.001
Race x Sex	Yes x Female	0.09 (-0.35, 0.52)	0.693	-	-
Ethnicity	Mixed	0.19 (-0.16, 0.53)	0.284	0.10 (-.24, 0.44)	0.564
	Asian	0.45 (0.04, 0.87)	0.030	0.43 (0.03, 0.83)	0.037
	Black African or Black Caribbean	0.62 (0.30, 0.93)	<0.001	0.57 (0.29, 0.85)	<0.001
	Other ethnic group	0.78 (0.31, 1.24)	0.001	0.66 (0.24, 1.09)	0.002
Race x Ethnicity	Yes x Mixed	-0.45 (-1.38, 0.47)	0.336	-	-
	Yes x Asian	-0.16 (-0.67, 0.36)	0.555		
	Yes x Black African or Black Caribbean	-0.33 (-0.96, 0.30)	0.303		
	Yes x Other ethnic group	-0.84 (-1.73, 0.05)	0.064		
Religion	Christian	-0.18 (-0.32, -0.05)	0.009	-0.17 (-0.31, -0.04)	0.011
	Muslim	-0.52 (-0.92, -0.12)	0.011	-0.51 (-0.91, -0.11)	0.012
	Other religion	-0.44 (-0.92, 0.03)	0.065	-0.42 (-0.89, 0.05)	0.079
Income	£10,400 to £20,799	-0.14 (-0.40, 0.11)	0.272	-0.15 (-0.41, 0.10)	0.247
	£20,800 to £36,399	-0.17 (-0.44, 0.10)	0.212	-0.17 (-0.44, 0.10)	0.213
	£36,400 to £51,999	-0.27 (-0.55, 0.01)	0.064	-0.28 (-0.57, 0.01)	0.057
	£52,000 or more	-0.52 (-0.82, -0.23)	0.001	-0.53 (-0.83, -0.24)	<0.001
Parental education	GCE A level	-0.08 (-0.25, 0.09)	0.359	-0.08 (-0.26, 0.09)	0.353
	GCSE grades A-C	-0.05	0.540	-0.05	0.576

	Qualification at level 1 and below	(-0.21, 0.11) 0.05	0.739	(-0.21, 0.12) 0.05	0.725
	No qualification	(-0.23, 0.33) -0.05	0.688	(-0.23, 0.33) -0.05	0.707
		(-0.31, 0.20)		(-0.30, 0.25)	
Smoking	Used to smoke	0.04 (-0.12, 0.20)	0.620	0.04 (-0.12, 0.21)	0.604
	Smokes occasionally (not every day)	0.32 (0.13, 0.51)	0.001	0.32 (0.12, 0.51)	0.001
	Smokes everyday	0.52 (0.33, 0.71)	<0.001	0.52 (0.33, 0.71)	<0.001
Alcohol use	Monthly or less	0.02 (-0.25, 0.25)	0.894	0.01 (-0.22, 0.24)	0.931
	2-4 times a month	-0.06 (-0.29, 0.18)	0.640	-0.06 (-0.29, 0.17)	0.595
	2-3 times a week	-0.19 (-0.44, 0.06)	0.137	-0.19 (-0.44, 0.06)	0.138
	4 or more times a week	-0.06 (-0.29, 0.17)	0.728	-0.06 (-0.42, 0.29)	0.722
Employment at age 25	No	0.41 (0.25, 0.56)	<0.001	0.40 (0.24, 0.56)	<0.001
Education/work status at age 17	Doing apprenticeship or similar training	-0.26 (-0.48, -0.05)	0.015	-0.26 (-0.48, -0.05)	0.016
	In a full-time paid job	-0.14 (-0.41, 0.12)	0.297	-0.14 (-0.40, 0.12)	0.292
	Something else	0.08 (-0.15, 0.30)	0.479	0.08 (-0.14, 0.30)	0.481
BMI	-	0.01 (-0.00, 0.02)	0.251	0.01 (-0.00, 0.02)	0.252
GHQ-12 (pre-exposure)	-	0.09 (0.06, 0.11)	<0.001	0.09 (0.06, 0.11)	<0.001

Supplementary table 3: Weighted adjusted models with and without interaction terms for of the association between racism and self-harm (coefficients table)

