

Demographic factors			
<i>Age at interview (years), mean and 95% confidence interval:</i>		39.1 (38.5-39.6)	
		Number	%
<i>Relationship status</i>	- Single	32	5.5
	- In a relationship	589	94.4
<i>Military factors</i>			
<i>Serving status</i>	- Serving	395	63.3
	- Ex-service	226	36.7
<i>Engagement type</i>	- Regular	532	87.4
	- Reserve	89	12.6
<i>Service</i>	- Royal Navy	67	10.6
	- Royal Marines	29	4.7
	- Army	422	68.3
	- RAF	103	16.4
<i>Rank</i>	- Officer	128	17.1
	- Non-Commissioned Officers	411	67.2
	- Other rank	82	15.7
<i>Deployment status</i>	- Iraq or Afghanistan	263	43.2
	- Neither	358	56.8
<i>Health factors</i>			
<i>DSM criteria met for PTSD</i>	- Full PTSD	42	7.1

	- Sub-threshold PTSD	17	3.0
	- Non-case	562	89.9
<i>DSM criteria for the domains of PTSD</i>	Re-experiencing symptoms	116	19.6
	Avoidance and numbing symptoms	70	11.9
	Negative changes in cognition and mood	81	13.4
	Changes in arousal and reactivity	95	16.2
<i>Family factors</i>			
<i>Number of mothers</i>	- 1	589	94.6
	- 2+	32	5.4
<i>Number of children</i>	- 1	293	47.9
	- 2	252	40.0
	- 3	61	9.7
	- 4+	15	2.5

Online Table 1: Characteristics of fathers included in the kids study (n=621), unweighted numbers and weighted percentages are reported

SDQ domains	Number (%)	OR (95% CI)		p-value	AOR (95% CI)		p-value
		Non-case	Subthreshold/ full case		Non-case	Subthreshold/full case	
<i>Hyperactivity</i>							

Non-case	404 (74.1%)	32 (57.4%)	1.0	1		1.0		
Borderline case	39 (7.4%)	3 (5.1%)	1.0	0.89 (0.25-3.12)	0.850	1.0	0.83 (0.22-3.08)	0.76
Full case	99 (18.5%)	21 (37.6%)	1.0	2.63 (1.41-4.90)	0.002	1.0	2.32 (1.18-4.55)	0.01
<i>Emotional symptoms</i>								
Non-case	434 (79.7%)	45 (81.7%)	1.0	1		1.0		
Borderline case	42 (8.1%)	3 (4.8%)	1.0	0.58 (0.17-1.97)	0.379	1.0	0.51 (0.14-1.84)	0.31
Full case	66 (12.2%)	8 (13.6%)	1.0	1.08 (0.47-2.52)	0.853	1.0	0.87 (0.34-2.30)	0.78
<i>Conduct problems</i>								
Non-case	389 (70.9%)	35 (63.2%)	1.0	1		1.0		
Borderline case	73 (13.8%)	9 (14.5%)	1.0	1.19 (0.56-2.53)	0.660	1.0	1.17 (0.53-2.60)	0.70
Full case	80 (15.3%)	12 (22.2%)	1.0	1.63 (0.83-3.19)	0.157	1.0	1.22 (0.56-2.64)	0.62
<i>Peer problems</i>								
Non-case	438	37 (66.3%)	1.0	1		1.0		

	(80.5%)							
Borderline case	48 (8.7%)	9 (15.6%)	1.0	2.18 (1.01-4.68)	0.046	1.0	1.80 (0.75-4.27)	0.19
Full case	56 (10.8%)	10 (18.1%)	1.0	2.04 (0.89-4.68)	0.094	1.0	1.93 (0.79-4.70)	0.15
<i>Prosocial difficulties</i>								
Non-case	479 (87.8%)	41 (75.1%)	1.0	1		1.0		
Borderline case	32 (6.2%)	6 (10.3%)	1.0	1.93 (0.79-4.70)	0.146	1.0	1.47 (0.60-3.60)	0.40
Full case	31 (6.0%)	9 (14.7%)	1.0	2.86 (1.23-6.63)	0.015	1.0	2.28 (0.89-5.85)	0.09
<i>Total difficulties</i>								
Non-case	430 (78.9%)	34 (60.2%)	1.0	1		1.0		
Borderline case	48 (9.0%)	9 (17.2%)	1.0	2.50 (1.05-5.98)	0.039	1.0	2.46 (0.97-6.22)	0.06
Full case	64 (12.1%)	13 (22.6%)	1.0	2.46 (1.19-5.06)	0.015	1.0	2.11 (0.99-4.47)	0.05

Online Table 2: Associations between paternal PTSD and childhood social and emotional problems (as measured by the SDQ) for children <11 years of age, unweighted numbers, weighted percentages, multinomial odds ratios (OR), adjusted odds ratios (AOR) and 95% confidence intervals (CI) are reported. Odds ratios adjusted for child's age, gender, father's age, relationship status, deployment status, engagement type, rank and Service

