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Temporal effects of separation on suicidal thoughts and behaviours

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A R T I C L E   I N F O

A B S T R A C T

Divorce has been identified as a risk factor for suicide. However, little research has been conducted on the time trajectory of the influence of relationship separation on suicidal outcomes. This study aimed to assess the effects over time of relationship breakdown and separation on suicidality. Data were drawn from 6616 Australian adults participating in the PATH through Life Project, a population-based longitudinal study. Suicidal ideation was reported by 406 participants (6.1%), and 99 (1.5%) reported a suicide plan or attempt in the past year. The effects of separation on suicidality were strongest soon after separation, with a nearly three-fold increase in ideation (adjusted OR = 2.73, $p < 0.001$) and an eight-fold increase in plans/attempts (adjusted OR = 7.75, $p < 0.001$) in the two years following separation, gradually diminishing subsequently. The period up to four years before a separation was also found to be a time of increased risk for suicidal thoughts and behaviours, while marriage was protective. Separation is a strong risk factor for suicidality and mental health services should target recently separated individuals.

It has been established in a number of studies that divorce is a risk factor for suicide, particularly in males (Cantor and Slater, 1995; Ide et al., 2010; Kposowa, 2000). A review by Stack (2000) reported that 86% of cross-sectional studies with individual-level data that tested the effects of divorce reported a positive association with suicide deaths. A landmark study by Weissman et al. (1999) found that rates of suicidal ideation are elevated up to three-fold among individuals who have experienced separation or divorce. Completed suicide is also more common in separated people, particularly young males (Ide et al., 2010; Wyder et al., 2009). However, the bulk of the literature has focused on 'divorce' as an indicator of current marital status, which is likely to be temporally distal from the often lengthy process of relationship breakdown. The influence of marital separation on suicidal outcomes over time has not been established (Ide et al., 2010). Jacobson and Portuges (1978) studied separation effects by categorising individuals into groups of pre-separation, recent separation and long-term separation, to examine suicidality among 238 community mental health patients (Jacobson and Portuges, 1978). They found a non-significantly increased risk of suicidal thoughts or behaviours in recently separated and long-term separated individuals compared to individuals who had discussed separation but remained partnered. A more recent retrospective study of deceased individuals reported that divorce in the year previous to death increased the odds of suicide by 60%, compared to a 30% increase for individuals who had divorced less recently (Stack and Scourfield, 2013). Previous longitudinal research has also identified the transition period leading into separation and divorce as a time of increased risk for general mental health problems (Wade and Pevalin, 2004).

The present study aimed to better delineate the effects over time of relationship breakdown and separation on suicidality in a large community-based sample. Specifically, using longitudinal data to identify the timing of marital separation, we assessed whether the periods before and after a separation were times of increased risk for suicidal thoughts and behaviours, including suicide plans or attempts.

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1. Method

1.1. Participants

The PATH Through Life Project is a population-based study examining the health and well-being of people who were 20–24, 40–44, and 60–64 years of age at Wave 1 (Anstey et al., 2012). Each cohort is followed up every four years over a total period of 20 years. Participants were recruited from a random sample of electoral rolls for the city of Canberra, Australia, and in the neighbouring town of Queanbeyan. Registration on the electoral roll is compulsory for Australian citizens. Results presented here concern the second wave of interviews conducted in 2003–2006 (recruitment was staggered by age group). Wave 2 interviews were completed by 6715 participants, reflecting an 89.7% follow-up rate from baseline, which had 58.6% participation rate. Of those who completed the interview, 2139 were aged 24–28 (89.0% response rate), 2354 were 44–48 (93.0%) and 2222 were 64–68 (87.8%). Participants who had missing data at Wave 2 ($n = 83–99$, 1.2–1.5%) were excluded from the analysis, leaving a sample of 6616 for the ideation analysis and 6632 for the plans/attempts analysis.

1.2. Procedure

Participants were interviewed at a convenient location, usually their home or the Centre for Mental Health Research at the Australian National University. Most of the interview was self-completed on a palmtop or laptop computer. The interviewer was required to administer the physical tests, some cognitive tests and a cheek swab used for genetic testing. Approval for the research was obtained from The Australian National University's Human Research Ethics Committee. Written informed consent for the study was obtained after detailed description of the study to the participants.

