A content analysis of online suicide notes: Attempted suicide versus attempt resulting in suicide

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Abstract

The current study analysed fifty suicide notes of those who died by suicide and fifty suicide notes of those who survived their suicide attempt using Smallest Space Analysis (SSA). The core of all suicide notes was discovered to be constructed with the use of four variables: saying goodbye to their audience, feelings of loneliness, method used to attempt suicide, and negative self-image. Furthermore, three different suicide note themes of those who died and three suicide note themes from those who survived were also identified. The analysis revealed that suicide note writers who died by their attempt were more likely to combine a dislike of themselves and a concern for loved ones. The implications of the work in terms of suicide prevention are discussed.
Introduction

The concept of suicide

Suicide is one of the leading causes of death worldwide, approximately one person taking their life every 40 seconds (WHO, 2015). O’Carroll et al. (1996) defines completed suicide as death from injury, poisoning or suffocation in which there is evidence, explicit or implicit, that the injury was self-inflicted and the specific intention was death. Perper and Cina (2010) found that approximately 20 million suicide attempts occur each year across the world, however The World Health Organisation (WHO, 2015) report figures of around 800,000 successful attempts of suicide each year. This source however recognises that data on suicide and potential attempts is not as accurate as it could be, due to issues with under-reporting and misclassification. Research into suicide is in crucial need of resourceful and rigorous investigation that advances current knowledge (Nock, Kessler & Franklin, 2016).

Durkheim (1951) proposed the idea of four different types of suicide; Egoistic, Altruistic, Anomic, and Fatalistic. Egoistic suicide involves the individual having a low degree of social integration, seeing themselves as outsiders. Altruistic suicide is when a person’s social integration is too high, prioritising the group and their norms above their own, ending their lives for a cause. People who die by anomic suicide are believed to see life as meaningless and a fatalistic suicide occurs when an individual is kept under tight regulation. They feel like they cannot live up to the high expectations people have set for them.

Joiner (2005) developed the Interpersonal Theory of Suicide, which uses the concept of thwarted belongingness as previously used by Baumeister and Leary (1995). It states that within an individual, the presence of thwarted belongingness (a sense of social isolation) and perceived burdensomeness (the belief that they are a burden) work together to produce a desire for suicide. While this desire is deemed necessary to complete the act, without the existence of acquired capability (the acquired ability to overcome a natural fear of death), death by
suicide will not be able to occur. Despite previous concepts and theories of suicide (Shneidman, 1976; 1996), Joiner (2007) stresses that a new theory is needed that can build on and combine the existing models of suicide, but provide a deeper account of suicidal behaviour to explain more suicide-related behaviour.

The Contribution of Suicide Notes

Suicide notes are often considered to be the windows to the mind of the deceased (Leenars, 1992; O’Connor, Sheehy & O’Connor, 1999; 2000). Some have argued against this (O’Donnell, Farmer & Catalan, 1993), however Leenars (1992) stated that suicide notes are an instrumental starting point in the assessment and prediction of suicide behaviour. Farberow and Schneidman (1961) published the book The Cry for Help which suggests that those who attempt suicide are trying to communicate with their significant others about the distress which they are feeling.

Research on Suicide Notes

Both content and thematic analyses have been conducted on suicide notes to identify certain themes which emerge within different types of suicide notes, with varying levels of success (Chávez-Hernández, Leenaars, Chávez-de-Sánchez & Leenaars, 2009; Ioannou & Debowska, 2014; O’Connor, Sheehy & O’Connor, 1999; 2000). Research from Handelman and Lester (2007) looked at the content of notes left by attempters and completers of suicide. The data obtained from suicide notes of those who completed the act disclosed that notes were more likely to have references to other people, and fewer references to inclusive space (e.g. words such as “with” or “include”). This may demonstrate the individual’s isolation and lack of belongingness. In comparison, notes written by survivors of suicide were more likely to show greater levels of distress and fewer positive emotions. It is possible this was a result of survivors being less content and happy with their decision to die, which may be why they did
not die by their suicide attempt.

