

## Supplementary materials

Online Table 1: Proportion of participants meeting definitions of caseness for psychological measures at baseline, 1 month and 12 months follow-up.

Psychological measure	Meets caseness definition (%)		
	Baseline (N=513)*	1 month (N=513)	12 months (N=383)
Depression (HADS depression score $\geq 11$ )	7(1.4)[2]	78(15.2)[1]**	22(5.7)**
Anxiety (HADS anxiety score $\geq 11$ )	21(4.1) [2]	82(16.0) [1]**	37(9.7) **
PTSD (IES score $\geq 26$ ; moderate or severe)	N/A	126(24.7)[3]	68(17.8)[2]
Alcohol (score $\geq 8$ ; medium or high)	98(19.6)[14]**	61(12.2)[13]**	50(13.3)[9] **
Drugs (DAST score $\geq 3$ ; moderate or severe).	7(1.4%)[4]	4(0.8)[7]	2(0.5)[8]
Meets at least one of the above 5 psychological measures case definitions.	116(23.3)[[16]]	194(38.3)[[6]]	120(31.9)[[6]]

\*Analysis restricted to those participants returning 1 month follow-up ( n=513) as these are the sample used for analyses presented in this paper. []missing values . [[]]data were missing on one or more of the 5 variables and case definitions were not met for the other measures. \*\*Significant change from baseline at  $p < 0.001$

Online Table 2: Proportion of participants meeting criteria for psychiatric disorders from SCID interview at baseline, 1 month and 12 months follow-up.

Psychological measure	Meets caseness definition (%)		
	Baseline * Completed SCIDs N=513	1 Month SCIDs required based on screening questionnaire N=264** Completed SCIDs N=193 (73%)***	12 months SCIDs required based on screening questionnaire N=147 Completed SCIDs N=84 (57%)
Current Major Depression Episode	8(1.6)	35(18.1)****	14(17.7)****
Past major depressive episode	27(5.3)	N/A	N/A
Dysthymic disorder	9(1.8)	N/A	N/A
Panic Disorder	9(1.8)	6(3.1)	9(10.7)
Panic Disorder with agoraphobia	4(0.8)	1(0.5)	2(2.4)
Agoraphobia without history of panic disorder	2(0.4)	3(1.6)	3(3.6)
Social phobia	10(1.9)	0(0.0)	1(1.2)
Specific phobia	10(1.9)	5(2.6)	3(3.6)
Obsessions and Compulsion (OCD)	5(1.0)	1(0.5)	0(0.0)
Generalised anxiety disorder	7(1.4)	4(2.0)	4(4.8)
PTSD	8(1.6)	29(15.0)****	10(11.9)****
Alcohol abuse	15(2.9)	4(2.0)	4(4.8)
Alcohol dependence	11(2.1)	2(1.0)	3(3.6)
Substance abuse	2(0.4)	3(1.6)	1(1.2)
Substance dependence	2(0.4)	0(0.0)	0(0.0)

\* Analysis restricted to those participants returning 1 month follow-up (n=513) as these are the sample used for analyses presented in this paper. \*\* Only those participants scoring one or more of the following cut-offs required SCID interviews: scores of borderline or caseness in HADS depression and HADS anxiety, moderate or severe in IES and DAST, medium or high in AUDIT. \*\*\*People who did not have their SCID interview done were dropped from analysis. \*\*\*\*Significant change from baseline at p<0.001. \*\*\*\*Significant change from baseline at p<0.05

**Online table 3. Characteristics measured at baseline and one month in those who returned 1 and 12 month questionnaires compared with those who did not (row percentages)**

