

Suicide in Northern Ireland

An Analysis of Gender Differences in Demographic, Psychological, and Contextual Factors

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Abstract. *Background:* The circumstances surrounding death by suicide can give us insight into the factors affecting suicide risk in particular regions. *Aims:* This study examined gender and circumstances surrounding death by suicide in Northern Ireland from 2005 to 2011. *Method:* The study analyzed 1,671 suicides (77% male and 23% female cases) using information contained from the coroner's files on suicides and undetermined deaths. *Results:* Hanging was the most common method and more than one third of the deceased had prior suicide attempts. There was evidence of alcohol use in 41% of the cases. Only, 61% of cases had recorded adverse events; most had multiple and complex combinations of experiences. Relationship and interpersonal difficulties were the most common category of adverse event (40.3%). However, illness and bereavement, employment /financial crisis, and health problems were also common. One third of those who died by suicide were employed, compared with 50.3% who were not in employment. Just over half (50.1%) were known to have a mental health disorder. *Conclusion:* The results provide the first profile of deaths by suicide in Northern Ireland. They highlight the need to target people who have difficult life experiences in suicide prevention work, notably men, people with employment, financial and relationship crises, and those with mental disorders.

Keywords: suicide, gender, life events, alcohol, occupation

Suicide is an important and potentially preventable cause of mortality. In contrast to constituent countries of the United Kingdom, Northern Ireland (NI) comprises a single coronial district, amalgamated in 2004, and is currently the only region of the UK where coronial files have been examined to establish a database of deaths by suicide. The construction of this database therefore offers a unique opportunity to collate and examine demographic, psychological, and contextual factors at play prior to death by suicide. Thus far, distinct psychological, physical, pharmacological, and service use profiles have been useful in helping to distinguish those individuals at risk of suicidal behaviors (Benson, O'Neill, Murphy, Ferry, & Bunting, 2014; O'Neill, Corry, Murphy, Brady, & Bunting, 2014). High levels of mental disorders have been noted previously in the NI population (Bunting, Murphy, O'Neill, & Ferry, 2012). In addition, mental disorders, particularly depression, have been shown to be an important precipitating factor in suicides in NI (Foster, Gillespie, & McClelland, 1999; O'Connor, Sheehy & O'Connor, 1999). Yet most people with mental disorders do not go on to die by suicide, and the analysis of service use prior to death by suicide in NI demonstrates that many of those who die by suicide are not known to mental health services (O'Neill, Corry, et al. 2014). In addition, alcohol and substance use has been implicated in suicide in terms of its association with im-

pulsive behavior and as comorbid mental disorders. Finally, as previous suicide attempts remain a key indicator of subsequent fatal suicidal behavior, information about prior suicidal behavior may assist in identifying individuals at highest risk (Hawton, Saunders, & O'Connor, 2012).

In addition, a number of contextual factors have been implicated in a heightened risk of suicidality. Analyses of suicidal behavior in NI demonstrate associations with conflict-related traumatic events (O'Neill, Ferry, et al. 2014b). In NI suicide rates have steadily increased over the past number of years, which has been partly attributed to the recent relative stability (Tomlinson, 2012). Case-control studies consistently show that people who die by suicide have experienced a higher number of stressful life events (Kumar & George, 2013; Overholser, Braden, & Dieter, 2012). Studies of suicide in specific populations indicate that interpersonal difficulties (Bagge, Littlefield, Conner, Schumacher, & Lee, 2013) and offending behavior (Webb et al., 2013) are common. Employment and occupational factors are among the life events associated with suicide (Schneider et al., 2011; Tsutsumi, Kayaba, Ojima, Ishikawa, & Kawakami, 2007). This has given rise to concern about the association between the recent economic recession in the UK and Ireland and increased suicide rates. Understanding how life events can increase suicide risk may help us identify additional opportunities for interven-

tion. In addition, theories of suicide conceptualize this behavior as a consequence of an interaction between a range of social and cognitive processes that, along with acquired capability, result in death (Joiner, 2005; O'Connor, 2011). Indeed, contextual factors may also contribute to the method of death in certain instances. Skegg, Firth, Gray, and Cox (2010) found that while access to and familiarity with particular means of suicide did not heighten the risk of death it shaped the method used. Thus there appears to be some utility in analyzing the methods of deaths as a means of informing intervention strategies.