Langer et al. (2008) conducted research which involved the analysis of suicide notes showing that some suicides are presented as an action which is completed to make other people’s lives better, like a friend or a loved one. Furthermore, their findings involved notes containing detailed financial and emotional instructions, such as how they wanted to be remembered. The characteristics of many notes in their study were apologetic, with authors showing large amounts of regret and sorrow, whilst providing insight into the dichotomous ways in which suicidal individuals think. Notes which were analysed were more likely to be grammatically incorrect in terms of spelling and were also heavily crossed out, suggesting possibly that their thoughts were jumbled, and indecisive (Langer et al, 2008).

**The present study**

The aim of the current study is to extend on the research paper by Ioannou and Debowska (2014) which involved a content analysis on 33 pairs of genuine and simulated suicide notes. Their study used the Giles (2007) content dictionary and assigned as many variables as needed to each of their suicide notes. They used Smallest Space Analysis (SSA) to analyse this data, generating themes that were identified for both the genuine and simulated condition of their study. The current study also uses a content analysis, but instead analyses suicide notes of those who died by suicide and survivors of suicide attempts. While the study does share many similarities, including the analysis technique, and general method, there are fundamental differences in sample size and type of suicide notes used.

**Method**

**Sample**

Fifty suicide notes from those who died by suicide and fifty suicide notes by those who
survived their suicide attempt were obtained from The Suicide Project, a pro-suicide website where individuals are free to share their thoughts, feelings and in this case, suicide notes in a blog format. All notes were freely available online and all were anonymous. Personal details including demographic details were revealed in some of the notes; however, this was the choice of the individual, and not all suicide notes provided this information. For this reason, variables such as age and gender were not considered for analysis.

**Procedure**

A content analysis was performed on the suicide notes using Ioannou and Debowska’s (2014) updated version of the Giles (2007) content dictionary. The dictionary consisted of 75 variables. In accordance with Giles (2007) instructions, variables were classified into five sections; practical features of the notes, constructing suicide and the decision to die, constructing an explanation for suicide, constructing self and constructing others.

All of suicide notes were obtained from The Suicide Project. To gather the notes, it was necessary to use the user’s post history to see how frequently they made entries and when their most recent entries were. To collect suicide notes by those who died by suicide, if no posts had been made for at least two years after that suicidal entry, it was assumed that these individuals had died by suicide. To collect suicide notes by those who survived their suicide attempt, if a post had been made after the suicide note, it was determined that these individuals had not died by suicide. All notes were individually analysed, assigning as many of the variables to each note as needed. More than one variable could be allocated to each suicide note, and there was no restriction on how many could be used. Items from the dictionary which had a frequency of .0 in both the suicide notes conditions (idnok, will, care, conceal, despond, events, time, qualify, mitself, abstract) were removed from the analyses. This resulted in 64 variables. Full variable descriptions are available in Appendix 1. One theme became apparent,
which was not already found on the dictionary. Therefore, only one new variable was added into the current study (religion) and this was incorporated into the analysis, however was not grouped into an existing category. All content variables were coded in a dichotomous form. Variables were either present or absent.

Analysis

After coding the suicide notes, the data was analysed using SSA – 1 (Lingoes, 1973). Smallest Space Analysis (SSA) is a non-metric multidimensional scaling procedure that is based upon the assumption that the underlying structure will most readily be appreciated if the relationship to every variable is examined. This method reveals the co-occurrence of every variable with every other variable within the data. Multidimensional scaling is a method of analysis that takes an incomprehensible matrix of data, and represents it in a spatial image, allowing individuals to easily interpret the data (Ioannou and Debowska, 2013).

