

# BMJ Open Bereavement by suicide as a risk factor for suicide attempt: a cross-sectional national UK-wide study of 3432 young bereaved adults

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## ABSTRACT

**Objectives:** US and UK suicide prevention strategies suggest that bereavement by the suicide of a relative or friend is a risk factor for suicide. However, evidence is lacking that the risk exceeds that of any sudden bereavement, is specific to suicide, or applies to peer suicide. We conducted the first controlled UK-wide study to test the hypothesis that young adults bereaved by suicide have an increased risk of suicidal ideation and suicide attempt compared with young adults bereaved by other sudden deaths.

**Design:** National cross-sectional study.

**Setting:** Staff and students at 37 UK higher educational institutions in 2010.

**Participants:** 3432 eligible respondents aged 18–40 exposed to sudden bereavement of a friend or relative after the age of 10.

**Exposures:** Bereavement by suicide (n=614), by sudden unnatural causes (n=712) and by sudden natural causes (n=2106).

**Primary outcome measures:** Incident suicidal ideation and suicide attempt.

**Findings:** Adults bereaved by suicide had a higher probability of attempting suicide (adjusted OR (AOR)=1.65; 95% CI 1.12 to 2.42; p=0.012) than those bereaved by sudden natural causes. There was no such increased risk in adults bereaved by sudden unnatural causes. There were no group differences in probability of suicidal ideation. The effect of suicide bereavement was similar whether bereaved participants were blood-related to the deceased or not. The significant association between bereavement by suicide and suicide attempt became non-significant when adding perceived stigma (AOR=1.11; 95% CI 0.74 to 1.67; p=0.610). When compared with adults bereaved by sudden unnatural causes, those bereaved by suicide did not show significant differences in suicide attempt (AOR=1.48; 95% CI 0.94 to 2.33; p=0.089).

**Conclusions:** Bereavement by suicide is a specific risk factor for suicide attempt among young bereaved adults, whether related to the deceased or not. Suicide risk assessment of young adults should involve screening for a history of suicide in blood relatives, non-blood relatives and friends.

## Strengths and limitations of this study

- We conducted a large population-based national survey of young adults, using a precise sampling frame.
- We included exposures to the sudden death of any close contact, to describe the impact of suicide bereavement whether related to the deceased or not.
- Our primary outcomes were validated measures of self-reported suicidal ideation and suicide attempt occurring after the bereavement, adjusted for prebereavement suicidal behaviour and psychopathology.
- We compared bereavement by suicide with bereavement due to sudden natural causes, then separately compared those bereaved by suicide with those bereaved due to sudden unnatural death to measure the specific impact of suicide bereavement.
- Given the possibility of selection bias (favouring higher social classes) and male non-response bias, the results of this study may be more generalisable to young bereaved women than men, and to the more highly educated.

## INTRODUCTION

Suicide bereavement describes the period of grief, mourning and adjustment after a suicide death, that is experienced by family members, friends and any other contacts of the deceased affected by the loss.<sup>1</sup> It is estimated to affect up to 9% of adolescents<sup>2</sup> and 7% of adults<sup>3</sup> annually. Since 1989, the WHO has suggested that relatives and close friends of people who die by suicide are a high-risk group for suicide.<sup>4</sup> Explanations include the particular psychological trauma of a suicide loss, which involves grief and agonising self-questioning; shared familial and environmental risk; suicide contagion through the process of social modelling<sup>1</sup>; and the burden of stigma associated with violent losses.<sup>1 5</sup> Quantitative studies confirm

that people bereaved by suicide and other violent deaths perceive greater stigma than other bereaved groups.<sup>1</sup> Their qualitative accounts are of others' distaste or embarrassment over the disturbing nature of an unnatural loss,<sup>5</sup> and a loss of community support,<sup>6 7</sup> with the effect of reducing help seeking and perceptions of the support available.<sup>7</sup> As stigma may be more modifiable than other potential explanatory factors, there is interest in understanding its relationship to suicide-related outcomes after negative life events.<sup>1</sup>

International suicide prevention strategies have placed great emphasis on the provision of support for people bereaved by suicide,<sup>1</sup> despite the lack of studies confirming that risk of adverse outcomes applies beyond the effect of any sudden loss.<sup>1 8</sup> There is also little evidence for effective interventions after suicide.<sup>9</sup> Studies comparing people bereaved by suicide with non-bereaved controls support an increased probability of suicide following any bereavement.<sup>10</sup> Those using controls bereaved by non-suicide causes go further in supporting an association between sudden bereavement and suicide-related outcomes.<sup>10 11</sup> However, risk of hospital-treated suicide attempt is similar in adults bereaved by suicide and those bereaved by accidental deaths,<sup>12</sup> suggesting that the wider risk factor is bereavement by any unnatural causes. Only study designs separating out control groups bereaved by sudden natural and sudden unnatural causes, adjusted for prebereavement psychopathology, can determine whether adverse outcomes are attributable to violent deaths or more specifically to suicide.<sup>1</sup> Our recent systematic review highlighted the lack of such studies.<sup>1</sup> It also found that no British studies had investigated suicide-related outcomes after suicide bereavement,<sup>13</sup> and no studies using bereaved controls had measured the impact of peer suicide.<sup>1</sup> This is despite widespread concern about the susceptibility of young people to social modelling of self-harm<sup>14 15</sup> and recent increases in suicides among young men.<sup>16</sup>

Our objective was to design a study that could investigate whether there is a specific association between suicide bereavement and suicide attempt by making distinct comparisons between bereavement by suicide, unnatural causes and sudden natural causes. Use of routine clinical data was precluded because these record exposure only to mortality of first-degree relatives and cohabitants, and hospital presentations of self-harm. Conversely, survey methods permit ascertainment of exposure to all bereavements, and self-reported suicidality and self-harm, and are therefore a vital tool for investigating risk of suicidal events following suicide bereavement. We therefore undertook a population-based cross-sectional survey comparing the impact of specific modes of self-reported sudden bereavement on non-fatal suicide-related outcomes.

Our primary hypothesis was that young adults in the UK who had been bereaved by suicide were at higher risk of suicidal thoughts and suicide attempts than those bereaved by other causes of sudden death. Collecting

data on two control groups allowed us to address two research questions. First, comparison with adults bereaved by sudden natural causes of death took into account the sudden nature of the loss. Second, comparison with adults bereaved by sudden unnatural causes took into account the violent nature of the loss. Hypothesis 2 was that suicide bereavement would be a risk factor for four secondary clinical and occupational measures (postbereavement non-suicidal self-harm, depression, occupational drop-out and social dysfunction), reflecting policy concerns about the contribution of bereavement to workplace mental ill health and sickness absence.<sup>17</sup> Hypothesis 3 was that the impact of suicide bereavement would extend beyond genetic relatedness to peer suicides, and would therefore not be modified by relatedness to the deceased. Hypothesis 4 was that any associations with clinical or occupational outcomes would be attenuated by perceived stigma, as a marker for reduced help seeking.

## METHODS

### Study design and participants

We invited all young adults working or studying at UK higher education institutions (HEIs) to participate in a closed, online study about sudden bereavement: the UCL Bereavement Study. We anticipated that using the email systems of large institutions would be the best means of accessing hard-to-reach groups, particularly those not normally accessing health services, and avoiding the biases associated with recruiting a help-seeking sample.<sup>18</sup> Sampling from a diverse range of colleges, universities, art and drama schools, and agricultural colleges offered unique access to a large defined sample of young adults.

All 164 HEIs in the UK in 2010 were invited to participate, following up non-responding HEIs to encourage broad socioeconomic and geographic representation. Over 20% of HEIs (37/164) agreed to take part, with a higher response (40%) from those classified as the more prestigious Russell Group of universities. This provided a sampling frame of 659 572 staff and students. All participants were invited to take part in a survey of 'the impact of sudden bereavement on young adults', with the aim of masking them to the specific study hypotheses. There was no accurate way of measuring response, as the denominator of bereaved people was not ascertainable using routine data or survey methods. The majority of participating HEIs agreed to send an individual email invitation with embedded survey link to each staff and student member. For reasons of sensitivity (recent staff/student deaths), 10 HEIs modified this strategy, for example, by emailing students only, using their weekly news digest email, or advertising via staff and student intranet.

Inclusion criteria were as follows: people aged 18–40 who, since the age of 10, had experienced sudden bereavement of a close friend or relative. The 18–40 age

range was defined to reflect an under-researched group of great policy interest.<sup>16</sup> Early childhood bereavements were excluded to minimise recall bias and restrict our focus to adult cognitive processing of life events, using the age threshold for criminal responsibility in England and Wales. A close contact was defined as 'a relative or friend who mattered to you, and from whom you were able to obtain support, either emotional or practical'. Sudden bereavement was operationalised as 'a death that could not have been predicted at that time and which occurred suddenly or within a matter of days'. Exposure status was classified by responses to the question: 'Since you were aged 10 have you experienced a sudden bereavement of someone close to you due to any of the following: (1) sudden natural death (eg, cardiac arrest, epileptic seizure, stroke); (2) sudden unnatural death (eg, road crash, murder or manslaughter, work accident); (3) suicide?' Mode of death was defined subjectively by the respondent, and not by coroner's verdict or death certificate, as perception of bereavement type was the exposure of interest.

In the case of more than one exposure, we adopted a hierarchical approach favouring those bereaved by suicide, for whom we anticipated the lowest base rate. This group were classified as suicide bereaved regardless of other exposures. Those bereaved by more than one non-suicide sudden death were asked to relate their responses to whichever person they had felt closest to, with exposure status classified accordingly.