SDQ domains	Number (%)		OR (95% CI)		p-value	AOR (95% CI)		p-value
			Non-case	Subthreshold/full case		Non-case	Subthreshold/full case	
<i>Hyperactivity</i>								
Non-case	322 (83.4%)	30 (83.8%)	1.0	1		1.0		
Borderline case	21 (5.7%)	2 (5.6%)	1.0	0.97 (0.22-4.21)	0.965	1.0	0.77 (0.09-6.64)	0.81
Full case	42 (11.0%)	4 (10.6%)	1.0	0.97 (0.33-2.80)	0.948	1.0	1.08 (0.35-3.36)	0.89
<i>Emotional symptoms</i>								
Non-case	275 (71.5%)	24 (66.8%)	1.0	1		1.0		
Borderline case	37 (9.6%)	3 (8.5%)	1.0	0.95 (0.29-3.14)	0.930	1.0	0.72 (0.17-3.04)	0.65
Full case	73 (19.0%)	9 (24.7%)	1.0	1.39 (0.61-3.21)	0.436	1.0	1.50 (0.60-3.75)	0.39
<i>Conduct problems</i>								
Non-case	303 (78.2%)	26 (72.1%)	1.0	1		1.0		
Borderline case	32 (8.5%)	5 (13.7%)	1.0	1.76 (0.63-4.89)	0.282	1.0	1.76 (0.60-5.17)	0.31

Full case	50 (13.3%)	5 (14.2%)	1.0	1.16 (0.43-3.10)	0.769	1.0	0.90 (0.27-3.00)	0.86
<i>Peer problems</i>								
Non-case	279 (72.4%)	26 (71.7%)	1.0	1		1.0		
Borderline case	34 (8.6%)	4 (11.1%)	1.0	1.31 (0.41-4.13)	0.650	1.0	1.38 (0.41-4.57)	0.60
Full case	72 (19.0%)	6 (17.2%)	1.0	0.91 (0.35-2.36)	0.850	1.0	0.84 (0.30-2.35)	0.74
<i>Prosocial difficulties</i>								
Non-case	336 (87.3%)	30 (84.1%)	1.0	1		1.0		
Borderline case	25 (6.5%)	3 (7.4%)	1.0	1.19 (0.34-4.13)	0.782	1.0	1.12 (0.25-4.91)	0.89
Full case	24 (6.2%)	3 (8.5%)	1.0	1.42 (0.41-4.95)	0.585	1.0	1.00 (0.21-4.75)	1.00
<i>Total difficulties</i>								
Non-case	303 (78.5%)	26 (72.9%)	1.0	1		1.0		
Borderline case	31 (8.1%)	4 (10.8%)	1.0	1.44 (0.47-4.40)	0.528	1.0	1.59 (0.52-4.88)	0.42
Full case	51 (13.4%)	6 (16.4%)	1.0	1.31 (0.51-3.40)	0.577	1.0	1.17 (0.36-3.81)	0.79

Online Table 3: Associations between paternal PTSD and childhood social and emotional problems (as measured by the SDQ) for children aged 11+ years, unweighted numbers, weighted percentages, multinominal odds ratios (OR), adjusted odds ratios (AOR) and

95% confidence intervals (CI) are reported. Odds ratios adjusted for child's age, gender, father's age, relationship status, deployment status, engagement type, rank and Service

SDQ domains	Number (%)		OR (95% CI)		p-value	AOR (95% CI)		p-value
			Non-case	Subthreshold/full case		Non-case	Subthreshold/full case	
<i>Hyperactivity</i>								
Non-case	346 (73.2%)	23 (53.8%)	1.0	1.0		1.0		
Borderline case	31 (7.0%)	3 (6.4%)	1.0	1.24 (0.34-4.51)	0.751	1.0	1.15 (0.27-4.97)	0.85
Full case	91 (19.8%)	18 (39.8%)	1.0	2.74 (1.35-5.55)	0.005	1.0	2.59 (1.21-5.55)	0.01
<i>Emotional symptoms</i>								
Non-case	364 (77.5%)	32 (73.4%)	1.0	1.0		1.0		
Borderline case	40 (8.9%)	3 (6.0%)	1.0	0.72 (0.21-2.48)	0.599	1.0	0.69 (0.18-2.63)	0.58
Full case	64 (13.6%)	9 (20.5%)	1.0	1.59 (0.68-3.72)	0.280	1.0	1.46 (0.55-3.86)	0.45
<i>Conduct problems</i>								
Non-case	340 (71.6%)	25 (58.0%)	1.0	1.0		1.0		