Variable		With interaction terms		Without interaction terms	
		B (C.I)	p-value	B (C.I)	p-value
Racism	Yes	-0.04 (-1.12, 1.04)	0.946	-0.24 (-0.92, 0.45)	0.494
Sex	Female	0.04 (-0.36, 0.43)	0.854	0.05 (-0.33, 0.44)	0.796
Race x Sex	Yes x Female	0.20 (-1.09, 1.50)	0.758	-	-
Ethnicity	Mixed	0.40 (-0.47, 1.27)	0.370	0.05 (-0.84, 0.94)	0.912
	Asian	0.14 (-1.15, 1.43)	0.831	0.12 (-1.11, 1.34)	0.851
	Black African or Black Caribbean	-0.81 (-1.86, 0.23)	0.128	-0.83 (-1.74, 0.09)	0.077
	Other ethnic group	0.97 (-0.27, 2.21)	0.123	0.78 (-0.45, 2.01)	0.213
Race x Ethnicity	Yes x Mixed	-2.42 (-4.91, 0.07)	0.057	-	-
	Yes x Asian	-0.21 (-1.60, 1.19)	0.774		
	Yes x Black African or Black Caribbean	0.25 (-2.26, 1.76)	0.807		
	Yes x Other ethnic group	-2.49 (-4.93, -0.06)	0.045		
Religion	Christian	-0.20 (-0.57, 0.17)	0.297	-0.19 (-0.56, 0.18)	0.321
	Muslim	-0.45 (-1.73, 0.84)	0.496	-0.43 (-1.71, 0.84)	0.505
	Other religion	-1.28 (-2.57, 0.01)	0.052	-1.22 (-2.51, 0.08)	0.005
Income	£10,400 to £20,799	-0.05 (-0.72, 0.63)	0.896	-0.07 (-0.74, 0.60)	0.842
	£20,800 to £36,399	0.18 (-0.54, 0.90)	0.618	0.17 (-0.54, 0.89)	0.629
	£36,400 to £51,999	-0.05 (-0.79, 0.68)	0.883	-0.07 (-0.80, 0.66)	0.844
	£52,000 or more	-0.14 (-1.00, 0.72)	0.752	-0.16 (-1.02, 0.70)	0.719
Parental education	GCE A level	-0.30 (-0.82, 0.22)	0.259	-0.31 (-0.83, 0.21)	0.239
	GCSE grades A-C	-0.51	0.043	-0.49	0.050

	Qualification at level 1 and below	(-1.00, -0.01) -0.07	0.851	(-0.98, 0.00) -0.05	0.885
	No qualification	(-0.76, 0.63) -0.27 (-1.00, 0.47)	0.476	(-0.74, 0.64) -0.24 (-0.97, 0.49)	0.517
Smoking	Used to smoke	0.40 (-0.10, 0.90)	0.117	0.40 (-0.10, 0.90)	0.115
	Smokes occasionally (not every day)	0.49 (-0.05, 1.02)	0.074	0.47 (-0.06, 1.01)	0.083
	Smokes everyday	0.93 (0.47, 1.40)	<0.001	0.93 (0.47, 1.40)	<0.001
Alcohol use	Monthly or less	0.11 (-0.49, 0.71)	0.727	0.12 (-0.48, 0.72)	0.695
	2-4 times a month	0.02 (-0.59, 0.63)	0.944	0.02 (-0.59, 0.63)	0.952
	2-3 times a week	-0.17 (-0.82, 0.48)	0.610	-0.15 (-0.80, 0.50)	0.653
	4 or more times a week	0.36 (-0.47, 1.20)	0.395	0.37 (-0.47, 1.21)	0.382
Employment at age 25	No	0.84 (0.49, 1.19)	<0.001	0.82 (0.47, 1.17)	<0.001
Education/work status at age 17	Doing apprenticeship or similar training	-0.69 (-1.49, 0.11)	0.090	-0.69 (-1.49, 0.10)	0.088
	In a full-time paid job	-1.42 (-2.64, -0.20)	0.023	-1.41 (-2.64, -0.19)	0.024
	Something else	0.33 (-0.16, 0.82)	0.183	0.32 (-0.17, 0.82)	0.195
BMI	-	0.03 (0.00, 0.06)	0.026	0.03 (0.00, 0.06)	0.025
GHQ-12 (pre-exposure)	-	0.19 (0.14, 0.24)	<0.001	0.19 (0.14, 0.24)	<0.001

Supplementary table 4: Weighted adjusted models with and without interaction terms for of the association between racism and longstanding mental illness (coefficients table)