We estimated that a minimum of 466 participants would be required in any one group (two-tailed analysis; 90% power) to detect a doubling of the UK community prevalence of lifetime suicide attempt (6.5%) in young adult samples.<sup>19</sup> We chose a relatively large effect size to reflect our comparison to a non-bereaved baseline, lacking prevalence figures for bereaved UK samples.

## Procedures

The questionnaire (see online supplementary material) was designed in consultation with a group of young bereaved adults and bereavement counsellors, who identified important domains to cover in relation to the impact of bereavement, and was piloted with individuals accessing support from national bereavement support organisations. It elicited quantitative data on sociodemographic and clinical characteristics, including a personality disorder screen,<sup>20</sup> and nine putative confounding variables identified a priori from existing literature and clinical judgement: age, gender, socioeconomic status, other family history of suicide (excluding index bereavement), years since bereavement, kinship to the deceased, prebereavement depression, prebereavement suicide attempt and prebereavement non-suicidal self-harm. These reflected the observed vulnerabilities of people bereaved by suicide, even before the loss,<sup>1</sup> which are likely to reflect shared familial and environmental risk. We measured perceived stigma using the stigmatisation subscale of the Grief Experience Questionnaire

(GEQ),<sup>6</sup> with items such as 'Since the death how often did you feel avoided by friends?' Responses on a Likert-style scale generated scores of 5–25.

Our two main outcomes were self-reported suicidal ideation ('Have you ever thought of taking your life, even though you would not actually do it?')<sup>21</sup> and self-reported suicide attempt ('Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?').<sup>22</sup> These standardised measures were taken from the Adult Psychiatric Morbidity Survey (APMS),<sup>19</sup> a national seven-yearly population survey in England, and were qualified by whether these occurred before or after the sudden bereavement, to derive an incident measure.

Our four secondary measures were: postbereavement non-suicidal self-harm (self-poisoning and self-injury without suicidal intent) using a standardised APMS measure<sup>22</sup> (adapted as above); depression using the Composite International Diagnostic Interview (CIDI) screen for lifetime depression<sup>23</sup> (adapted as above); occupational drop-out (from work or education) using a binary measure developed for this study; and poor social functioning using the Social Functioning Questionnaire (SFQ).<sup>24</sup>

## Statistical analysis

We summarised sample characteristics by exposure group, using  $\chi^2$  tests (categorical variables) and one-way analysis of variance (continuous variables). We then used multivariable regression to estimate the strength of associations between suicide bereavement and outcomes. We fitted binary models using *xtlogit* commands in Stata,<sup>25</sup> with HEI as random effect, to take into account the clustering effect at HEI level. Each multivariable model included nine prespecified confounding variables, described above. Models used complete case analysis, with a significance threshold of  $p=0.05$  for primary outcomes and  $p=0.01$  for secondary outcomes. Our primary comparison used bereavement by sudden natural causes as the reference category, quantifying risk of adverse outcomes in adults bereaved by suicide, and in adults bereaved by sudden unnatural causes. We conducted a second comparison between adults bereaved by suicide and the reference category of adults bereaved by sudden unnatural causes.

We tested hypothesis 3, whether the effect of suicide bereavement was modified by kinship (blood-related vs non-blood-related), by adding an interaction term to all models. Hypothesis 4, whether stigma attenuated associations, was tested by including stigma scores in multivariable models.

A series of a priori defined sensitivity analyses were conducted. These assessed the robustness of our main findings when using best-case and worst-case scenarios to impute missing values, and when applying more stringent inclusion criteria (excluding participants from the 10 HEIs that had modified the stipulated

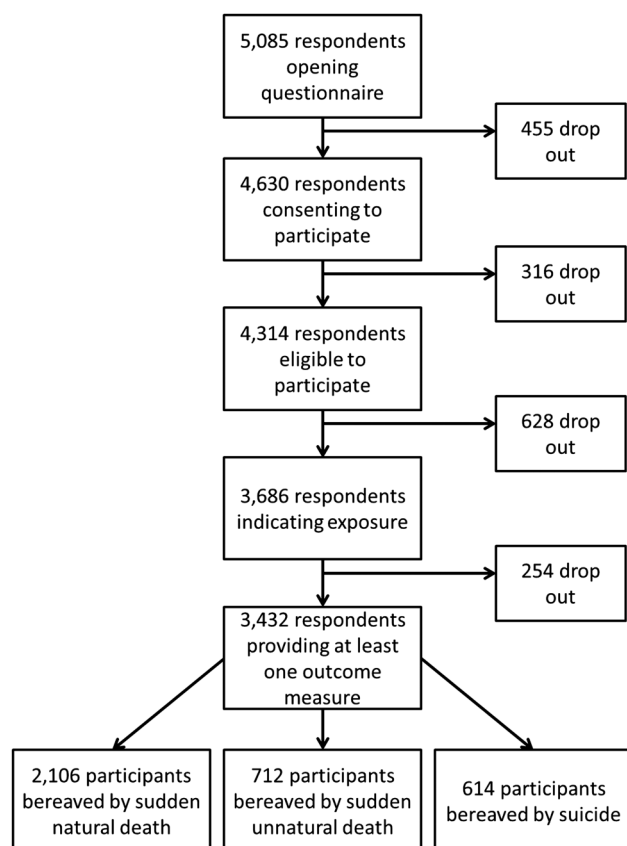
recruitment method; excluding participants from the 18 HEIs with participant numbers below the median cluster size).

Finally, we conducted a set of four post hoc analyses to describe probability estimates in those bereaved by the death of an older person; in a student-only sample; and in women (as the study was underpowered to add gender as an interaction term to models); and to ascertain whether exposure to more than one mode of sudden bereavement might attenuate associations (by adding this variable to final models).

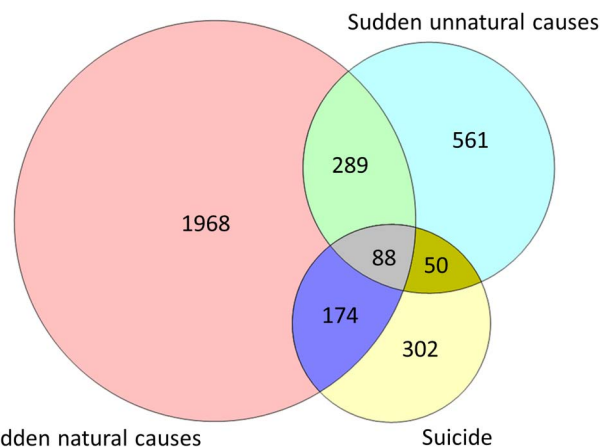
All analyses were conducted using Stata V.12 (StataCorp, Texas, USA).

## RESULTS

A total of 5085 people of the 659 572 sampled responded to the questionnaire by clicking on the survey link, with 91% consenting to participate, and 68% ( $n=3432$ ) fulfilling eligibility (see figure 1). Overall 18% had been exposed to more than one mode of sudden bereavement (see figure 2), which was significantly more common in the group bereaved by suicide (see table 1). Clustering of participants within the 37 HEIs was minimal for primary outcomes (see table 1). Missing data for model covariates and outcomes were less than 7%.



**Figure 1** Participant flow.



**Figure 2** Euler diagram showing the combinations of exposures in eligible sample of 3432 respondents.

## Participant characteristics

The sample was primarily female, white and blood-related to the deceased (see table 1). Of those reporting the loss of a non-blood-related contact, 74% described them as a friend, 11% a partner, 4% an ex-partner and 12% a step/adoptive/in-law family member. There were no statistically significant differences between the exposure groups in relation to mean age, gender, self-defined ethnicity, socioeconomic status, level of current social support or personality difficulties. People bereaved by suicide were significantly more likely to report prebereavement psychopathology, and a family history of psychiatric problems. Those bereaved by sudden unnatural causes or by suicide reported a lower mean age of the deceased than those bereaved by sudden natural causes, and were also less likely to report the loss of a blood relative. The mean time elapsed since bereavement was 4.9 years ( $SD=5.3$ ; range=1 day to 30 years), with no evidence for group differences. In each exposure group, the prevalence of prebereavement suicidal thoughts and non-suicidal self-harm (but not suicide attempt) exceeded estimates for UK population norms in corresponding age groups.<sup>19</sup>

## Bereavement by suicide compared with that by sudden natural causes

In comparison with bereavement by sudden natural causes (see table 2), those bereaved by suicide had a greater probability of postbereavement suicide attempt (adjusted OR (AOR)=1.65; 95% CI 1.12 to 2.42;  $p=0.012$ ), but not of suicidal ideation. The suicide-bereaved group also had a greater probability of occupational drop-out (AOR=1.80; 95% CI 1.20 to 2.71;  $p=0.005$ ), but there was no evidence for group differences in postbereavement non-suicidal self-harm, depression or social functioning.

