

Tymoszuk U, Spiro N, Perkins R, Mason-Bertrand A, Gee K, and Williamon A (2021), Arts Engagement Trends in the UK and Their Mental and Social Wellbeing Implications: HEartS Survey, *PLOS One* 16:e0246078, doi: 10.1371/journal.pone.0246078.

**S1 TABLE |** Results from logistic regression analyses examining the association between arts engagement score and odds of loneliness using De Jong Gierveld Loneliness Scale. All arts engagement variables and all outcomes were entered and analysed in individual models, UK-wide HEartS Survey, n=5,338.

	De Jong Gierveld Loneliness Scale											
	Global loneliness				Emotional loneliness				Social loneliness			
	OR	95% CI	<i>p</i>	R <sup>2</sup>	OR	95% CI	<i>p</i>	R <sup>2</sup>	OR	95% CI	<i>p</i>	R <sup>2</sup>
<i>Model 1: sociodemographic variables</i>												
Overall arts activities score	0.98	0.97–1.00	0.015	3.10%	1.03	1.02–1.04	<0.001	6.62%	0.95	0.94–0.96	<0.001	1.98%
Participatory arts activities score	0.99	0.97–1.01	0.44	3.00%	1.07	1.05–1.09	<0.001	6.89%	0.94	0.92–0.96	<0.001	1.31%
Receptive arts activities score	0.96	0.94–0.98	<0.001	3.24%	1.03	1.01–1.04	0.014	6.36%	0.91	0.89–0.92	<0.001	2.33%
<i>Model 2: Model 1 + socioeconomic variables</i>												
Overall arts activities score	0.99	0.98–1.00	0.18	4.42%	1.04	1.02–1.05	<0.001	8.22%	0.95	0.94–0.96	<0.001	2.34%
Participatory arts activities score	1.00	0.97–1.02	0.83	4.39%	1.08	1.06–1.10	<0.001	8.41%	0.94	0.92–0.96	<0.001	1.74%
Receptive arts activities score	0.98	0.95–1.00	0.031	4.48%	1.04	1.02–1.07	<0.001	7.93%	0.91	0.89–0.93	<0.001	2.61%
<i>Model 3: Model 2 + health and fitness variables</i>												
Overall arts activities score	0.99	0.98–1.01	0.37	8.77%	1.04	1.02–1.05	<0.001	12.27%	0.96	0.95–0.97	<0.001	5.23%
Participatory arts activities score	1.00	0.97–1.02	0.85	8.75%	1.08	1.05–1.10	<0.001	12.37%	0.95	0.93–0.97	<0.001	4.87%
Receptive arts activities score	0.98	0.96–1.01	0.16	8.79%	1.05	1.02–1.07	<0.001	12.04%	0.92	0.91–0.94	<0.001	5.40%
<i>Model 4: Model 3 + social circumstances variables</i>												
Overall arts activities score	0.99	0.98–1.01	0.24	11.30%	1.04	1.02–1.05	<0.001	15.07%	0.96	0.94–0.97	<0.001	8.26%
Participatory arts activities score	0.99	0.96–1.02	0.50	11.28%	1.07	1.05–1.10	<0.001	15.13%	0.94	0.92–0.96	<0.001	7.88%
Receptive arts activities score	0.98	0.96–1.01	0.15	11.31%	1.05	1.02–1.07	<0.001	14.88%	0.92	0.90–0.94	<0.001	8.37%

*Abbreviations:* OR, odds ratio; CI, confidence interval; R<sup>2</sup>, Pseudo R-squared in logistic regression models and R-squared in linear regression models

*Cut points for cases:* intense global loneliness = max score of 6; intense emotional loneliness = max score of 3; intense social loneliness = max score of 3

*Model 1:* gender, age, ethnicity; *Model 2:* Model 1 + educational attainment, household income; *Model 3:* Model 2 + self-rated health, physical activity (mild, moderate, vigorous); *Model 4:* Model 3 + living status, closeness of relationship with a partner