

ONLINE SUPPLEMENT: The impact of contact on adolescents' mental health literacy and stigma: The SchoolSpace Cluster Randomised Controlled Trial

SIX MONTH DATA RESULTS

270 participants (mean age:12.21, SD:0.40) from two of the six schools included in the randomised controlled trial additionally took part in a 6 month follow-up. Demographic characteristics of participating schools can be seen in Table 1. Baseline characteristics of participants can be seen in table 2. Baseline and two week means, standard deviations, medians, and significance of improvement between baseline and two weeks can be seen in table 3. A summary of the effect between conditions at two weeks can be seen in table 4, for both the primary unadjusted analysis, and the adjusted analysis which used gender, ethnicity, previous contact, and whether the participant reported having been diagnosed with a mental health disorder, added as additional factors.

Table 1: Demographic characteristics* of schools

School Type	Students aged 5 - 15	Classes per year group	Students with English second language	Students with free school meals	Ethnicity			
					South Asian	White	Black	Other
1 Mixed comprehensive school	1288	7	9%	22%	9%	79%	4%	8%
2 Girls only grammar school	668	4	23%	6%	45%	35%	10%	10%

*Data available from Birmingham City Council, accessed 2009

The unadjusted GEE found that participants in the education alone condition reported significantly higher scores than participants in the contact and education condition at six month follow-up, -0.69 , 95%CI(-1.31 , -0.06), $p=0.03$, $d=0.06$. Contrary to the hypothesis, participants knowledge-based stigma in the education alone condition improved significantly more than participants in the contact and education condition, -0.88 , 95%CI(-0.95 , -0.81), $p<0.001$, $d=0.08$. An ordinal logistic GEE found that participants in the education alone condition were significantly better at identifying the vignettes compared to participants in the contact and education condition at six month follow-up, -0.44 , 95%CI(-0.57 , -0.32), $p<0.001$, $d=0.12$. A square root transformation was used on baseline and six month data for emotional well-being. At six months, no significant difference was observed between the contact and education condition and the education-alone condition, -0.10 , 95%CI(-0.25 , -0.04), $p=0.2$, $d=0.002$. In order that a parametric GEE could be conducted on resilience data, both baseline and 6 month data were reverse coded and a square root

transformation was used on the 6 month data. Participants in the contact and education condition displayed improved scores compared to the education-alone condition, this was found to be significant by the unadjusted, -0.40 , 95%CI(-0.42 , -0.37), $p < 0.001$, $d = 0.28$. Finally, attitudes to help-seeking scores from the one school who completed both baseline and six month questionnaires on help-seeking were too similar between baseline and 6 months for a GEE to be conducted.

T-tests and marginal homogeneity tests were employed to assess significance of change in participants' scores pre to post-intervention. Participants' attitudinal-based stigma improved from baseline to six month follow-up (see table 3 for means). These improvements were found to be significant for both the contact and education condition, $t(68) = -3.34$, 95%CI(-1.78 , -0.45), $p = 0.001$, $r = 0.38$, and the education alone condition, $t(63) = -4.78$, 95%CI(-2.90 , -1.19), $p < 0.001$, $r = 0.52$. Knowledge-based stigma also improved significantly for participants in the contact and education condition, $t(61) = -7.39$, 95%CI(-4.53 , -2.60), $p < 0.001$, $r = 0.69$, and the education alone condition, $t(56) = -7.20$, 95%CI(-5.61 , -3.17), $p < 0.001$, $r = 0.69$. In the contact and education condition improvement in mental health literacy scores was once again not found to be significant, $z = -1.54$, $p = 0.1$, $r = 0.14$. Again, participants in the education alone condition were found to show significant improvements in their mental health literacy, $z = -2.29$, $p = 0.02$, $r = 0.21$. Emotional well-being scores were not found to have improved significantly at six month follow-up for either the contact and education condition, $t(53) = -0.98$, 95%CI(-0.09 , -0.26), $p = 0.3$, $r = 0.13$, or the education-alone condition, $t(55) = -1.07$, 95%CI(-0.08 , -0.25), $p = 0.3$, $r = 0.14$. Resilience data was normally distributed at baseline, and negatively skewed at 6 months, so a Wilcoxon's signed rank test was employed to analyse the difference in scores pre to post intervention. Participants resilience scores did not change significantly in the contact and education condition, $z = 1.73$, $p = 0.08$, $r = 0.19$, or the education-alone condition, $z = -1.49$, $p = 0.14$, $r = 0.14$. For help-seeking, participants' median scores in the contact and education condition remained at 6 pre to post intervention, with the mean decreasing from 5.83 (SD:1.26) to 5.74 (SD:1.31). Prior to the intervention no students reported that they would definitely not seek help if they developed a mental illness and 21 (37.5%) that they definitely would. Post intervention 1 (1.8%) reported they definitely would not seek help, and 19 (33.9%) that they definitely would. A test of marginal homogeneity was attempted but was unable to compute. In the education-alone condition participants' median scores decreased from 7 to 6, with the mean also decreasing from 5.82 (SD:1.60) to 5.69 (SD:1.50). Prior to the intervention 1 student (1.8%) reported that they would definitely not seek help if they developed a mental illness and 26 (46.4%) that they definitely would. Post intervention 1 (1.8%) reported they definitely would not seek help, and

22 (39.3%) that they definitely would. A test of marginal homogeneity was attempted but was unable to compute.