Suicide profiles in different regions are influenced by and therefore reflect social and cultural trends as well as the effects of legislation around access to means (such as firearm control, medication packaging). It is therefore vital that the circumstances surrounding deaths by suicide are examined in order to understand the factors associated with suicides in individual regions and to inform suicide prevention initiatives. However, data on events prior to death tend to be unreliable owing to the reliance on secondary sources of evidence. Few studies have collected this information in any systematic way at a population level. The National Confidential Inquiry Into Suicide and Homicide by People with Mental Illness (2014) and the data collected by the Office for National Statistics (ONS; 2015) do not provide information on life events and occupational factors that may precipitate death. In an attempt to address these issues, the current study uses qualitative data from coronial files, based on a range of sources, to analyze the events prior to death by suicide in NI from 2005 to 2011.

Method

Approval was obtained from Ulster University's research ethics committee to undertake the research. Cases were recorded by year of death; recorded deaths by suicide and undetermined intent were generated by staff from the NI Coroner's Service (CSNI), which subsequently directed file selection and inclusion. Undetermined deaths were examined; those cases that were clearly not related to self-harm and demonstrated no indication of suicidal intent, such as fishing boat accidents, sudden death, or deaths in early childhood, were excluded from the final sample. The decisions regarding these cases were made by the researcher and validated by staff at the coronial service. Case validation was undertaken with the assistance of NI Statistics and Research Agency (NISRA) personnel to ensure that the cases in the database were those included in the official NISRA statistics on deaths by suicide. In keeping with NISRA policy, only those deaths that had been subject to the full rigor of the coronial process and officially classified as "closed files" were considered. Cases that were within the research timeframe but remained open for enquiry, such as an inquest, were deemed beyond the remit of the study protocol and duly excluded. Data were extracted from the hard files stored in CSNI archives and electronically recorded in a database in a secure setting. To pro-

tect the bereaved, all information was encrypted at source; address information was replaced by XY coordinates and names changed to unique identifying codes. The master computer remained in a locked facility within the CSNI offices for the duration of the project. Data on established risk factors including prior suicidal behavior, diagnosed mental and physical health conditions, pharmacological profiles, demographics, substance use, and prior adverse events were extracted. Health disorders and service use were assessed via medical notes (where available), police reports, and next-of-kin statements. Socioeconomic indicators were identified through the same sources as well as information included in pathology reports regarding occupation and geographical position, which was linked with NISRA deprivation indices.

Qualitative information on events prior to death was obtained mainly from the witness statements collected by police officers at the time of death. These were interviews with those present at the scene of death, usually family members or friends of the deceased. In some cases adverse events were evident in communications from the deceased (such as suicide notes) and sometimes in medical reports provided as part of the coronial investigation. The quantity of information varied enormously from case to case. The database contained a series of mutually exclusive variables and variable categories pertaining to adverse events prior to death. The project research officer (C.C.) coded each case and also developed a qualitative summary statement outlining the adverse events and the circumstances of the deceased. A second researcher (S.O.) independently coded each case, based on the statement of adverse events prior to death, to triangulate the coding of the data.

In this analysis, the categories of adverse events were developed based on those identified in Foster's (2011) synthesis of psychological autopsy studies on events prior to suicide. Given the limitations of the data, several categories of "missing" data were developed. Cases where the circumstances prior to death were only described in terms of the person's mental health condition (such as "escalating depression") or related only to the treatment of a mental health condition (such as "discharged from hospital") were not included in the analysis. However, this information was incorporated into the data on the person's mental disorder profile.