SSA shows the co-occurrence of variables through their distance apart within a geometrical space. Association coefficients are computed between all variables and it is these which are used to form a spatial representation of items with points representing variables. Each point in the space represents a distinct characteristic of the events under study, such as whether the writer leaves an apology in their note or instructions to loved ones. The closer any two points are to each other on the spatial plot, the higher their associations with one another. Similarly, the further away from each other any two points are, the lower their association. As the data is presented visually it allows for the interpretation of the data to be configured into separate dimensions.

The measure of co-occurrence used in the present study was Jaccard’s coefficient. Jaccard’s coefficient calculates the proportion of co-occurrences between any two variables as a proportion of all occurrences of both variables. To test hypotheses, an SSA configuration is
visually examined to determine the patterns of relationships between variables and identify thematic structures. Variables with similar underlying themes are hypothesised to be more likely to co-occur than those that imply different themes. These similarly themed variables are therefore hypothesised to be found in connecting locations (e.g. the same region of the plot). The hypothesis can therefore be tested by visually examining the SSA configuration. The coefficient of alienation indicates how well the spatial representation fits the co-occurrences represented in the matrix. The smaller the coefficient of alienation is, the better the fit, i.e. the fit of the plot to the original matrix. However, there is no simple answer to the question of how “good” or “bad” the fit is (Borg & Lingoes, 1987), depending upon a combination of the number of variables, the amount of error in the data and the logical strength of the interpretation framework. In summary, the SSA was used to explore the co-occurrences of content characteristics within the suicide notes.

**Results**

Three separate SSA analyses were conducted. One on the combined suicide notes of those who died by suicide and survivors of suicide attempts (N = 100), one on suicide notes from those whom had died by suicide (N = 50), and one on suicide notes of survivors of suicide (N = 50).

**SSA of Content Characteristics of Combined Suicide Notes**

Figure 1 shows the distribution of 65 content and structure characteristics in 100 suicide notes on the two-dimensional SSA. The coefficient of alienation only being .15 suggests a good fit of spatial representation of the characteristics within. The regional hypothesis states that variables which have a common theme will be found within the same region of the SSA plot. As it can be seen in Figure 1, a visual examination of the SSA plot shows that it can be
divided into two separate themes; suicide attempt resulting in death and failed suicide attempt. The variables which occurred on the left-hand side of the SSA plot were more likely to appear in suicide notes where the individual survived their attempt, and variables which were found on the right-hand side of the SSA plot were more likely to be found in suicide notes where the person had died. Variables which are located closer to the center of the plot (i.e. the most frequently observed variables) could not be used to differentiate between suicide notes of those who had died or survived their suicide attempt. The core variables were those which had a frequency of 20% or more. The core consisted of; negself (29%), lonely (23%), bye (38%), method (29%), asks (23%), psychiatric (27%), plan (20%), religion (21%).

**INSERT FIGURE 1 HERE**

**Suicide Attempt Resulting in Death Theme**

The ‘Suicide Attempt Resulting in Death’ theme includes items which were found in suicide notes written by individuals who died by suicide. Much of variables used to explain why one chose to die by suicide, per the content dictionary used, can be found within this theme (e.g. unspecified (v27), funeral (v1), medical (v21), finance (v24), relation (v23), addict (v25), burden (v39), martyr (v55), and escalation (v8). The high number of explanations for suicide suggests that these individuals were confident in their decision to die, having firm reasons for their actions and would have known they were not acting upon impulse. Furthermore, these notes were more likely to contain variables suggesting the authors were more accepting of their death and were happier about their lives reaching an end. The variable intern (v29) refers to full acceptance of death, including offering some positive reflections about it. This was found in 10 suicide notes within this condition. Furthermore, the variables humour (v35), sarcasm (v56) and reassurance (v63), all suggest that the individual is at peace with their decision to
die can find humour in it, attempting to reassure the reader.