<i>Characteristics measured at baseline</i>			
	<b>Did not return both the 1 and 12 month questionnaires (n=284)</b>	<b>Returned 1 and 12 month questionnaires (n=384)</b>	<b>P value</b>
Centre			
Nottingham	145 (52.2)	133 (47.8)	P<0.01
Loughborough	66 (39.5)	101 (60.5)	
Bristol	55 (31.6)	119 (68.4)	
Surrey	18 (36.7)	31 (63.3)	
Age			
16-24	58 (60.4)	38 (39.6)	P<0.01
25-44	106 (59.6)	72 (40.5)	
45-64	99 (31.9)	211 (68.1)	
65+	21 (25.0)	63 (75.0)	
Sex			
Female	110 (34.8)	206 (65.2)	P<0.01
Male	174 (49.4)	178 (50.6)	
Number of psychiatric diagnoses in past			
0	227 (40.8)	329 (59.2)	P=0.06
1	30 (45.5)	36 (55.6)	
2+	27 (58.7)	19 (41.3)	
Depression score			
mean (SD)	1.9 (3.1)	[2] 1.4 (2.3)	P=0.32
median (IQR)	0 (0,3)	0 (0,2)	
Anxiety score			
mean (SD)	3.3 (4.0)	[2] 2.9 (3.3)	P=0.62
median (IQR)	2 (0,5)	2 (0,5)	
AUDIT			
mean (SD)	[8] 5.9 (5.8)	[3] 4.4 (4.1)	P<0.01
median (IQR)	4 (2,8)	4 (1,6)	
DAST			
mean (SD)	[4] 0.4 (1.3)	[3] 0.1 (0.4)	P<0.01
median (IQR)	0 (0,0)	0 (0,0)	
Long standing illness			
No	[4] 208 (41.8)	[2] 290 (58.2)	P=0.63
Yes	72 (43.9)	92 (56.1)	
Employment			
Paid employment	[4] 171 (43.5)	[4] 222 (56.5)	P<0.01
Not in paid employment	43 (56.6)	33 (43.4)	
Retired	36 (27.7)	94 (72.3)	
Other	30 (49.2)	31 (50.8)	
Ethnic group			
White	[2] 263 (41.5)	[2] 371 (58.5)	P<0.01
BME	21 (65.6)	11 (34.4)	
Deprivation (IMD)			
mean (SD)	[8] 20.7 (15.1)	[9] 15.5 (12.4)	P<0.01
median (IQR)	15.5 (9.1, 29.0)	11.4 (6.9, 20.0)	
Marital status			
Single	[3] 110 (58.2)	[2] 79 (41.8)	P<0.01
Married/partnership	118 (32.8)	242 (67.2)	
Divorced/widowed	53 (46.5)	61 (53.5)	
Nights in hospital			