Cases where alcohol or drugs were believed to have played a prominent role in the death, or where the deceased was reported to have a substance disorder, were coded as 1 in a binary "Disordered Substance Use" category. This was assessed using information in the witness statements or medical reports, such as a note that the person was known to be addicted to alcohol or drugs, or more general information, such as descriptions of the person as a heavy drinker or that they had drunk a large amount of alcohol in the days and weeks prior to death. The presence of alcohol in the toxicology report was not used in this variable; hence, there are major differences between the figures for disordered substance use and the presence of alcohol. The legal driving limit in NI is 80 mg of alcohol in 100 ml of blood or 107 mg of alcohol per 100 ml of urine. This was chosen as a means by which to assess intoxication levels

prior to death. This variable was based on the data in toxicology reports.

Information concerning the individual's job title prior to death was available from case notes. Each title was supplemented by a quantitative code demarcating the role and responsibilities of the job based on information provided by the ONS. This enabled the reformatting of the groups into nine standardized occupational groups in accordance with SOC 2011 guidelines (ONS, 2010).

Descriptive statistics (frequencies and percentages) have been used throughout the report, and tests of statistical significance have been kept to a minimum. Given the limited use of statistical tests, and the exploratory nature of the analysis, no adjustment was applied to the *p* values.

Results

Method of Suicide

A total of 1,667 deaths were included in the analysis (77% male and 23% female cases). The age, gender, marital status, health profiles, and use of services prior to death are reported elsewhere (O'Neill et al., 2014a). More than half of those who died by suicide did so through hanging (60.5%), of whom 83.3% were male. A further 18.7% died following overdose, a higher proportion of these cases (31.6%) being female. Drowning accounted for 7.9% of all suicides with men more than twice as likely as women to choose this method of death (71% and 29%, respectively). Of the 3.4% who died using a firearm, 95% were male. The smallest proportion of deaths (2.6%) was attributed to carbon monoxide poisoning or gassing. Those who died by other means included jumping from a height, stepping in front of a train, and cutting (see Table 1). [author: table cite ok?]

Table 1. Gender and method of suicide

	Female	Male	Total
Hanging	45.0% (168)	65.0% (840)	60.5% (1,008)
Drowning	10.2% (38)	7.2% (93)	7.9% (131)
Overdose	31.6% (118)	14.9% (193)	18.7% (311)
Gassing	1.6% (6)	2.9% (38)	2.6% (44)
Firearm	0.8% (3)	4.1% (53)	3.4% (56)
Cutting	1.1% (4)	1.2% (16)	1.2% (20)
Jumping from height	1.5% (6)	1.2% (15)	1.3% (21)
Railway tracks	0.3% (1)	0.5% (6)	0.4% (7)
Other	7.8% (29)	2.9% (38)	4.0% (67)

Table 2. Gender and prior attempt

	Female	Male	Total
Any prior attempt	37.3% (116)	49.9% (579)	47.2% (695)
No prior attempt	62.7% (195)	50.1% (581)	52.8% (776)

Prior Suicide Attempts

Almost half (47.2%) of the deceased had prior suicide attempts recorded in an official capacity, either through medical or police records or via witness statements in the aftermath (see Table 2) [author: table cite ok?]. Of these, almost one fifth (18%) were known to have made two or more suicide attempts prior to the fatal event. Statistically significant gender differences were identified with regard to number of previous suicide attempts. Females were more likely than males to have nonfatal attempts prior to death by suicide. Of those who had recorded previous attempts, females were more likely than males to have multiple attempts. More men than women had only one previous attempt (17.3% and 15.4%, respectively).

Communication of Suicidal Intent

Over two thirds of the deceased (69.4%) had not provided a suicide note or any communication regarding their plans for suicide (see Table 3). The most common means of communication was a handwritten suicide note (26.6%). Text messages were sent by 4.5% of the cohort (the majority of these were sent by people aged less than 40 years). Almost an equal proportion of males and females communicated a prior suicidal intent and most did so by means of a handwritten note (22.8% and 23.1%, respectively). Males were more likely to send a text message prior to death than females, with 4.5% choosing this option in comparison with 1.9%. Females, however, were more likely than males to make a telephone call prior to their demise (0.8% vs. 0.5%, respectively).