Borderline case	54 (12.0%)	6 (11.9%)	1.0	1.22 (0.47-3.18)	0.686	1.0	1.31 (0.50-3.41)	0.58
Full case	74 (16.4%)	13 (30.1%)	1.0	2.26 (1.04-4.93)	0.040	1.0	1.82 (0.71-4.70)	0.21
<i>Peer problems</i>								
Non-case	357 (76.1%)	27 (61.0%)	1.0	1.0		1.0		
Borderline case	41 (8.6%)	5 (10.8%)	1.0	1.57 (0.61-4.04)	0.352	1.0	1.15 (0.39-3.34)	0.80
Full case	70 (15.3%)	12 (28.1%)	1.0	2.30 (0.98-5.37)	0.055	1.0	1.82 (0.68-4.88)	0.23
<i>Prosocial difficulties</i>								
Non-case	398 (84.3%)	30 (70.4%)	1.0	1.0		1.0		
Borderline case	35 (7.9%)	5 (10.8%)	1.0	1.64 (0.61-4.45)	0.327	1.0	1.33 (0.48-3.67)	0.58
Full case	35 (7.9%)	9 (18.9%)	1.0	2.88 (1.22-6.80)	0.016	1.0	2.44 (0.88-6.76)	0.09
<i>Total difficulties</i>								
Non-case	358 (76.0%)	26 (59.2%)	1.0	1.0		1.0		
Borderline case	40 (8.9%)	6 (13.5%)	1.0	1.95 (0.73-5.20)	0.181	1.0	2.17 (0.76-6.20)	0.15

Full case	70 (15.1%)	12 (27.3%)	1.0	2.32 (1.01-5.34)	0.049	1.0	1.80 (0.69-4.66)	0.23
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Online Table 4: Associations between paternal PTSD and childhood social and emotional problems (as measured by the SDQ) for boys, unweighted numbers, weighted percentages, multinominal odds ratios (OR), adjusted odds ratios (AOR) and 95% confidence intervals (CI) are reported. Odds ratios adjusted for child’s age, father’s age, relationship status, deployment status, engagement type, rank and Service

SDQ domains	Number (%)		OR (95% CI)		p-value	AOR (95% CI)		p-value
			Non-case	Subthreshold/full case		Non-case	Subthreshold/full case	
<i>Hyperactivity</i>								
Non-case	380 (82.4%)	39 (80.5%)	1.0	1.0		1.0		
Borderline case	29 (6.5%)	2 (4.2%)	1.0	0.67 (0.15-2.97)	0.598	1.0	0.54 (0.11-2.73)	0.45
Full case	50 (11.1%)	7 (15.3%)	1.0	1.41 (0.60-3.31)	0.434	1.0	1.22 (0.49-3.05)	0.67
<i>Emotional symptoms</i>								
Non-case	345 (75.3%)	37 (78.1%)	1.0	1.0		1.0	0.52 (0.15-1.88)	0.32

Borderline case	39 (8.5%)	3 (6.4%)	1.0	0.73 (0.22-2.39)	0.602	1.0	0.76 (0.29-1.98)	0.57
Full case	75 (16.3%)	8 (15.6%)	1.0	0.92 (0.41-2.08)	0.842	1.0		
<i>Conduct problems</i>								
Non-case	352 (76.1%)	36 (74.7%)	1.0	1.0		1.0		
Borderline case	51 (11.3%)	8 (16.4%)	1.0	1.48 (0.67-3.26)	0.327	1.0	1.33 (0.57-3.10)	0.51
Full case	56 (12.6%)	4 (8.9%)	1.0	0.72 (0.20-2.62)	0.621	1.0	0.48 (0.13-1.76)	0.27
<i>Peer problems</i>								
Non-case	360 (78.4%)	36 (75.2%)	1.0	1.0		1.0		
Borderline case	41 (8.7%)	8 (16.6%)	1.0	1.99 (0.85-4.68)	0.113	1.0	1.96 (0.75-5.15)	0.17
Full case	58 (12.9%)	4 (8.2%)	1.0	0.66 (0.23-1.93)	0.450	1.0	0.54 (0.18-1.56)	0.25
<i>Prosocial difficulties</i>								
Non-case	417 (91.0%)	41 (86.2%)	1.0	1.0		1.0		
Borderline	22 (4.7%)	4 (7.7%)	1.0	1.70 (0.57-5.06)	0.339	1.0	1.53 (0.46-5.07)	0.48

case								
Full case	20 (4.3%)	3 (6.1%)	1.0	1.51 (0.41-5.54)	0.535	1.0	1.49 (0.35-6.41)	0.59
<i>Total difficulties</i>								
Non-case	375 (81.6%)	34 (70.7%)	1.0	1.0		1.0		
Borderline case	39 (8.4%)	7 (15.7%)	1.0	2.17 (0.95-4.94)	0.065	1.0	1.86 (0.79-4.36)	0.15
Full case	45 (10.0%)	7 (13.6%)	1.0	1.56 (0.63-3.83)	0.333	1.0	1.20 (0.41-3.52)	0.75

Online Table 5: Associations between paternal PTSD and childhood social and emotional problems (as measured by the SDQ) for girls, unweighted numbers, weighted percentages, multinomial odds ratios (OR), adjusted odds ratios (AOR) and 95% confidence intervals (CI) are reported. Odds ratios adjusted for child's age, father's age, relationship status, deployment status, engagement type, rank and Service