Table 2: Baseline characteristics between conditions; 6 month follow-up schools

Condition	Total N	Gender		Ethnicity				Current mental health diagnosis		Previous contact		
		Male	Missing	White	Asian	Other ethnicity	Missing	Yes	Missing	Yes	Missing	
Contact and education	N	138	33	0	73	46	16	3	4	4	28	5
	%	100	23.90	0	52.90	33.30	11.60	2.20	2.90	2.90	20.30	3.60
Education only	N	132	41	0	67	41	21	3	3	3	27	3
	%	100	31.10	0	50.80	31.10	15.90	2.30	2.30	2.30	20.50	2.30

Table 3: Significance of change; baseline-6 months

		Pre		6 months		t / z value	95%CI	P value
		Mean (SD)	Median	Mean (SD)	Median			
RIBS	C&E	13.84 (2.89)	14	14.61 (3.56)	15	-3.34	-1.78, -0.45	.001
	E	13.37 (3.58)	14	14.81 (3.23)	15	-4.78	-2.90, -1.19	<0.001
MAKS	C&E	39.70 (4.09)	40	42.63 (4.41)	42	-7.39	-4.53, -2.60	<0.001
	E	39.60 (3.93)	39	42.99 (5.05)	43	-7.20	-5.61, -3.17	<0.001
Vignettes	C&E	1.25 (0.69)	1	1.39 (0.72)	2	-1.54	-	0.1
	E	1.25 (0.70)	1	1.48 (0.66)	2	-2.29	-	0.02
SDQ	C&E	10.33 (5.25)	9	9.58 (5.43)	8.5	-0.98	-0.09, -0.26	0.3
	E	9.95 (5.34)	9	9.57 (5.98)	9	0.29	-0.08, -0.25	0.3
Help-seeking	C&E	5.83 (1.26)	6	5.74 (1.31)	6	-	-	-
	E	5.82 (1.60)	7	5.69 (1.50)	6	-	-	-
Resilience	C&E	82.08 (10.90)	83	84.09 (12.05)	83.5	1.74	-	0.08
	E	82.29 (9.40)	82	80.62 (12.73)	82	-1.49	-	0.1

* Significance of change for the Reported & Intended Behaviour Scale (RIBS), Mental Health Knowledge Scale (MAKS), mental health literacy (vignettes), The Strengths and Difficulties Questionnaire (SDQ), help-seeking, and resilience

Table 4: Effect of condition at 6 months, unadjusted and adjusted GEEs

Measure	Contact and education		Education alone		Model	Treatment effect for C&E	95%CI	P value
	Mean (SD)	Median	Mean (SD)	Median				
RIBS	14.61 (3.56)	15	14.81 (3.23)	15	Unadjusted	-0.69	-1.31, -0.06	0.03
					Adjusted	-0.52	-1.18, 0.14	0.1
MAKS	42.63 (4.41)	42	42.99 (5.05)	43	Unadjusted	-0.88	-.95, -0.81	<0.001
					Adjusted	-0.63	-.84, -.42	<0.001
Vignettes	1.39 (0.72)	2	1.48 (0.66)	2	Unadjusted	-0.44	-0.57, -0.32	<0.001
					Adjusted	-0.37	-0.42, -0.31	<0.001
SDQ	9.58 (5.43)	8.5	9.57 (5.98)	9	Unadjusted	-0.10	-0.25, -0.04	0.2
					Adjusted	-0.05	-0.20, 0.09	0.5
					Unadjusted	0.06	0.05, 0.07	<0.001
					Adjusted	0.56	0.03, 0.08	<0.001
Help-seeking	5.74 (1.31)	6	5.69 (1.50)	6	Unadjusted	-	-	-
					Adjusted	-	-	-
Resilience	84.09 (12.05)	83.5	80.62 (12.73)	82	Unadjusted	-0.40	-0.42, -0.37	<0.001
					Adjusted	-0.36	-0.44, -0.27	<0.001

* Effect of condition at 2 weeks for the Reported & Intended Behaviour Scale (RIBS), Mental Health Knowledge Scale (MAKS), mental health literacy (vignettes), The Strengths and Difficulties Questionnaire (SDQ), help-seeking, and resilience