Table 3. Gender and communication of suicidal intent

	Female	Male	Total
Any communication	29.9% (112)	20.8% (399)	30.6% (511)
No communication	70.1% (263)	69.2% (897)	69.4% (1,160)

Table 4. Gender and alcohol intake prior to death by suicide

	Female	Male	Total
No alcohol	46.4% (174)	43.4% (562)	44% (736)
Alcohol	53.6% (201)	56.6% (734)	56% (935)

Table 5. Recorded life events prior to death by suicide

	Female	Male	Total
Relationship difficulties, arguments, or break-up	32.2% (77)	42.6% (367)	40.3% (444)
Death/illness of another	17.2% (41)	10.6% (91)	12.0% (132)
Fears for own health	8.8% (21)	7.7% (66)	7.9% (87)
Financial/employment crisis	7.6% (18)	14.2% (122)	12.8% (140)
Disordered substance use	9.7% (25)	7.8% (72)	8.2% (97)

Alcohol Intoxication at the Time of Death

There was evidence of alcohol in the systems of 56% of the deceased at the time of postmortem examination (see Table 4). Males were more likely to have taken alcohol (46%) than females (33.9%). In certain cases, for example, death by drowning, it would not have been possible to assess postmortem alcohol levels. 44% of the deceased did not have alcohol present at the time of death, particularly those in older age categories (61.3% aged between 60 and 69 years, and 67.5% aged 70 years and over). Those aged between 20 and 29 years were less likely to have a zero blood/urine alcohol reading (36.3%) than other age cohorts. The youngest age group (between 10 and 19 years) had the highest proportion of individuals with twice the legal limit of alcohol in their system (19.8%). Among this group of individuals, a substantial number had over three times the legal driving limit (16.7%) of alcohol in his/her system. Those aged 20–29 years and 40–49 years were most likely to have blood/ urine alcohol levels of up to four times the legal driving limit (7.7% in both groups). This pattern was similarly observed for the 40–49-year cohort with readings of up to five times the NI drink driving limit (2.5%).

Life Events Prior to Death

Either singly or in combination, 61% of cases had recorded adverse events prior to suicide. The events prior to death in each case were recorded in a different manner and, of those with recorded adverse events, many had multiple and complex combinations of events and experiences. Relationship and interpersonal difficulties were noted as the most common adverse event experienced by the deceased (40.3%). This

category included romantic relationships for those who were married or cohabiting, dating relationships, as well as peer relationships. The death/illness category (12%) included the deaths or illnesses of, among others, spouse, family members, and romantic partners. This category also included the deaths of others by suicide. The “fears for own health” category (7.9%) included those with chronic health conditions, accidents, disability, or a recent diagnosis. Financial/ employment crisis (12.8%) included reports of recent job loss or bankruptcy, debt worries, and business failure or employment difficulties related to issues such as fear of redundancy and pending disciplinary action (see Table 5) [author: table cite ok?].

Employment and Occupation

Approximately 35% ($N = 583$) of those who died by suicide were employed at the time of death compared with 50.3% who were classified as unemployed (including unemployed, retired, student, homemaker). For the remainder of the sample, no information concerning the employment status of the deceased was available. Descriptive statistics relating to employment status, gender, and mental disorders for individuals who were in employment at the time of suicide in NI are presented in Table 6. The mean age of deceased employees was 37.46 years ($SD = 12.5$). Of those who were employed, males represented the highest proportion of suicides, equating to 84% of the sample compared with 16% of female employee suicides, and the highest proportion were either married/cohabiting or single (40.8% and 40.3%, respectively). Just over half (50.1%) had at least one mental disorder prior to death.