Comparison between bereavement by sudden unnatural causes and the reference category of adults



**Table 1** Characteristics of participants by type of bereavement exposure

Participants bereaved by	Sudden natural death (n=2106)	Sudden unnatural death (n=712)	Suicide (n=614)	Total (n=3432)	p Value*
<i>Sociodemographic characteristics</i>					
Gender,† n (%)					
Female	1709 (81)	576 (81)	499 (81)	2784 (81)	0.982
Missing	1 (<1)	0 (0)	0 (0)	1 (<1)	
Age of participant (years)† mean (SD)	24.9 (6.3)	25.2 (6.3)	25.2 (6.0)	25.0 (6.3)	0.069
Self-defined ethnicity, n (%)					
White	1877 (89)	645 (91)	562 (92)	3084 (90)	0.154
Non-white	228 (10)	65 (9)	52 (9)	345 (10)	
Missing	1 (<1)	2 (<1)	0 (0)	3 (<1)	
Socioeconomic status‡,§ n (%)					
Social classes 1.1 and 1.2	603 (29)	224 (32)	176 (29)	1003 (29)	0.179
Social class 2	684 (33)	234 (33)	204 (33)	1122 (33)	
Social class 3	259 (12)	77 (11)	68 (11)	404 (12)	
Social class 4	90 (4)	34 (5)	32 (5)	156 (5)	
Social classes 5, 6, 7 and 9	409 (19)	115 (16)	113 (18)	638 (19)	
Missing	61 (3)	27 (4)	21 (3)	109 (3)	
Educational status, n (%)					
No academic qualifications	2 (<1)	2 (<1)	0 (0)	4 (<1)	0.013
Attained maximum GCSE equivalent	33 (2)	8 (1)	12 (2)	53 (2)	
Attained maximum A level equivalent	929 (44)	276 (39)	243 (40)	1448 (42)	
Attained maximum degree equivalent	763 (36)	266 (37)	217 (35)	1246 (36)	
Attained postgraduate degree	373 (18)	158 (22)	142 (23)	673 (20)	
Missing	6 (<1)	2 (<1)	0 (0)	8 (<1)	
Student status, n (%)					
Student	1797 (85)	613 (86)	526 (86)	2936 (86)	0.822
Staff	253 (12)	78 (11)	68 (11)	399 (12)	
Both	55 (3)	21 (3)	20 (3)	96 (3)	
Missing	1 (<1)	0 (0)	0 (0)	1 (<1)	
Measure of current social support,§ n (%)					
No lack of perceived social support	1234 (59)	411 (58)	345 (56)	1990 (58)	0.740
Moderate lack of perceived social support	549 (26)	197 (28)	168 (27)	914 (27)	
Severe lack of perceived social support	323 (15)	102 (14)	100 (16)	525 (15)	
Missing	0 (0)	2 (<1)	1 (<1)	3 (<1)	
<i>Clinical characteristics</i>					
Family history of psychiatric problems, n (%)					
Yes	1243 (59)	434 (61)	412 (67)	2089 (61)	0.002
Missing	153 (7)	41 (6)	39 (6)	233 (7)	
Other family history of suicide,† n (%)					
Yes	123 (6)	41 (6)	53 (7)	217 (6)	0.038
Missing	158 (8)	43 (6)	40 (7)	241 (7)	
Prebereavement suicidal thoughts¶ n (%)					
Yes	584 (28)	178 (25)	185 (30)	947 (28)	0.076
Missing	148 (7)	39 (6)	40 (7)	227 (7)	
Prebereavement suicide attempt‡,** n (%)					
Yes n (%)	125 (6)	28 (4)	49 (8)	202 (6)	0.007
Missing n (%)	154 (7)	40 (6)	40 (7)	234 (7)	
Prebereavement non-suicidal self-harm‡,††					
Yes	400 (19)	121 (17)	141 (23)	662 (19)	0.016
Missing	154 (7)	40 (6)	40 (7)	234 (7)	
Postbereavement suicidal thoughts‡‡ n (%)					
Yes	911 (43)	322 (45)	299 (49)	1532 (45)	0.064
Missing	148 (7)	39 (6)	40 (7)	227 (7)	
Postbereavement suicide attempt§§ n (%)					
Yes	112 (5)	42 (6)	56 (9)	210 (6)	0.003
Missing	154 (7)	40 (6)	40 (7)	234 (7)	

Continued

Table 1 Continued

Participants bereaved by	Sudden natural death (n=2106)	Sudden unnatural death (n=712)	Suicide (n=614)	Total (n=3432)	p Value
Postbereavement non-suicidal self-harm, n (%)					
Yes	438 (20)	149 (21)	151 (25)	738 (22)	0.127
Missing	154 (7)	40 (6)	40 (7)	234 (7)	
Prebereavement depression† n (%)					
Yes	370 (18)	129 (18)	143 (23)	642 (19)	0.005
Missing	85 (4)	21 (3)	24 (4)	130 (4)	
Personality disorder screen positive¶¶ n (%)					
Yes	743 (35)	227 (32)	225 (37)	1195 (35)	0.082
Missing	131 (6)	31 (4)	33 (5)	195 (6)	
<i>Characteristics of the bereavement</i>					
Kinship to the deceased† n (%)					
Blood-related	1786 (85)	351 (49)	296 (48)	2433 (71)	<0.001
Non-blood-related	313 (15)	356 (50)	317 (52)	980 (29)	
Missing	7 (<1)	5 (1)	1 (<1)	13 (<1)	
Age of the deceased mean (SD)	55.1 (21.5)	31.0 (17.4)	31.9 (15.2)	45.9 (22.8)	<0.001
Years since bereavement† mean (SD)	4.8 (5.3)	5.3 (5.4)	5.1 (5.0)	5.0 (5.3)	0.140
Exposure to >1 mode of sudden bereavement, yes, n (%)	138 (7)	151 (21)	312 (51)	601 (18)	<0.001
Perceived stigma of the bereavement*** mean (SD)	11.9 (3.8)	12.3 (4.0)	14.0 (4.3)	12.3 (4.0)	<0.001

\*p Values for group comparisons excluding missing values, using a two-sided significance threshold of  $p=0.05$ .

†Pre-specified confounding variable used in adjusted model.

‡Socioeconomic status using the five categories from UK Office for National Statistics.

§Measure of current social support from APMS.<sup>19</sup>

¶Values for each exposure group exceeded the maximum lifetime prevalence of suicidal ideation (20.6%) in any corresponding age group within the APMS 2007 household sample.<sup>19</sup>

\*\*Values for each control group were less than the maximum lifetime prevalence of suicide attempt (7.3%) in any corresponding age group within the APMS 2007 household sample.<sup>19</sup>

††Values for each exposure group exceeded the maximum lifetime prevalence of non-suicidal self-harm (12.4%) in any corresponding age group within the APMS 2007 household sample.<sup>19</sup>

‡‡ICC=0.008 for suicidal thoughts (n=37 clusters/HEIs) indicating low within-cluster correlation of responses.

§§ICC=0.047 for suicide attempt (n=37 clusters/HEIs) indicating low within-cluster correlation of responses.

¶¶SAPAS-SR screen for personality disorder.<sup>20</sup>

\*\*\*Stigmatisation subscale of the Grief Experience Questionnaire.<sup>6</sup>

APMS, Adult Psychiatric Morbidity Survey; ICC, intracluster correlation coefficient; SAPAS-SR, Standardised Assessment of Personality – Abbreviated Scale Self-Report.

bereaved by sudden natural causes showed no evidence for any group differences.

### Bereavement by suicide compared with that by sudden unnatural causes

When directly compared with bereavement by sudden unnatural death, adults bereaved by suicide had a similar probability of postbereavement suicidal ideation and suicide attempt (see table 3). The probability of poor social functioning was significantly greater in adults bereaved by suicide (AOR=1.46; 95% CI 1.12 to 1.89;  $p=0.005$ ), but there were no differences in postbereavement non-suicidal self-harm, depression or occupational drop-out.

### Kinship as a potential effect modifier

Tests for an interaction between bereavement exposure and kinship to the deceased found that none of the significant or non-significant associations between suicide bereavement and adverse outcomes were modified by relatedness. This was the case even when excluding the

253 respondents who reported the death of a partner, ex-partner or non-blood relative, to describe associations in a group bereaved by peer death.

### Stigma as a potential confounder

Adding stigma scores to adjusted models for significant associations between suicide bereavement and adverse outcomes attenuated ORs, as predicted, with no evidence for group differences between those bereaved by suicide and those bereaved by sudden natural causes in postbereavement suicide attempt (AOR=1.11; 95% CI 0.74 to 1.67;  $p=0.610$ ) or occupational drop-out (AOR=1.36; 95% CI 0.89 to 2.09;  $p=0.156$ ), or between those bereaved by suicide and those bereaved by sudden unnatural causes in terms of poor social functioning (AOR=1.06; 95% CI 0.80 to 1.41;  $p=0.667$ ).

### Sensitivity analyses

Main findings were unchanged after sensitivity analyses simulating worst-case and best-case scenarios for missing

**Table 2** Estimates of the relationship between postbereavement outcomes and bereavement exposure (sudden natural death as reference category)

Exposure group	Sudden natural death (n=2106)		Sudden unnatural death (n=712)					Suicide (n=614)				
	Prevalence n (%)	OR (reference)	Prevalence n (%)	Unadjusted OR* (95% CI)	p Value†	Adjusted‡ OR* (95% CI)	p Value†	Prevalence n (%)	Unadjusted OR* (95% CI)	p Value†	Adjusted‡ OR* (95% CI)	p Value†
Primary outcomes												
Postbereavement suicidal ideation	911 (43)	1	322 (45)	1.04 (0.87 to 1.25)	0.670	0.97 (0.80 to 1.18)	0.740	299 (49)	1.27 (1.05 to 1.54)	0.019	1.13 (0.92 to 1.39)	0.237
Postbereavement suicide attempt	112 (5)	1	42 (6)	1.09 (0.74 to 1.61)	0.656	1.11 (0.73 to 1.68)	0.621	56 (9)	1.76 (1.25 to 2.49)	0.001	1.65 (1.12 to 2.42)	0.012
Secondary outcomes												
Postbereavement non-suicidal self-harm	438 (20)	1	149 (21)	1.00 (0.81 to 1.25)	0.980	1.06 (0.82 to 1.37)	0.655	151 (25)	1.29 (1.04 to 1.61)	0.021	1.28 (0.98 to 1.66)	0.066
Postbereavement depression	647 (31)	1	249 (35)	1.20 (0.99 to 1.45)	0.059	1.22 (0.98 to 1.53)	0.071	180 (29)	0.94 (0.77 to 1.15)	0.553	1.03 (0.81 to 1.30)	0.840
Postbereavement occupational drop-out	96 (5)	1	44 (6)	1.41 (0.96 to 2.07)	0.079	1.56 (1.04 to 2.35)	0.033	48 (8)	1.66 (1.14 to 2.43)	0.009	1.80 (1.20 to 2.71)	0.005
Poor current social functioning	557 (27)	1	178 (25)	0.91 (0.74 to 1.11)	0.354	0.92 (0.73 to 1.15)	0.443	200 (33)	1.41 (1.15 to 1.73)	0.001	1.33 (1.06 to 1.67)	0.012

\*Estimate obtained using *xtlogit* command in Stata.