1.3. Measures

The two outcome variables were suicidal ideation and suicide plans/attempts in the 12 months preceding the assessment. Ideation was based on a "yes" response to one item from the Psychiatric Symptom Frequency scale (PSF; Lindelow et al., 1997): "In the last year have you ever thought about taking your own life?" Due to the small number of attempts reported ($n = 34$), suicide plans and attempts were combined into a single measure of suicidal behaviour. Plans or attempts were based on a "yes" response to any of two yes/no items from the PSF (Lindelow et al., 1997): "In the last year have you ever made plans to take your own life?" and "In the last year have you ever attempted to take your own life?"

Separation time was calculated in months, based on the item "How long have you been separated from your (previous) partner?" with responses given in years and months. Consequently, separation was used to refer to breakdown of marriage and de facto relationships (defined in Australian law as >2 years). Participants were only queried about their period of separation if they had previously been in such a relationship, based on the question "How many times have you been married or lived in a de facto relationship? Also, only include past relationships that lasted for 6 months or more". For analyses, separation time was categorised into groups, to distinguish those who had not been separated and to enable examination of the effects of discrete periods of separation. In addition, participants who did not report separation at Wave 2 but later reported separation from their relationship at Wave 3 (four years later) were identified to distinguish the group of individuals in pre-separation, that is, individuals who may have been in the early stages of relationship breakdown at Wave 2. The time since separation at Wave 3 was used to further categorise whether participants were within 2 or 4 years of separation at Wave 2, reflecting the time course of mental health changes observed in prior research (Wade and Pevalin, 2004).

Other variables included in the models were reported in the Wave 2 assessment, including parental status (whether the participant had children), recent financial problems, alcohol use and severity of depression and anxiety symptoms. Parental status was included to test whether separated individuals with children experienced greater prevalence of suicidality, potentially reflecting additional separation from children. Presence of financial problems was based on a single yes/no item asking whether the participant or their family had to go without things they needed in the past year because they were short of money. Depression severity was assessed from the Patient Health Questionnaire-9 (PHQ-9; Spitzer et al., 1999), a validated depression measure assessing severity of nine core symptoms of depression, with total scores ranging from 0 to 36. Anxiety severity was based on the Generalized Anxiety Disorder-7 (GAD-7, Spitzer et al., 2006), a validated measure of the seven core symptoms of GAD, with scores ranging 0–28. Alcohol use was assessed based on the total score from the 10-item Alcohol Use Disorders Identification Test (AUDIT, Saunders et al., 1993), ranging 0–40. In addition, suicidal ideation reported at Wave 1 four years earlier, based on the PSF (Lindelow et al., 1997), was used to account for existing suicidal ideation and history of plans/attempts.

1.4. Analysis

Sample characteristics were tabulated for each of the three age groups. The bivariate associations between separation status/length and suicidal thoughts and behaviours were plotted. Separate logistic regression models were then estimated for the two outcomes (suicidal ideation and plans/attempts) to examine whether the association between separation and suicidality could be explained by other factors. For each outcome, bivariate models were tested followed by multivariate models adjusting for demographic characteristics (age group, gender, parenthood status, financial problems) and level of depression symptoms, anxiety symptoms and alcohol use. Interaction effects were tested in separate models to assess whether the observed associations were different for subgroups of the sample (e.g., males, young people, divorcees). Participants with missing data, including 59 (0.9%) missing suicidality data and 103 (1.5%) missing on one or more predictor, were excluded from analyses.

2. Results

Sample characteristics are displayed in Table 1 by age group. As noted, there were significant differences (all $p < 0.003$) across the age categories in the distributions of every variable presented, based on χ^2 statistics for the categorical variables and one-way ANOVA for the depression, anxiety and alcohol scores. The prevalence of suicidal ideation and behaviours was highest in the 20s and lowest in the 60s. There were more recent separations and impending separations in the 20s group than the 40s and 60s, although there were more long-term separations in the older groups, resulting in more overall separations. By design, the sample had an approximately even gender split. Not surprisingly, prevalence of marriage in the 20s group was less than half that in the other groups, while rates of remarriage, separation, divorce and widowhood were also markedly lower in the younger age group. Accordingly, the proportion of 20s who were never married was considerably higher than in the other age groups. Depression scores, anxiety scores and alcohol use were highest in the 20s group.