Variable		With interaction terms		Without interaction terms	
		B (C.I)	p-value	B (C.I)	p-value
Racism	Yes	0.58 (-0.13, 1.27)	0.109	0.27 (-0.22, 0.76)	0.280
Sex	Female	0.10 (-0.16, 0.36)	0.465	0.07 (-0.18, 0.32)	0.589
Race x Sex	Yes x Female	-0.37 (-1.28, 0.54)	0.429	-	-
Ethnicity	Mixed	-0.62 (-1.32, 0.07)	0.079	-0.84 (-1.64, -0.04)	0.039
	Asian	-1.64 (-2.52, -0.76)	<0.001	-1.78 (-2.62, -0.95)	<0.001
	Black African or Black Caribbean	-1.54 (-2.36, -0.72)	<0.001	-1.54 (-2.21, -0.86)	<0.001
	Other ethnic group	-0.84 (-2.01, 0.33)	0.161	-1.11 (-2.31, 0.08)	0.069
Race x Ethnicity	Yes x Mixed	0.78 (-2.91, 1.35)	0.472	-	-
	Yes x Asian	-0.65 (-1.88, 0.58)	0.300		
	Yes x Black African or Black Caribbean	-0.12 (-1.65, 1.41)	0.879		
	Yes x Other ethnic group	0 (omitted)	-		
Religion	Christian	-0.09 (-0.34, 0.16)	0.476	-0.08 (-0.34, 0.17)	0.514
	Muslim	-0.16 (-1.05, 0.72)	0.715	-0.16 (-1.05, 0.73)	0.726
	Other religion	0.42 (-0.36, 1.19)	0.294	0.46 (-0.31, 1.24)	0.241
Income	£10,400 to £20,799	-0.11 (-0.57, 0.34)	0.624	-0.12 (-0.58, 0.34)	0.598
	£20,800 to £36,399	-0.02 (-0.45, 0.48)	0.950	0.01 (-0.47, 0.48)	0.981
	£36,400 to £51,999	-0.05 (-0.55, 0.46)	0.858	-0.06 (-0.57, 0.45)	0.814
	£52,000 or more	-0.28 (-0.81, 0.26)	0.311	-0.29 (-0.82, 0.25)	0.288
Parental education	GCE A level	-0.06 (-0.40, 0.28)	0.741	-0.06 (-0.40, 0.28)	0.714
	GCSE grades A-C	-0.56	0.002	-0.55	0.002

	Qualification at level 1 and below	(-0.91, -0.20) -0.26	0.306	(-0.90, -0.19) -0.25	0.326
	No qualification	(-0.77, 0.24) -0.27 (-0.74, 0.19)	0.251	(-0.76, 0.25) -0.26 (-0.73, 0.20)	0.265
Smoking	Used to smoke	0.20 (-0.14, 0.54)	0.246	0.20 (-0.14, 0.54)	0.248
	Smokes occasionally (not every day)	0.18 (-0.21, 0.58)	0.361	0.17 (-0.22, 0.57)	0.392
	Smokes everyday	0.60 (0.28, 0.93)	<0.001	0.60 (0.27, 0.92)	<0.001
Alcohol use	Monthly or less	-0.31 (-0.67, 0.04)	0.085	-0.31 (-0.67, 0.05)	0.087
	2-4 times a month	-0.72 (-1.11, -0.34)	<0.001	-0.72 (-1.11, -0.34)	<0.001
	2-3 times a week	-0.94 (-1.37, -0.51)	<0.001	-0.92 (-1.35, -0.49)	<0.001
	4 or more times a week	-0.41 (-1.03, 0.22)	0.202	0.41 (-1.04, 0.21)	0.195
Employment at age 25	No	1.11 (0.87, 1.35)	<0.001	1.10 (0.86, 1.34)	<0.001
Education/work status at age 17	Doing apprenticeship or similar training	-0.48 (-0.91, -0.05)	0.030	0.48 (-0.91, -0.04)	0.031
	In a full-time paid job	-0.46 (-1.07, 0.14)	0.136	-0.46 (-1.06, 0.15)	0.140
	Something else	0.29 (-0.06, 0.63)	0.102	0.29 (-0.06, 0.63)	0.105
BMI	-	0.03 (0.01, 0.04)	0.004	0.026 (0.01, 0.04)	0.004
GHQ-12 (pre-exposure)	-	0.12 (0.08, 0.17)	<0.001	0.125 (0.08, 0.17)	<0.001

Supplementary table 5: Crude and adjusted models of the association between racism and mental health using complete case analysis

Variable	Category	Model A*		Model B**		Model C***	
GHQ-12							
		B	P-value	B	P-value	B	P-value
Racism	No Yes	- 1.01 (0.52, 1.49)	- <0.00 01	- 0.66 (0.18, 1.14)	- 0.007	- 0.66 (0.17, 1.14)	- 0.008
Overall life satisfaction							
		OR	P-value	OR	P-value	OR	P-value
Racism	No Yes	- 1.44 (1.10, 1.87)	- 0.007	- 1.25 (0.95, 1.65)	- 0.108	- 1.19 (0.96, 1.48)	- 0.103
Self-Harm							
		OR	P-value	OR	P-value	OR	P-value
Racism	No Yes	- 1.31 (0.69, 2.51)	- 0.409	- 1.06 (0.52, 2.15)	- 0.869	- 1.11 (0.51, 2.41)	- 0.798
Longstanding mental health illness							
		OR	P-value	OR	P-value	OR	P-value
Racism	No Yes	- 1.36 (0.85, 2.19)	- 0.204	- 1.13 (0.68, 1.89)	- 0.639	- 1.30 (0.79, 2.16)	- 0.305