Mean (SD) Median (IQR)	7.3 (5.7) 6 (3,10)	7.3 (6.1) 6 (3,9)	P=0.81
Injury severity	[1]	[1]	P=0.01
Minor	28 (63.6)	16 (36.4)	
Moderate	197 (41.8)	274 (58.2)	
Serious or worse	58 (38.6)	93 (61.6)	
Number of injuries			P=0.31
1	132 (41.6)	185 (58.4)	
2	98 (46.5)	113 (53.6)	
3 or more	54 (38.6)	86 (61.4)	
Body part injured			P=0.43
Other	29 (48.3)	31 (51.7)	
Upper limb	51 (43.6)	66 (56.4)	
Lower limb	183 (42.7)	246 (57.3)	
Upper and lower limbs	21 (33.9)	41 (66.1)	
Injury mechanism			P=0.11
Other	28 (51.9)	26 (48.2)	
Falls	166 (39.1)	259 (60.9)	
Traffic	67 (47.2)	75 (52.8)	
Struck	23 (48.9)	24 (51.1)	
Place of injury			P=0.38
Other	41 (39.8)	62 (60.2)	
Home	60 (42.3)	82 (57.8)	
Work	29 (46.0)	34 (54.0)	
Road	88 (44.0)	112 (56.0)	
Countryside	25 (32.9)	51 (67.1)	
Sports facilities	41 (49.4)	42 (50.6)	
<b><i>Characteristics measured at 1 month</i></b>			
	<b>Returned 1 month questionnaire but did not return 12 month questionnaire (n=129)</b>	<b>Returned 1 and 12 month questionnaires (n=384)</b>	<b>P value</b>
Depression score	[1]		P=0.70
Mean (SD)	6.2 (4.4)	6.0 (4.3)	
Median (IQR)	5 (2,9)	5 (3,9)	
Anxiety score	[1]		P=0.06
Mean (SD)	6.4 (4.4)	5.6 (4.4)	
Median (IQR)	6 (2.7, 10)	5 (2,8)	
AUDIT	[4]	[9]	P=0.06
Mean (SD)	5.9 (5.8)	3.1 (3.9)	
Median (IQR)	4 (2,8)	2 (0,4)	
DAST	[2]	[5]	P<0.01
Mean (SD)	0.1 (0.5)	0.0 (0.3)	
Median (IQR)	0 (0,0)	0 (0,0)	
IES avoidance	[2]	[1]	P=0.08
Mean (SD),	9.0 (9.6)	7.3 (8.8)	
Median (IQR)	6 (0,16)	4 (0,12)	
IES intrusion	[2]	[1]	P=0.08
Mean (SD),	9.6 (9.8)	7.8 (8.5)	
Median (IQR)	6 (1,16)	5 (0,12)	
SFQ	[3]	[2]	P=0.16
Mean (SD)	7.9 (3.7)	7.4 (3.6)	
Median (IQR)	8 (5,10)	7 (5,9)	
CSS	[3]	[2]	P=0.09
Mean (SD)	31.5 (5.5)	32.2 (6.3)	
Median (IQR)	33 (28,36)	34 (28, 36)	

Changes in outlook (+) Mean (SD) Median (IQR)	[3] 19.0 (6.3) 21 (14, 24)	[1] 19.6 (6.6) 21 (16, 24)	P=0.27
Changes in outlook (-) Mean (SD), Median (IQR)	[2] 10.0 (5.0) 9 (5,13)	[2] 9.9 (5.1) 9 (5,12)	P=0.63
Life events since injury No Yes	[3] 104 (24.4) 22 (30.1)	[11] 322 (75.6) 51 (69.9)	P=0.30
Pain VAS Mean (SD), Median (IQR)	34.8 (25.0) 28 (15, 52)	[4] 28.7 (21.5) 24 (11,47)	P=0.02
Seeking compensation No Yes	[5] 98 (25.5) 26 (26.8)	[26] 287 (74.5) 71 (73.2)	P=0.79
Involved in litigation No Yes	[3] 106 (24.4) 20 (28.2)	[4] 329 (75.6) 51 (71.8)	P=0.49

Percentages may not add up to 100 due to rounding

**Online Table 4. Psychological predictors (at 1 month post-injury) of recovery at 12 months, adjusted for confounders, socio-demographic and injury characteristics and other significant predictors (analysis of multiply imputed data for all 668 participants at baseline).**