Table 7 provides the occupational breakdown of employee suicides disaggregated by gender from 2005 to

Table 6. Demographic characteristics of employees who died by suicide

Employed (Y/N)	(34.8% / 50.3%)
Gender (F/M)	(16.0% / 84.0%)
Mental health (Y/N)	(50.9% / 49.1%)
Married	28.1%
Separated	11.8%
Divorced	5.5%
Widowed	1.0%
Cohabiting	12.7%
Single	40.3%

Note. Y = yes. N = no. F = female. M = male.

2011. For the combined years, skilled and elementary workers represented the highest proportion of employee suicides accounting for 26% and 20.1%, respectively. In all, 30.1% of male employee suicides were involved in skilled occupations at the time of death compared with 4.3% of female employees. Comparably, 21.9% of employed males who died by suicide and 10.8% of employed females were working in elementary occupations prior to death. The highest proportion of female suicides was documented for those employed in professional occupations (21.5%). In addition, the greatest proportion of mental disorders was noted for individuals employed in skilled and elementary occupations (20.9% and 18.5%, respectively).

In each year, the findings revealed a consistently higher proportion of suicides within skilled and elementary occupational groups. For instance, in 2008, elementary and skilled occupations represented 31.4% and 29.1%, respectively, of employee suicides in that year. Within each occupational group, the percentage of suicides varied by year. The percentage of suicides within managerial groups peaked in 2007 at 7.5% and gradually declined until 2011. At this time, the observed percentage was the lowest documented for all of the occupational groups at 1.3%. Similarly rates declined for associate professional occupations. By

contrast, the percentage of suicides denoted by professional occupations was lowest in 2005 accounting for 2.4% of suicides within this category. However, this increased to 16.5% of suicides in 2011, yet professional occupations represented a smaller proportion of suicides overall (7.6%). In 2008, for both skilled and elementary workers, there was a sharp fall in deaths from the previous year (skilled 18.8 vs. 29.1, elementary 16.3% vs. 31.4%, respectively) and the decline continued from that year onward.

Discussion

In NI hanging was the most common method of suicide, particularly among males and among the younger age groups; this was followed by overdoses as the second most common method. The patterns of suicide methods in NI are broadly similar to those reported for the UK, and the gender breakdown in NI is almost the same as in the UK as a whole (78% male and 22% female in the UK). The proportions of males who die by hanging in NI are higher (65% in NI, compared with 56% for the UK as a whole; ONS, 2013). This may be a consequence of contagion effects; however, it is important to note that the proportions of "narrative verdicts" vary across the regions in the UK, thus affecting the comparability of the figures (ONS, 2013). These findings offer few obvious options for suicide prevention interventions. However, they highlight the need for continued vigilance of very high risk individuals and consideration of the ways in which to restrict access to items that may be used as ligatures. As Kosky and Dundas (2000) indicated, the private nature of hanging restricts the opportunities for prevention. As a result, there is a need to understand and identify the factors that may precipitate suicidal behaviors. In addition there is evidence that restricting access to detailed information about means of suicide, such as information from the Internet about specific methods of hanging, may influence rates and methods used. The

Table 7. Occupation breakdown by year of death, mental health diagnosis, and gender

Year	Manag.	Profes.	Assoc. P.	Admin.	Skill	Service	Sales	Process	Element.
2005	7.2	2.4	13.3	7.2	34.9	4.8	3.6	10.8	15.7
2006	7.1	6	10.7	4.8	26.2	4.8	3.6	11.9	25
2007	7.5	8.8	8.8	6.3	18.8	8.8	12.5	12.5	16.3
2008	5.8	4.7	4.7	2.3	29.1	2.3	5.8	14	31.4
2009	5	10	6.3	6.3	27.5	5	10	13.8	16.3
2010	6.7	5.6	4.5	5.6	24.7	9	7.9	21.3	14.6
2011	1.3	16.5	2.5	5.1	20.3	6.3	10.1	16.5	21.5
Total	5.9	7.6	7.2	5.3	26	5.9	7.6	14.5	20.1
Male	5.9	4.9	8	2.9	30.1	3.3	6.6	16.4	21.9
Female	5.4	21.5	3.2	18.3	4.3	19.4	12.9	4.3	10.8
Mental health	8.1	9.1	6.7	8.8	20.9	7.7	8.1	12.1	18.5