†Two-sided significance threshold of  $p=0.05$  for primary outcomes, and  $p=0.01$  for secondary outcomes.

‡Adjusted for age, gender, socioeconomic status, prebereavement depression, prebereavement suicide attempt, prebereavement non-suicidal self-harm, other family history of suicide (excluding index bereavement), years since bereavement and kinship to the deceased. For each model, exposure group sizes exceeded the 466 respondents required for adequate power, even when using complete case analysis.

**Table 3** Estimates of the relationship between postbereavement outcomes and bereavement exposure (suicide vs sudden unnatural death)

Exposure group	Sudden unnatural death (n=712)		Suicide (n=614)		Adjusted† OR* (95% CI)	p Value†	p Value†
	Prevalence n (%)	OR (reference)	Prevalence n (%)	Unadjusted OR* (95% CI)			
Primary outcomes							
Postbereavement suicidal ideation	322 (45)	1	299 (49)	1.22 (0.97 to 1.53)	1.17 (0.93 to 1.48)	0.087	0.189
Postbereavement suicide attempt	42 (6)	1	56 (9)	1.62 (1.04 to 2.50)	1.48 (0.94 to 2.33)	0.032	0.089
Secondary outcomes							
Postbereavement non-suicidal self-harm	149 (21)	1	151 (25)	1.29 (0.99 to 1.68)	1.21 (0.89 to 1.63)	0.061	0.222
Postbereavement depression	249 (35)	1	180 (29)	0.78 (0.61 to 1.00)	0.84 (0.64 to 1.10)	0.049	0.197
Postbereavement occupational drop-out	44 (6)	1	48 (8)	1.18 (0.75 to 1.84)	1.15 (0.73 to 1.82)	0.473	0.541
Poor current social functioning	178 (25)	1	200 (33)	1.56 (1.21 to 2.00)	1.46 (1.12 to 1.89)	0.001	0.005

\*Estimate obtained using xtlogit command in Stata.

†Two-sided significance threshold of  $p=0.05$  for primary outcomes, and  $p=0.01$  for secondary outcomes.

‡Adjusted for age, gender, socioeconomic status, prebereavement depression, prebereavement suicide attempt, prebereavement non-suicidal self-harm, other family history of suicide (excluding index bereavement), years since bereavement and kinship to the deceased. For each model, exposure group sizes exceeded the 466 respondents required for adequate power, even when using complete case analysis.

values, and after those simulating other potential biases, suggesting that any biases introduced had not resulted in an underestimation or overestimation of the risks.

### Post hoc sensitivity analyses

The magnitude and direction of the association between suicide bereavement and suicide attempt (compared with bereavement by sudden natural causes) were similar after excluding 769 participants bereaved by the death of someone aged over 60 (AOR=1.78; 95% CI 1.16 to 2.71;  $p=0.008$ ), to exclude deaths that might be less unexpected. They were also unchanged when excluding 399 staff (AOR=1.73; 95% CI 1.16 to 2.59;  $p=0.007$ ), and in a women-only sample (AOR=1.66; 95% CI 1.09 to 2.53;  $p=0.018$ ). When compared with women bereaved by sudden unnatural causes, women bereaved by suicide had an increased probability of postbereavement suicide attempt (AOR=1.71; 95% CI 1.04 to 2.85;  $p=0.036$ ), whereas in the full sample no association was found.

When taking into account the higher prevalence of repeated exposure to sudden bereavement in the suicide bereaved group, ORs were attenuated and no significant findings remained. There was therefore no evidence of group differences between the suicide bereaved group and those bereaved by sudden natural causes in relation to postbereavement suicide attempt (AOR=1.53; 95% CI 0.99 to 2.35;  $p=0.054$ ) or occupational drop-out (AOR=1.54; 95% CI 0.98 to 2.43;  $p=0.062$ ), or between those bereaved by suicide and those bereaved by sudden unnatural causes in relation to poor social functioning (AOR=1.41; 95% CI 1.07 to 1.84;  $p=0.013$ ).

### DISCUSSION

Our main finding was of a specific association between bereavement by suicide and subsequent suicide attempt among young adults who experience sudden bereavement. This was not attributable to prebereavement suicidality, despite higher rates of prebereavement psychopathology; a finding in keeping with the literature<sup>1</sup> and suggestive of shared familial and environmental risk. Previous studies using non-bereaved controls or heterogeneous bereaved controls were not able to rule out the possibility that exposure to *any* sudden bereavement explains adverse outcomes. Our study supports a specific association between suicide bereavement and suicide-related outcomes, justifying the inclusion of people bereaved by suicide in national suicide prevention strategies. This study also provides the first evidence that blood relatedness to the deceased does not modify the association between suicide bereavement and suicide attempt, confirming that risk also applies to adults bereaved by peer suicide. Such findings must be interpreted in the context of a highly educated sample, in which exposure to violent losses may be lower than in a more nationally representative (but harder to recruit) sample.



The absence of an association between suicide bereavement and suicidal ideation or depression is striking, as is the high prevalence of prebereavement and postbereavement suicidal ideation and depression in all three exposure groups. This may be explained by high baseline rates of depressive and suicidal thoughts among students,<sup>26</sup> reducing the chances of detecting a difference. It is also possible that while suicidal thinking after sudden loss is common, suicide bereavement is particularly powerful in precipitating suicide attempt in a suicidal person, whether due to enhanced awareness of means, reduced fear of death or social modelling.<sup>27</sup> The non-significant differences in the probability of suicidality and depression when comparing adults bereaved by suicide and by sudden unnatural causes are noteworthy, requiring further studies comparing outcomes in those bereaved by suicide and other unnatural causes.

The clinical implications of these findings are that clinicians assessing suicide risk should inquire not only about a history of suicide in blood relatives, but also in friends and non-blood relatives. Employers should be aware of the impact of suicide bereavement on occupational functioning, and make adjustments to promote workplace mental health. The associations between suicide bereavement and adverse outcomes became non-significant when adding perceived stigma. This is an indicator that stigma might be a marker for motivational moderators of suicidality after a negative life event, such as reluctance to seek help, thwarted belongingness or perceived burdensomeness.<sup>27</sup> However, further investigation is warranted to determine whether stigma can be said to lie on the causal pathway. This study suggests a role for psychosocial interventions delivered after a potentially traumatic loss to address problem solving and help seeking, and the quality of community support. Although not prehypothetised, the associations were also attenuated by repeated exposure to sudden losses among the suicide bereaved. This is suggestive of a substantial contribution of familial and environmental risk factors for premature death shared with social networks, and a reduced fear of death due to habituation. This acquired capability to attempt suicide<sup>27</sup> would require sensitive exploration in a clinical interview.

Our study is of policy importance in specifying that friends as well as relatives warrant support after a suicide, addressing the vagueness of suicide prevention strategies on how extensively to offer support.<sup>1</sup> The WHO estimates that 800 000 people die by suicide annually,<sup>28</sup> and 60 people are now understood to be affected by each suicide death.<sup>29</sup> This means that 48 million people are bereaved by suicide worldwide every year. Further research describing moderators of risk will help determine whether there is a rationale for screening members of this heterogeneous group. Trials are also needed to identify evidence-based interventions delivered after suicide bereavement to reduce the risk of suicide-related outcomes, including those that address stigma.

This study's key strengths are its national population-based sample size, and ability to access those who do not

normally participate in research. It is the largest scale survey conducted in any country comparing self-reported suicide-related outcomes in those bereaved by suicide and other mortality causes. Previous studies using national registries have achieved larger sample sizes, but under-recorded exposures and lacked self-reported outcomes such as untreated suicide attempts.<sup>10-12 30 30 31</sup> Unlike previous surveys, we tested clear a priori hypotheses, accounted for prebereavement psychopathology, and used standardised measures for seven of eight outcomes. A precise sampling frame accessed a large community sample of young adults, otherwise under-represented in health research, while minimising the biases inherent to using help-seeking groups. Coroner misclassification of suicides as accidental deaths was less of a problem than in other studies as we used the respondent's perception of cause of death, with minimal potential for respondent misclassification. Levels of missing data within models were low, and results were robust to sensitivity analysis simulating non-response and possible selection biases. Chance findings were unlikely as group sizes exceeded the minimum required for adequate power and the significance threshold was more stringent for secondary outcomes than primary.

Lack of information on response might be a considered a limitation, but no method permitted accurate estimation of the bereaved denominator. It is reasonable to assume that most non-responders had not been exposed to sudden bereavement, and that a minority were ineligible by age. Our hierarchical approach to classifying suicide exposure may have overestimated the effect of suicide bereavement due to clustering of violent bereavements, but we did not measure number of exposures to each type of bereavement. Our definition of non-suicidal self-harm followed that used for establishing UK population norms,<sup>19</sup> but may differ from others given wide international definitional variations. Recall bias may have influenced judgements about the onset and severity of difficulties, particularly among those bereaved by violent causes, with the potential to overestimate risks in these groups. Residual confounding is possible in relation to unmeasured variables such as financial hardship, social modelling, substance misuse and complicated grief (which was not measured as data collection preceded Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5)<sup>32</sup>). Non-response bias (from men, those most distressed), survivor bias and selection bias (favouring higher social classes) may have resulted in an underestimation of risks due to the higher probability of suicide-related outcomes in disadvantaged men<sup>16</sup> and those worst affected by the loss. An HEI sample is not representative of all UK-based young adults, despite inclusion of diverse institutions, and this limits generalisability of findings to those not entering higher education. While selection bias and male non-response bias were equally distributed between the three exposure groups, the results of this study may be more generalisable to young bereaved

women than men, and to the more highly educated. Nevertheless, the findings do constitute the best available evidence describing the impact of peer suicide on young adults using appropriate controls.