Characteristics	Model A (A priori confounders)	Model B (Model A + psychological predictors at 1 month)	Model C (Model B + psychological predictors at 1 month + socio- demographic, psychological and injury characteristics at baseline)	Model D (Model C + other predictors at 1 month)
	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)
<b><i>A priori confounders</i></b>				
Centre:				
Nottingham	1.00	1.00	1.00	1.00
Loughborough	1.23 (0.74 , 2.06)	1.20 (0.71 , 2.03)	1.21 (0.69 , 2.10)	1.19 (0.69, 2.06)
Bristol	0.80 (0.48 , 1.34)	0.77 (0.45 , 1.30)	0.77 (0.45 , 1.33)	0.75 (0.43, 1.31)
Surrey	2.20 (1.04 , 4.68)	2.03 (0.94 , 4.38)	1.75 (0.77 , 3.96)	1.74 (0.77, 3.92)
Age:				
16-24	1.00	1.00	1.00	1.00
25-44	0.90 (0.45 , 1.79)	0.92 (0.45 , 1.88)	0.79 (0.36 , 1.69)	0.78 (0.36, 1.72)
45-64	0.67 (0.34 , 1.34)	0.67 (0.33 , 1.36)	0.54 (0.25 , 1.19)	0.52 (0.23, 1.17)
65+	1.25 (0.54 , 2.87)	1.19 (0.51 , 2.76)	0.71 (0.25 , 2.05)	0.63 (0.22, 1.82)
Sex:				
Female	1.00	1.00	1.00	1.00
Male	0.99 (0.66 , 1.48)	0.91 (0.60 , 1.39)	0.95 (0.61 , 1.47)	0.95 (0.61, 1.47)
<b><i>Psychological predictors measured at 1 month post-injury</i></b>				
Depression:				
Quartile 1 (0-3)		1.00	1.00	1.00
Quartile 2 (4-5)		0.55 (0.30 , 0.99)	0.54 (0.29 , 1.02)	0.59 (0.32, 1.10)
Quartile 3 (6-9)		0.62 (0.36 , 1.05)	0.63 (0.36 , 1.11)	0.73 (0.41, 1.30)
Quartile 4 (9.3-21)		0.39 (0.22 , 0.70)	0.40 (0.22 , 0.75)	0.53 (0.28, 1.00)
<b><i>Socio-demographic, psychological and injury characteristics at baseline</i></b>				
Employment:				
In paid employment			1.00	1.00
Not in paid employment			0.75 (0.30 , 1.85)	0.79 (0.32, 1.97)
Retired			1.73 (0.87 , 3.44)	1.72 (0.86, 3.42)
Other			0.50 (0.19 , 1.29)	0.48 (0.18, 1.27)
Deprivation (IMD)			0.99 (0.98 , 1.01)	1.00 (0.98, 1.01)
Nights in hospital			0.95 (0.90 , 0.99)	0.94 (0.90, 0.99)
Injury severity:				
Minor			1.00	
Moderate			0.70 (0.26 , 1.86)	
Serious or worse			0.56 (0.19 , 1.64)	
<b><i>Other predictors measured at 1 month post-injury</i></b>				
Pain visual analogue scale				0.99 (0.97, 1.00)

Statistically significant odds ratios are highlighted.

**Online table 5: Sensitivity analysis of final model for psychological predictors (at 1 month post-injury) of recovery at 12 months, adjusted for confounders, socio-demographic and injury characteristics and other significant predictors restricted to participants with HADS depression subscale scores <8 at 12 months.**

Characteristics	Final model (Model D) n=315
	Odds ratio (95% CI)
<b><i>A priori confounders</i></b>	
Centre:	
Nottingham	1.00
Loughborough	1.35 (0.69, 2.66)
Bristol	0.78 (0.40, 1.52)
Surrey	1.47 (0.57, 3.81)
Age:	
16-24	1.00
25-44	0.71 (0.25, 2.05)
45-64	0.41 (0.15, 1.13)
65+	0.44 (0.12, 1.66)
Sex:	
Female	1.00
Male	0.88 (0.51, 1.52)
<b><i>Psychological predictors measured at 1 month post-injury</i></b>	
Depression:	1.00
Quartile 1 (0-3)	0.48 (0.24, 0.97)
Quartile 2 (4-5)	0.59 (.30, 1.18)
Quartile 3 (6-9)	0.37 (0.16, 0.84)
Quartile 4 (9.3-21)	
<b><i>Socio-demographic, psychological and injury characteristics at baseline</i></b>	
Employment:	
In paid employment	1.00
Not in paid employment	0.44 (0.09, 2.16)
Retired	2.19 (0.95, 5.02)
Other	0.27 (0.08, 0.99)
Deprivation (IMD)	1.00 (0.98, 1.03)
Nights in hospital	0.92 (0.86, 0.98)
<b><i>Other predictors measured at 1 month post-injury</i></b>	
Pain visual analogue scale	0.98 (0.96, 0.99)

Statistically significant odds ratios are highlighted.