Note. Manag. = manager. Profes. = professional. Assoc. P. = associate professional. Admin. = administrative. Element. = elementary.

media reporting of methods used in high-profile suicides has been shown to influence suicide methods in the period following the death (Suh, Chang, & Kim, 2015). The low proportion of deaths by firearms in comparison with other Western cultures (e.g., the US) may reflect the restrictions on the ownership of these weapons in the UK. In addition, the reduced rates of suicide following means restriction suggest that substitution of method is not common (Barber & Miller, 2014). This also suggests that efforts to restrict access to detailed information about hanging and other methods remain important and that the media have a central role to play in this regard.

Presence of alcohol was noted in 56% of cases and was more common among males and young people. In addition, at least 8.2% appear to have had difficulties with substance use. The involvement of alcohol in suicide and self-harm has been reported in other parts of the UK (Ness et al., 2015); however, the rates for NI appear to be slightly higher (although the studies use different methods). There are numerous explanations for this pattern. Mental disorders are common in NI in comparison with the UK and other countries, and at 14.1% the rates of substance disorders are also high (Bunting et al., 2012). A proportion of the deceased would therefore have had substance disorders including alcohol addiction. Many would have used alcohol to deal with stress or manage mental health problems. In certain cases the impulsivity associated with the effects of alcohol intoxication may have contributed to the suicide. Alternatively, individuals may have taken alcohol to reduce the fear or pain associated with the suicidal act. Alcohol use is common in NI culture and the abuse of alcohol has widely been regarded as the population's way of managing the stress and mental health effects of the conflict (Bunting et al., 2012). It is therefore important that future research considers the impact of public health alcohol interventions on suicide rates.

The fact that almost half of those who died by suicide had a previous recorded suicide attempt indicates that attempt remains one of the biggest predictors of suicide. Self-harm is a highly prevalent behavior in the UK and Ireland (Griffin et al., 2014; O'Connor, Rasmussen, & Hawton, 2014; Perry et al., 2012). It is therefore necessary to explore the factors predicting future attempts among people who self-harm through the linkage of suicide and self-harm databases.

Handwritten notes remain the most common means of communication of suicidal intent. In this study 30.6% had communicated their intent and 26.6% had left a written suicide note. The figures are lower than the 38% reported in O'Connor and Sheehy's (1997) study of suicides in NI and this may reflect the increase in suicide rates and changing age profiles of suicides in NI over time. The rates are similar to the proportions for Greece (26.1%; Parachakis et al., 2012) and lower than the 33% reported in an Australian study (Haines, Williams, & Lester, 2011). They are somewhat higher than those reported in a recent US study (18.25%; Cerel, Moore, Broen, Van De Venne, & Brown, 2015). While O'Connor et al. (1999) found that men were more likely to leave notes than women, the figures in our study concur with those from Foster's study (2003), which show that the proportions of men and women who com-

municated their intent were similar. Internationally, studies show that the proportion of those who die by suicide and leave notes has not changed (Shioiri et al., 2005). However, the increasing use of electronic means of communication of intent reflects changes in the ways in which people communicate generally and the increased use of text messaging and other electronic communications among younger people. Electronic communications, particularly public posts on social media, may offer opportunities for analysis to establish linguistic markers and predictors of suicide. These should perhaps be examined to identify possible areas for suicide prevention interventions.