## CONCLUSIONS

Bereavement by suicide is a specific risk factor for suicide attempt when compared with bereavement due to sudden natural causes, whether blood-related to the deceased or not. As the association between suicide bereavement and suicide attempt is attenuated when taking into account perceived stigma, further investigation of the role of stigma and reduced help seeking is warranted. Such work will inform the development of acceptable interventions delivered after potentially traumatic losses. Our findings suggest that suicide risk assessment should extend screening for a family history of suicide to any history of suicide in non-blood relatives and friends. However, until we have evidence-based interventions for this group, the best ways of mitigating this risk of suicide attempt are unclear.

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**Contributors** ALP, DPJO and MBK had the idea for and designed the study. ALP recruited participants, managed the survey, and collected and cleaned data. ALP, KR and DPJO conducted (and are responsible for) data analysis. All authors interpreted data, contributed to writing of the report and approved the final version before submission. ALP, DPJO and MBK conducted the literature search for a published study co-authored with Annette Erlangsen.<sup>1</sup> ALP had full access to all the data in the study, takes responsibility for the integrity of the data and the accuracy of the data analysis, and is the guarantor.

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**Competing interests** None declared.

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**Data sharing statement** No additional data are available.

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## Supplementary file 1: UCL Bereavement Study questionnaire



### UCL Bereavement Study questionnaire

#### Part 1

Thank you for taking part.

*To continue to the survey click **Next** at the bottom of this page.*

#### Study aims

This survey will help us to understand the impact of sudden bereavement. The results will be used to improve services for bereaved people.

#### How to complete the survey

In Part 1 the responses are by ticking boxes and should take about 5-10 minutes. In Part 2 the responses are given in free text boxes for you to provide as much detail as you wish, and usually takes between 5 and 15 minutes.

#### How to save progress and take a break

Clicking the Save button gives you instructions on how to return later. The program asks for your email address to send you a 'return ticket' link. Your email address will not be added to the data and this protects your confidentiality.

#### Anonymity

The survey is anonymous. We can't link answers to you unless you give your name. If you do give your name or email we will not pass this to any organisation outside our research team. All data will be collected and stored in accordance with the Data Protection Act 1998.

#### In case of difficulty

Completing this questionnaire may not be easy for some people and some questions may evoke difficult memories. For a list of sources of support please bookmark the study website:

[www.ucl.ac.uk/psychiatry/bereavementstudy](http://www.ucl.ac.uk/psychiatry/bereavementstudy)

#### Further information

If you have questions about the questionnaire click on [this link](#) (to email address: [bereavementstudy@ucl.ac.uk](mailto:bereavementstudy@ucl.ac.uk)) to contact us.

#### 1.1.1.1 Consent to participate:

##### Question 1

Before you start this study we need to check that we have your informed consent to participate. Once you have read the UCL Bereavement Study information sheet and consent form (at this [hyperlink](#)) please tick the box below if you agree with the following statement.

I understand the aim of this study and agree that its anonymised results are to be used for scientific purposes and further analyses.

☐ Yes – I agree

##### Question 2

This survey has been sent to you by (name of higher education institution from list of 37 participating).



Which one of the following describes your connection to (insert name of HEI)?

- ☐ a student at (HEI name)
- ☐ a member of staff at (HEI name)
- ☐ a member of staff at (HEI name) who is also registered there as a student
- ☐ None of the above (branch to end of questionnaire thanking respondent for their interest)

### **1.1.1.2 Demographic information**

These first few questions in Part 1 are to find out some of your characteristics. It will help us compare your answers with those of other people who are similar to you.

#### Question 3

What is your gender?

- ☐ Male
- ☐ Female

#### Question 4

What is your age?

(drop-down ages 18-40)

- ☐ My age is outside this age range. (branch to end of questionnaire thanking respondent for their interest and reminding them of inclusion criteria)

Please note that the age range for this study is 18 to 40. This in no way implies that bereavement has a lesser impact in other age-groups, but allows us to focus on a specific sub-group which has tended to be under-represented in work of this kind. If your age is outside this range we cannot use your responses in the data analysis, but thank you for having volunteered your time.

For a list of support services, and for further information on the progress of this study, see the [UCL Bereavement Study website](http://www.ucl.ac.uk/psychiatry/bereavementstudy): link to [www.ucl.ac.uk/psychiatry/bereavementstudy](http://www.ucl.ac.uk/psychiatry/bereavementstudy)

#### Question 5

What is your work status? Please tick one of the options below.

- ☐ full-time paid work (> 30 hours per week)
- ☐ part-time paid work (< 30 hours per week)
- ☐ full-time student
- ☐ full-time student with part-time job
- ☐ part-time student
- ☐ part-time student with part-time job
- ☐ Other - please state

#### Question 6

Over the last 12 months how many days have you been absent from work, study, training or care responsibilities? (space for entering numerals 0-365 days)

#### Question 7 – for staff

Please state your occupation, including any managerial responsibilities you may have.  
(Free text: coded into ONS categories)

#### Question 8 – for students

Please state the occupation of your highest-earning parent, or the person who supports you financially. If he or she is retired or unemployed, give their most recent occupation.  
(Free text: coded into ONS categories)

#### Question 9

What is your highest level of education? Please tick the option which represents your highest level of exam achievement.

- ☐ no academic qualifications
- ☐ lower secondary education (eg. GCSEs, O levels, CSEs)

- ☐ higher secondary education (eg. A levels, Highers, IB, Access course)
- ☐ university degree (undergraduate)
- ☐ higher university degree (post-graduate)
- ☐ other - please state

#### Question 10

What is your ethnicity? Please tick one of the options below

- |  |  |
|--|--|
| <input type="checkbox"/> White British                       | <input type="checkbox"/> Mixed race: White and Black Caribbean |
| <input type="checkbox"/> White Irish                         | <input type="checkbox"/> Mixed race: White and Black African   |
| <input type="checkbox"/> Other White groups                  | <input type="checkbox"/> Mixed race: White and Asian           |
| <input type="checkbox"/> Asian or Asian British: Indian      | <input type="checkbox"/> Mixed race: all other                 |
| <input type="checkbox"/> Asian or Asian British: Pakistani   | <input type="checkbox"/> Chinese                               |
| <input type="checkbox"/> Asian or Asian British: Bangladeshi | <input type="checkbox"/> Other ethnic groups                   |
| <input type="checkbox"/> Asian or Asian British: all other   | <input type="checkbox"/> Unable to respond                     |
| <input type="checkbox"/> Black or Black British: Caribbean   |  |
| <input type="checkbox"/> Black or Black British: African     |  |
| <input type="checkbox"/> Black or Black British: all other   |  |

#### Question 11

What is your religion? Please tick one of the options below.

- |   |   |
|---|---|
| <input type="checkbox"/> No religious affiliation but holding spiritual beliefs | <input type="checkbox"/> Muslim                             |
| <input type="checkbox"/> Atheist  | <input type="checkbox"/> Sikh                               |
| <input type="checkbox"/> Agnostic   | <input type="checkbox"/> Christian - Catholic               |
| <input type="checkbox"/> Buddhist   | <input type="checkbox"/> Christian - Protestant             |
| <input type="checkbox"/> Hindu  | <input type="checkbox"/> Christian - other Christian group  |
| <input type="checkbox"/> Jewish   | <input type="checkbox"/> Other - please specify in this box |

#### Question 12

What is your marital status? Please tick one of the options below.

- |  |                                    |
|--|------------------------------------|
| <input type="checkbox"/> single              | <input type="checkbox"/> divorced  |
| <input type="checkbox"/> co-habiting         | <input type="checkbox"/> separated |
| <input type="checkbox"/> married/civil union | <input type="checkbox"/> widowed   |

#### Question 13

How many children do you have?  
(space for entering numerals)

#### Question 14

What is your current living situation? Please tick one of the options below.

- ☐ alone
- ☐ living with spouse/partner
- ☐ single parent living with children
- ☐ living with parents
- ☐ living with other relatives
- ☐ sharing accommodation with non-relatives
- ☐ student hall of residence or student hostel
- ☐ temporary hostel or B&B accommodation
- ☐ homeless
- ☐ other - please specify

### **1.1.1.3 Social support**

The next few questions are about people you feel close to, including relatives, friends and acquaintances.

Question 15

First of all we would like to ask you about the people that you live with.  
How many adults who live with you do you feel close to?  
(space for entering numerals 0-99)

Question 16

Now we would like to ask about people you feel close to who do not live with you.  
How many relatives aged 16 or over, who do not live with you, do you feel close to?  
(space for entering numerals 0-99)

Question 17

How many friends or acquaintances who do not live with you would you describe as close or good friends?  
(space for entering numerals 0-99)

Question 18

Thinking about all of the people who do not live with you, and whom you feel close to or regard as good friends, how many did you communicate with in the last week?  
(space for entering numerals 0-99)

We would now like you to think about your family and friends. (By family we mean those who live with you as well as those elsewhere). Here are some comments people have made about their family and their friends. For each statement, please say whether it is not true, partly true or certainly true for you.