Etiological theories of suicide acknowledge the role of life stress in leading to the development of suicide behaviors (Foster, 2011; O'Connor, 2011). Previous studies of suicide in NI have also highlighted the associations with stressful life events (O'Connor & Sheehy, 1997). In this study the types of life events that are associated with suicide are also those that are, in an indirect way, associated with mental disorders generally and the legacy of the conflict. Employment status is likely to represent one such factor since several studies have demonstrated a link between unemployment (e.g., job loss or long-term unemployment) and suicidality (Eliason & Storrie, 2009; Lundin & Hemmingsson, 2009; Schneider et al., 2011). This is particularly the case for males, and is reflected in these data showing us that at least half of those who died by suicide were known to be unemployed, and employment-related problems or financial concerns were recorded prior to the death in at least 12.84% of cases. Financial concerns, which were recorded in 5.3% of cases, may also be related to employment issues or associated with debts. These figures suggest a continuing need to direct suicide prevention efforts to those affected by the economic recession and to be cognizant of the potential impact of economic and social policy decisions on mental health and suicide rates. Epidemiologists should continue to monitor the associations between social and economic policies and suicide rates and monitor the cost effectiveness of public health interventions as suicide prevention initiatives.

The largest category of adverse event, experienced by one third of those who died by suicide, is that of relationship breakdown or discord. Efforts to support people with relationship difficulties and to help people manage conflict in relationships are therefore to be encouraged in terms of suicide prevention. Finally, more than 1 in 10 (12%) of those who died by suicide had recorded events relating to experiences of death and grief, again emphasizing the need to support people in coping with loss and the need to research the impact of interventions for these groups on suicidal behavior and thoughts.

The findings for occupation re-affirm that particular groups are likely to have a higher risk of suicide; the results also support a possible skill level gradient in risk, with lower-middle-skilled occupations encountering the greatest threat. Since previous research has failed to establish that lower socioeconomic status may account for this finding (Milner, Spittal, Pirkis, & La Montagne, 2013), alternative explanations should be explored. For instance, the contribution of work stress may be one avenue of further investigation that may help clarify the risk differential between

these groups. Indeed, several studies have demonstrated associations between work stress (e.g., high demand and low control) and suicide outcomes (Ostry et al., 2007; Tsutsumi et al., 2007) and this is known to fluctuate by occupation (Bültmann, Kant, Schröer, & Kasl, 2002). Further research should also consider harassment at work as a possible stressor that may contribute to suicide risk, given that negative acts at work have been implicated in stress responses previously (Hogh, Hansen, Mikkelsen, & Persson, 2012).

Conclusion and Limitations

Building on studies from Foster et al. (1999), O'Connor and Sheehy (1997), and O'Connor et al. (1999), this study offers insight into the circumstances surrounding deaths by suicide in NI, a region of the UK with a history of civil conflict, high rates of mental disorders (Bunting et al., 2012), and rising suicide rates (Snowcroft, 2013). In NI many of those who die by suicide have mental disorders, and disengagement from services prior to death is common (O'Neill, Corry, et al., 2014) making it important to examine the other contextual factors so as to inform prevention initiatives. The findings with regard to means of suicide suggest that restricting access to ligatures for those at high risk and limiting access to information on methods are important. Efforts to identify predictors of suicide among those who use electronic forms of communication and among people who attempt suicide or self-harm may also be useful. Suicide prevention initiatives should target people who are unemployed or in low-status occupations, and those who have had life crises and relationship difficulties. Although these data offer clues about the factors associated with suicides in this population, the analysis of these types of qualitative data is expensive and time consuming and the unreliability of the data, particularly in relation to adverse events, remains a major limitation. For example, in many cases no information was provided about the proximity of the life event to the death and indeed those events occurring close to the time of death; moreover, events with a known link to suicide or mental health are probably more likely to have been reported. In addition, communications about suicidal intent and suicide notes are not always disclosed to the authorities, therefore the figures for these may be an underestimation. Furthermore, many of the events and experiences that precipitate suicide may be perceived as stigmatizing, and such factors may therefore be less likely to be reported in coronial files or may remain known only to the deceased. Caution should therefore be exercised when interpreting these findings and the results should not be used to make definitive statements about the causes of suicide. While this study included undetermined deaths that were probable suicides, the difficulties in establishing whether a death was in fact suicide also affect the reliability of the statistics. It is only through the accurate coding of deaths as suicide and through the thorough and systematic collection of data pertaining to each suicide that researchers can uncover the

depth of information required to understand what measures could have been taken to prevent any of these deaths.

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