Question 19

There are people I know amongst my family and friends who do things to make me happy.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 20

There are people I know amongst my family and friends who make me feel loved.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 21

There are people I know amongst my family and friends who can be relied on, no matter what happens.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 22

There are people I know amongst my family and friends who would see that I am taken care of if I needed to be.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 23

There are people I know amongst my family and friends who accept me just as I am.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 24

There are people I know amongst my family and friends who make me feel an important part of their lives.  
☐ Not true ☐ Partly true ☐ Certainly true

Question 25

There are people I know amongst my family and friends who give me support and encouragement.  
☐ Not true ☐ Partly true ☐ Certainly true

**1.1.1.4 Past bereavements**

Question 26

Since you were aged 10 have you experienced a sudden bereavement of someone close to you due to any of the following?

Please tick *all* those that apply to you.

- ☐ sudden natural death (eg. cardiac arrest, epileptic seizure, stroke) (branch to questions 28 and 29)
- ☐ sudden un-natural death (eg. road crash, murder or manslaughter, work accident) (branch to questions 28 and 29)
- ☐ suicide (branch to question 27)

#### Question 27

We would like to hear more about the impact of your bereavement by suicide.

The rest of the questions in this survey relate to the impact of a suicide on your everyday functioning and other aspects of your life.

If you have been bereaved by suicide more than once please answer the rest of this questionnaire in relation to one person - the person to whom you felt closest.

What gender was this person?

- ☐ Male
- ☐ Female

#### Question 28

The rest of the questions in this survey relate to the impact of one specific sudden bereavement on your everyday functioning and other aspects of your life.

If you have been bereaved suddenly more than once please answer the rest of this questionnaire in relation to one person - the person to whom you felt closest.

How did this person die?

- ☐ sudden natural death (eg. cardiac arrest, epileptic seizure, stroke)
- ☐ sudden un-natural death (eg. road crash, murder or manslaughter, work accident)
- ☐ suicide

#### Question 29

What gender was this person?

- ☐ Male
- ☐ Female

#### Question 30

Please give an estimate of how old you were when this person died?

Remember from the website that we are including sudden unexpected bereavements you may have experienced after you reached the age of 10. The survey starts at the age of 10 because children tend to react to bereavement in different ways to adolescents or adults, and because there may be difficulties remembering events in childhood.

(drop-down ages 10-40).

- ☐ I was under 10 at the time of that person's death (branch to end of questionnaire thanking respondent for their interest and reminding them of inclusion criteria)

*If the bereavement was before this age we will be unable to include your responses in our analysis but thank you for having volunteered your time. For further information on the progress of this study see:*

[www.ucl.ac.uk/psychiatry/bereavementstudy](http://www.ucl.ac.uk/psychiatry/bereavementstudy)

#### Question 31

About how long ago did this person die? (space) years ago

#### Question 32

Approximately how old was this person at the time of their death?



(space) years old

In the case of infant death please use this space to give their age: (Free text)

#### **1.1.1.5 Your relationship to the person who died**

##### Question 33

What relation was this person to you? Please tick one of the following options.

i.e. He/she was my...

- |  |  |
|--|--|
| <input type="checkbox"/> brother                 | <input type="checkbox"/> close colleague or client             |
| <input type="checkbox"/> sister                  | <input type="checkbox"/> cousin                                |
| <input type="checkbox"/> father                  | <input type="checkbox"/> niece or nephew                       |
| <input type="checkbox"/> mother                  | <input type="checkbox"/> uncle or aunt                         |
| <input type="checkbox"/> son                     | <input type="checkbox"/> uncle by marriage or aunt by marriage |
| <input type="checkbox"/> daughter                | <input type="checkbox"/> brother-in-law or sister-in-law       |
| <input type="checkbox"/> partner or spouse       | <input type="checkbox"/> mother-in-law or father-in-law        |
| <input type="checkbox"/> ex-partner or ex-spouse | <input type="checkbox"/> other – please state (Free text)      |
| <input type="checkbox"/> grandparent             |  |
| <input type="checkbox"/> close friend            |  |

Please specify here if they were a half-, step-, or adoptive relative or a relative by marriage: (Free text)

##### Question 34

In the year before their death on average how often were you in contact with them?

This would include face-to-face meetings as well as telephone calls, text messages, emails, cards, letters, and contact via social networking sites.

- |  |  |
|--|--|
| <input type="checkbox"/> daily               | <input type="checkbox"/> every 6 months              |
| <input type="checkbox"/> weekly              | <input type="checkbox"/> yearly                      |
| <input type="checkbox"/> monthly             | <input type="checkbox"/> not at all during that year |
| <input type="checkbox"/> every 2 to 3 months |  |

##### Question 35

Approximately how long before their death had you known this person for?

For (space) years

##### Question 36

At the time of their death how emotionally close did you feel to this person?

Not close at all 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ As close as any relationship I've had before or since

##### Question 37

If your relationship with them had previously been closer or more distant, please try and rate how close the relationship had been previously using the same scale.

If the relationship was no different previously you can just click N/A.

Not close at all 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ As close as any relationship I've had before or since ☐ N/A

#### **1.1.1.6 The emotional impact of a bereavement**

The following questions are to find out about the types of feelings you may have had since the death.

You may find that some of the questions asked do not apply to you. For these you should tick 'Never'.

For those questions that you do identify with please try to judge, as best you can, how frequently you have experienced this feeling since the death.

##### Question 38

How often did you think that people were uncomfortable offering their condolences to you?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 39

How often did you avoid talking about the negative or unpleasant parts of your relationship?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 40

How often did you feel avoided by friends?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 41

How often did you think that others didn't want you to talk about the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 42

How often did you feel like no-one cared to listen to you?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 43

How often did you feel that friends, neighbours and family did not offer enough concern?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 44

How often did you feel like a social outcast?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 45

How often did you think people were gossiping about you or that person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 46

How often did you feel like people were probably wondering about what kind of personal problems you and that person had experienced?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 47

How often did you feel like others may have blamed you for the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 48

How often did you feel like the death somehow reflected negatively on you or your family?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 49

How often did you feel somehow stigmatised by the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 50

How often did you think of times before the death when you could have made the person's life more pleasant?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 51

How often did you wish that you hadn't said or done certain things during your relationship with the person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 52

How often did you feel like there was something very important you wanted to make up to the person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 53

How often did you feel like maybe you didn't care enough about the person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 54

How often did you feel somehow guilty after the death of the person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 55

How often did you feel like the person had some kind of complaint against you at the time of the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 56

How often did you feel that, had you somehow been a different person, the person would not have died?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 57

How often did you feel that you had made the person unhappy long before the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 58

How often did you feel as though problems you and that person had together contributed to an untimely death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 59

How often did you avoid talking about the death of the person?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 60

How often did you feel uncomfortable revealing the cause of the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 61

How often did you feel embarrassed about the death?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 62

How often did you not mention the death to people you met casually?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

Question 63

How often did you tell someone that the cause of death was something different than what it really was?

- |                                    |  |
|------------------------------------|--|
| <input type="checkbox"/> Never     | <input type="checkbox"/> Often         |
| <input type="checkbox"/> Rarely    | <input type="checkbox"/> Almost always |
| <input type="checkbox"/> Sometimes |  |

**1.1.1.7 Accessing help**

We are now interested in finding out about the help you received or were offered after the death. If you wish to give more detail there are further questions about this in **Part 2**.

Question 64

How long after the death did you receive help that was valuable to you?

- |  |  |
|--|--|
| <input type="checkbox"/> Within a day    | <input type="checkbox"/> Within a year |
| <input type="checkbox"/> Within a week   | <input type="checkbox"/> Over a year   |
| <input type="checkbox"/> Within a month  | <input type="checkbox"/> At no time    |
| <input type="checkbox"/> Within 6 months |  |

Question 65

What help did you receive after the death? Please tick all those that apply:

- ☐ None
- ☐ Police
- ☐ Funeral director



- ☐ Coroner's service
- ☐ NHS services (doctor, nurse, therapist, counsellor)
- ☐ Private counsellor or therapist
- ☐ Voluntary sector services (helpline, counsellor)
- ☐ Help from friends, family and neighbours
- ☐ Self-help from a website, book or leaflet
- ☐ Other – please state: (Free text)

We are now interested in finding out about your emotional health.

#### Question 66

Have you ever, except in the last 6 months, had nearly two weeks or longer when nearly every day you felt sad, empty or depressed for most of the day?

- ☐ Yes (branch to question 67)
- ☐ No

#### Question 67

If Yes, at about what age did these feelings of being sad, empty or depressed first occur? (space) years old

#### Question 68

Have you ever, except in the last 6 months, had 2 weeks or longer when you lost interest in most things like work, hobbies and other things that you usually enjoyed?

- ☐ Yes (branch to question 69)
- ☐ No

#### Question 69

If Yes, at what age did these feelings of having lost interest in most things first occur? (space) years old

#### Question 70

During the last 30 days, about how often did you feel tired out for no good reason?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

#### Question 71

During the last 30 days, about how often did you feel nervous?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

#### Question 72

During the last 30 days, about how often did you feel so nervous that nothing could calm you?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

#### Question 73

During the last 30 days, about how often did you feel hopeless?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

#### Question 74

During the last 30 days, about how often did you feel restless or fidgety?

- ☐ None of the time
- ☐ A little of the time
- ☐ Some of the time
- ☐ Most of the time
- ☐ All of the time

Question 75

During the last 30 days, about how often did you feel so restless you could not sit still?

- |   |   |
|---|---|
| <input type="checkbox"/> None of the time     | <input type="checkbox"/> Most of the time |
| <input type="checkbox"/> A little of the time | <input type="checkbox"/> All of the time  |
| <input type="checkbox"/> Some of the time     |   |

Question 76

During the last 30 days, about how often did you feel depressed?

- |   |   |
|---|---|
| <input type="checkbox"/> None of the time     | <input type="checkbox"/> Most of the time |
| <input type="checkbox"/> A little of the time | <input type="checkbox"/> All of the time  |
| <input type="checkbox"/> Some of the time     |   |

Question 77

During the last 30 days, about how often did you feel that everything was an effort?

- |   |   |
|---|---|
| <input type="checkbox"/> None of the time     | <input type="checkbox"/> Most of the time |
| <input type="checkbox"/> A little of the time | <input type="checkbox"/> All of the time  |
| <input type="checkbox"/> Some of the time     |   |

Question 78

During the last 30 days, about how often did you feel so sad that nothing could cheer you up?

- |   |   |
|---|---|
| <input type="checkbox"/> None of the time     | <input type="checkbox"/> Most of the time |
| <input type="checkbox"/> A little of the time | <input type="checkbox"/> All of the time  |
| <input type="checkbox"/> Some of the time     |   |

Question 79

During the last 30 days, about how often did you feel worthless?

- |   |   |
|---|---|
| <input type="checkbox"/> None of the time     | <input type="checkbox"/> Most of the time |
| <input type="checkbox"/> A little of the time | <input type="checkbox"/> All of the time  |
| <input type="checkbox"/> Some of the time     |   |

Question 80

In the last month how often have you had intense feelings of emotional pain, sorrow, or pangs of grief related to the person who died?

- |   |  |
|---|--|
| <input type="checkbox"/> Not at all               | <input type="checkbox"/> At least once a day |
| <input type="checkbox"/> At least once this month | <input type="checkbox"/> Several times a day |
| <input type="checkbox"/> At least once a week     |  |

**1.1.1.8 Personality style**

The following 8 questions are about your personality - the way you typically think, feel or behave.

Question 81

In general, do you have difficulty making and keeping friends?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

Question 82

Would you normally describe yourself as a loner?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

Question 83

In general, do you trust other people? Please base your answer on whether you think that the description applies *most of the time* and in most situations.

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

Question 84

Do you normally lose your temper easily?

- |                              |                             |
|------------------------------|-----------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|------------------------------|-----------------------------|

Question 85

Are you normally an impulsive sort of person?

- ☐ Yes ☐ No

Question 86

Are you normally a worrier?

- ☐ Yes ☐ No

Question 87

In general, do you depend on others a lot?

- ☐ Yes ☐ No

Question 88

In general, are you a perfectionist?

- ☐ Yes ☐ No

**1.1.1.9 Your day-to-day life**

The next 8 questions measure how you currently handle everyday life and relationships.

Each one is presented as a statement. Please look at each statement and tick the reply that comes closest to how you have been **over the last fortnight**.

Question 89

I complete my tasks at work and home satisfactorily.

- ☐ Most of the time ☐ Sometimes  
☐ Quite often ☐ Not at all

Question 90

I find my tasks at work and at home very stressful.

- ☐ Most of the time ☐ Sometimes  
☐ Quite often ☐ Not at all

Question 91

I have no money problems.

- ☐ No problems at all ☐ Definite problems  
☐ Slight worries only ☐ Very severe problems

Question 92

I have difficulties in getting and keeping close relationships.

- ☐ Severe difficulties ☐ Occasional problems  
☐ Some problems ☐ No problems at all

Question 93

I have problems in my sex life.

- ☐ Severe problems ☐ Occasional problems  
☐ Moderate problems ☐ No problems at all

Question 94

I get on well with my family and other relatives.

- ☐ Yes, definitely ☐ No, some problems  
☐ Yes, usually ☐ No, severe problems

Question 95

I feel lonely and isolated from other people.

- ☐ Almost all the time ☐ Not usually  
☐ Much of the time ☐ Not at all

Question 96

I enjoy my spare time.

- ☐ Very much ☐ Not often  
☐ Sometimes ☐ Not at all

Question 97

In relation to your education, have you ever had to drop out of a course at school, college or university?

- ☐ Yes (branch to question 98) ☐ Not applicable  
☐ No

Question 98

If yes was this:

- ☐ before the bereavement?  
☐ after the bereavement?  
☐ both before and after the bereavement?

Question 99

In relation to your employment history, have you ever:

- been made redundant?
- been disciplined?
- resigned from a job for negative reasons?
- been given notice from employment?

- ☐ Yes (branch to question 100) ☐ Not applicable  
☐ No

Question 100

If yes was this:

- ☐ before the bereavement?  
☐ after the bereavement?  
☐ both before and after the bereavement?

The following questions are about times in your life when you might have felt low and hopeless, with negative thoughts about your future.

Question 101

Have you ever thought that life was not worth living?

- ☐ No ☐ Yes (branch to question 102)

Question 102

If you have ever thought that life was not worth living, was this:

- ☐ before the bereavement?  
☐ after the bereavement?  
☐ both before and after the bereavement?

Question 103

Have you ever wished that you were dead?

- ☐ No ☐ Yes (branch to question 104)

Question 104

If you have ever wished that you were dead, was this

- ☐ before the bereavement?  
☐ after the bereavement?  
☐ both before and after the bereavement?

Question 105

Have you ever thought of taking your life, even though you would not actually do it?

- ☐ No ☐ Yes (branch to question 106)

Question 106

If you have ever thought of taking your life, was this:

- ☐ before the bereavement?
- ☐ after the bereavement?
- ☐ both before and after the bereavement?

Question 107

Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?

- ☐ No
- ☐ Yes (branch to question 108)

Question 108

If you have ever made an attempt to take your life, by taking an overdose of tablets or in some other way, was this:

- ☐ before the bereavement?
- ☐ after the bereavement?
- ☐ both before and after the bereavement?

Question 109

Have you ever deliberately harmed yourself in any way but not with the intention of killing yourself?

- ☐ No
- ☐ Yes (branch to question 110)

Question 110

If you have ever deliberately harmed yourself in any way, but not with the intention of killing yourself, was this:

- ☐ before the bereavement?
- ☐ after the bereavement?
- ☐ both before and after the bereavement?

**1.1.1.10 Seeking help**

Question 111

If you have harmed yourself since the bereavement did you seek help from anyone?

- ☐ Yes (branch to question 112)
- ☐ Not applicable
- ☐ No

Question 112

Who did you try to get help from? Please tick all those that apply.

- ☐ a friend
- ☐ a member of your family
- ☐ your GP/family doctor
- ☐ the local hospital
- ☐ someone else ? Please specify: (Free text).

The next few questions relate to the psychological health of other people in your family.

Question 113

Has anyone in your family suffered from an anxiety disorder, a depressive disorder (including postnatal depression), had drug or alcohol problems, or other psychological or emotional difficulties?

- ☐ Yes (branch to question 114)
- ☐ No

#### Question 114

Please use this box to indicate which members of your family have had psychological or emotional difficulties, specifying whether they were blood relatives or not. If your earlier responses about bereavement related to a family member, and this question applies to that person, please include them here too. (Free text)

#### Question 115

Have any of your blood relatives died by suicide?

If your earlier responses about bereavement related to the suicide of a relative please tick **Yes** as the computer programme cannot add this information automatically.

☐ Yes (branch to question 116)

☐ No

#### Question 116

If yes please use the box below to indicate what relative they were to you (e.g. father, grandfather, aunt, etc). (Free text)

These final few questions in Part 1 are about your own psychological health.

#### Question 117

Have you ever had an anxiety disorder, a depressive disorder, drug or alcohol problems, or other mental health difficulties?

☐ Yes (branch to question 118)

☐ Don't know

☐ No

#### Question 118

If you have had psychological or emotional difficulties, have you ever had help for this from any of the following:

- general practitioner?
- practice nurse?
- practice counsellor?
- a psychiatrist in an out-patient appointment?

☐ Yes

☐ No

☐ Don't know

☐ Not applicable

Please use the free text below if you wish to give further details: (Free text)

#### Question 119

Have you ever been an in-patient in an acute mental health ward?

☐ Yes

☐ No

Please use the free text box below if you wish to give further details: (Free text)



### Question 120

This is the final question in Part 1. To date, at what stage after the bereavement do you feel that you have been most affected by it?

- |   |  |
|---|--|
| <input type="checkbox"/> immediately afterwards | <input type="checkbox"/> up to a year  |
| <input type="checkbox"/> up to a week           | <input type="checkbox"/> up to 3 years |
| <input type="checkbox"/> up to a month          | <input type="checkbox"/> over 3 years  |
| <input type="checkbox"/> up to 6 months         |  |

## **Part 2**

Thank you for your answers so far. Here in **Part 2** the free text boxes are for you to tell us in your own words about the areas of your life that might have been affected.

- Please give as much or as little detail as you wish to.
- If a question does not apply to you, just skip it.
- At any stage you can click **Save** in order to return and continue at another time.

### ***1.1.1.11 Relationships***

#### Question 121

In what way, if any, has your relationship with a partner, or with potential partners, changed since the bereavement?

Remember that if this or any other question does not apply to you, just skip to the next one.

#### Question 122

What about relationships with close friends, or with potential close friends?

#### Question 123

In what way, if any, have relationships within your immediate family (parents, brothers, sisters, children) changed since the bereavement?

#### Question 124

What about relationships with members of the wider family (cousins, aunts, uncles, nephews, nieces, grandparents)?

#### Question 125

If there are other ways in which you have withdrawn from those around you or grown closer to them, please use this space to give details. (Free text)

### ***1.1.1.12 Education and work***

#### Question 126

In what way, if any, has the bereavement affected your educational progress?

#### Question 127

What about your work performance?

### ***1.1.1.13 Other aspects of everyday life***

#### Question 128

In what way, if any, has the bereavement affected your drinking habits or your use of unprescribed drugs? (Unprescribed drugs include illicit drugs as well as medications used above their prescribed limits.)

Question 129

In what way, if any, has the bereavement affected your finances?

Question 130

In what way, if any, has the bereavement affected your spiritual beliefs?

Question 131

What information about the circumstances of their death, if any, did you not find out about until later?

Question 132

In what situations, if any, have you avoided discussing the death, or noticed that others avoid the subject?

Question 133

In what situations, if any, have you hidden your grief to protect yourself and others?

Question 134

Is the person who died still talked about by those who knew them?

In your answer you may want to consider:

- Whether anyone avoids talking about them.
- Whether anyone has made negative comments about them or the way they died.
- What opportunities you have had to share memories of them.

Question 135

To what extent has their death made you fear that you may die in a similar way?

**1.1.1.14 Immediately after the death**

Question 136

If you attended a funeral or memorial service for the person who died, what was your experience of this?

Question 137

If an inquest was held what was your experience of this, and your reaction to the verdict?

Question 138

Please describe any positive or negative experiences you may have had after the death in relation to the following:

- police force
- funeral directors
- coroner's office
- healthcare staff
- press reporting on the death

### **1.1.1.15 Help received**

#### Question 139

What are your views on any help you were offered or not offered?

In your response you may wish to comment on:

- how helpful or unhelpful any support was
- what help you wish you had been offered and at what stage
- why certain people did not offer their support

(Free text)

#### Question 140

After the death did it feel as though support was available to other people close to that person but not to yourself?

For example this may have been because:

- you hid your grief
- others were not aware that you had a close relationship with this person
- the support you wanted was not available

### **1.1.1.16 Future work and feedback**

You have reached the end of the questionnaire. Thank you very much for your time.

We are also inviting some people who have completed this survey to participate in a face-to-face **interview**. This gives us a chance to hear more about your personal experiences of bereavement.

The interview lasts up to an hour. In London these will be held at UCL (Torrington Place, London WC1), but arrangements for sites outside London are to be confirmed. Further information is available on the study website: [www.ucl.ac.uk/psychiatry/bereavementstudy](http://www.ucl.ac.uk/psychiatry/bereavementstudy)

#### Question 141

If you would be willing to be contacted about volunteering for an interview please type your email address and/or telephone number in the space below. These details will **not** be passed on to anyone outside this research team.

Please note that if you do volunteer for an interview that you are not committed to this, and can withdraw this decision at any time.

Email and/or telephone: (Free text)

#### Question 142 - Future work:

We also hope to conduct a follow-up study in a few years' time to explore whether there are any changes in how people adjust to a bereavement over time.

If you are willing to be contacted about participating in this future study please supply contact details which will be reliable for a period of approximately 5 years.

If your email address is likely to change you may prefer to give a postal address or telephone number. If we contact you by post the envelope will be marked *only* with your name and address, and will be labelled Private and Confidential.

If you know your NHS number this is also a reliable way of our team being able to contact you by post.

Volunteering for this follow-up study is entirely optional. If you do provide contact details but later decide not to participate, you are free to withdraw at any time. You do not have to give any reason for withdrawing.

At no point will your name or contact details be passed on to anyone outside the research team.

Email/Telephone/Postal address/NHS number: (Free text)

Thank you for participating in this questionnaire.

#### Question 143 - Communication of the study's results:

Once the results have been analysed they will be available on the UCL Bereavement Study website.

If you would like the results to be emailed to you please type your email address in the box below.

Please note that:

- 1) Your email address will not be visible to others when the study results are emailed out.
- 2) When the responses to this questionnaire are analysed your email address will be removed so your anonymity is protected.
- 3) Your name or contact details will not be passed on to anyone outside this research team.

Email: (Free text)

Clicking on the Finish button (bottom right) will end your questionnaire and bring you directly to the university's counselling service website. This is your opportunity to go back and review your responses if you wish to.

## STROBE checklist for UCL Bereavement Study

Checklist of items that should be included in reports of *cross-sectional studies*:

<http://www.strobe-statement.org/index.php?id=available-checklists>

	Item No	Recommendation
Title and abstract	1	<p><b>(a) Indicate the study's design with a commonly used term in the title or the abstract:</b> abstract indicates that we conducted a national cross-sectional study</p> <p><b>(b) Provide in the abstract an informative and balanced summary of what was done and what was found:</b> abstract outlines our hypothesis, exposures and outcomes, and adjusted odds ratio for the association hypothesised</p>
<b>Introduction</b>		
Background/rationale	2	<b>Explain the scientific background and rationale for the investigation being reported:</b> Our introduction outlines the policy context, including key research references, and highlights the lack of evidence to support current suicide prevention strategy.
Objectives	3	<b>State specific objectives, including any prespecified hypotheses:</b> Objectives and primary hypothesis stated in the Abstract and Introduction. Our objective was to conduct a population-based survey comparing the impact of different modes of sudden bereavement on non-fatal suicide-related outcomes. Our primary hypothesis was that suicide bereavement among young UK-based adults, compared with bereavement by other causes of sudden death, was a risk factor for post-bereavement suicidal thoughts and suicide attempt. Three further pre-specified hypotheses are stated in the Introduction.
<b>Methods</b>		
Study design	4	<b>Present key elements of study design early in the paper:</b> Cross-sectional survey stated in first line of Methods.
Setting	5	<b>Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection:</b> Introduction describes emailing sample of 37 HEIs in 2010 for cross-sectional data collection. Acknowledgement section details the locations and range of HEIs.
Participants	6	<b>Give the eligibility criteria, and the sources and methods of selection of participants:</b> Eligibility criteria described as: people aged 18-40 who had experienced sudden bereavement of a close friend or relative after ten years of age.
Variables	7	<b>Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.</b> All 10 outcomes described, denoting whether standardised, and providing citation. Exposure clearly defined. Eight pre-specified confounding variables defined and justified. Kinship defined as a potential effect modifier.
Data sources/measurement	8*	<b>For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group:</b> Questionnaire development and content described. Same instrument used for all exposure groups.
Bias	9	<b>Describe any efforts to address potential sources of bias:</b> We describe how we followed-up non-responding HEIs to ensure a diverse representation of HEIs, and how we masked participants to the study hypothesis. We also describe a decision to use two-tailed analysis to reduce inductive bias.
Study size	10	<b>Explain how the study size was arrived at:</b> We based our sample size calculation on

detecting a doubling of the UK community prevalence of lifetime suicide attempt (6.5%) in young adult samples.

Quantitative variables	11	<b>Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why:</b> Our Methods section defines the list of 3 exposure groups, 10 outcomes, and 8 covariates; and how each was used in the analysis.
Statistical methods	12	<p><b>(a) Describe all statistical methods, including those used to control for confounding:</b> We describe our use of multivariable linear and logistic regression, including justification of the 8 covariates used in the adjusted models.</p> <p><b>(b) Describe any methods used to examine subgroups and interactions:</b> We describe how we tested for an interaction with kinship.</p> <p><b>(c) Explain how missing data were addressed:</b> We explain that levels of missing data were low (&lt;7%) and describe how we used best and worst case scenarios to impute missing values as part of our sensitivity analyses.</p> <p><b>(d) If applicable, describe analytical methods taking account of sampling strategy:</b> We describe our use of a cluster variable to take into account the potential for clustering of responses within HEIs.</p> <p><b>(e) Describe any sensitivity analyses:</b> We describe sensitivity analyses that assessed the impact of missing data and simulated more stringent inclusion criteria for the sampling strategy.</p>
<b>Results</b>		
Participants	13*	<p><b>(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed:</b> We specify numbers of those participating, consenting, and eligible, and present the participant flow in Figure 1.</p> <p><b>(b) Give reasons for non-participation at each stage:</b> numbers not consenting, not eligible, not indicating exposure group, and not providing at least 1 outcome measure presented in Figure 1.</p> <p><b>(c) Consider use of a flow diagram:</b> see Figure 1</p>
Descriptive data	14*	<p><b>(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders:</b> Table 1 and text indicates descriptive characteristics by exposure group.</p> <p><b>(b) Indicate number of participants with missing data for each variable of interest:</b> Table 1 provides proportion of missing values for each covariate of interest by exposure group.</p>
Outcome data	15*	<b>Report numbers of outcome events or summary measures:</b> Table 2 presents prevalence (or mean score) for each outcome by exposure group.
Main results	16	<p><b>(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included:</b> Text and Tables 3 and 4 provide unadjusted and adjusted estimates, with 95% confidence intervals and p-values.</p> <p><b>(b) Report category boundaries when continuous variables were categorized:</b> standard deviation, range, and inter-quartile range reported as appropriate.</p> <p><b>(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period:</b> N/A</p>
Other analyses	17	<b>Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses:</b> We report stratum-specific analyses for relatives and non-relatives of the deceased, following interaction tests.
<b>Discussion</b>		
Key results	18	<b>Summarise key results with reference to study objectives:</b> The start of our discussion summarises the principle findings in relation to our main hypothesis.
Limitations	19	<b>Discuss limitations of the study, taking into account sources of potential bias or</b>



**imprecision. Discuss both direction and magnitude of any potential bias:** Our discussion summarises both the strengths and weaknesses of this study, both in comparison with other potential approaches, and other previously-used approaches. We consider the possibility of either over- or under-estimation of risks given specific potential biases.

Interpretation	20	<b>Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence:</b> Our discussion sums up the existing literature and comments on the degree to which our findings are consistent with this, and the extent to which they contribute to our understanding of the impact of suicide bereavement.
Generalisability	21	<b>Discuss the generalisability (external validity) of the study results:</b> We explore the degree to which a UK HEI population is generalizable to the rest of the population, either in the UK or internationally.
<b>Other information</b>		
Funding	22	<b>Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based:</b> Our footnotes identify the MRC as the funder, and the limits of their role in this study.

\*Give information separately for exposed and unexposed groups.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).