**Survivor of Suicide Attempt Theme**

Suicide notes from those who survived their suicide attempt were found to be generally more negative in their nature, represented in variables *anger* (v60) and *injustice* (v43). They were also less likely to give a reason for their suicide, showing variables *other* (v28) to be more frequently used, compared to successful suicide notes which were much more likely to explain their death (*relation, finance, medical, addict*). These suicide notes also included more references to maintaining a connection to their loved ones after death. The variables *watch* (v31) and *reunion* (v30) suggest a lack of acceptance that their death is the end, putting a large amount of faith into the guarantee of an afterlife. While the combined SSA suggests that variables within the suicide resulting in death theme were more accepting of suicide, within the survivors of suicide attempts’ SSA plot, the same theme of acceptance became apparent.

Suicide notes of the survivors in this research revealed more references to other people, with a mixture of both positive [e.g. *pospart* (v52), *posother* (v49)] and negative variables (e.g. *negother* (v50)]. Variables including, *thanks* (v47), *apology* (v45), *understand* (v46), *noblame* (v48), and *noresent* (v61), *mitpart* (v54) indicate towards the idea that the writer wants to diffuse any negative feelings the reader may have, by reassuring them that they were not to blame, and should not feel bad.

**SSA of Content Characteristics of the Suicide Notes Resulting in Death**

Figure 2 shows the distribution of 63 variables and structure characteristics in 50 suicide notes of those who had died by their attempt on the three-dimensional SSA. The coefficient of alienation of .09 shows a very good fit of the spatial representation of the co-occurrences of these characteristics. Visual examination shows that these suicide notes can be best differentiated in terms of the writers affect, towards oneself and concern for loved ones they
will leave behind. Three distinct themes were identified: Protection and Reassurance, Fear of Death and Concern for Others, and Purposeless Life.

At the core of the SSA for these suicide notes were variables which were used in more than 20% of all the suicide notes of those who had died by their attempt. These variables were: negself (23.9%), bye (41.3%), lonely (22.3%), method (23.9%). All the core variables for these suicide notes can be found in the core variables for combined suicide notes of those who died or survived their attempt.

**INSERT FIGURE 2 HERE**

**Protection and Reassurance**

The variables within this theme hold characteristics of protection, reassurance or aspects of both. The use of both humour (v33) and sarcasm (v54) are possibly used to reassure, more so for the reader than the author. They are showing that they are finding humour in the situation, suggesting they are not afraid, most likely to make their reader feel more comfortable with their decision. The variables which most represent the theme of protection are discover (v2), watch (v30), burden (v39), martyr (v53), funeral (v1) and reassurance (v61). Each of these variables suggest the authors are trying to protect their readers from the pain of their death, by forewarning them of what they will discover in terms of their body, by making small arrangements for their own funeral or by reassuring them that they will watch over their loved ones after death. Burden and martyr differ in that they are used to protect the reader from having to live any longer with the author, a finding which supports previous research from Langer et al. (2008). They see their death as an aid in making other people’s lives better.

**Fear of Death and Concern for Others**

This region has fewer variables than others within the study. The variables within suggest that individuals had a fear of suicide, notably through the variables escalation (v56)
and difficult (v14) but still tried within their suicide notes to help others, by advising them for different situations with instruct (v), advice (v32) and explove (v44).

**Purposeless Life**

The characteristics of variables within this theme are all generally negative towards the writer and their lives, showing a feeling of resentment towards themselves. The variable reassurance (v61) can be used to present this theme most accurately. The writers of the notes containing the reassurance variable described their lives as without meaning and a lack of purpose. However, they see a priority in helping their reader understand that they are content, and life will go on without them. Further variables such as rejects (v15) and regret (v42) only solidifies this idea of a purposeless life as writers dismiss the idea of a future and speak regretfully of their past. Interestingly, some explanations for suicide fall under this theme [addict (v24), finance (v23), relation (v22)]. This once again strengthens reasons for suicide, as the decision is a result of a genuine struggle. It is possibly these reasons which have led to feeling like life is meaningless.

**SSA of Content Characteristics of the Suicide Notes of those Who Survived**

Figure 3 shows the distribution of the 53 content and structure characteristics in 50 suicide notes of those who survived their suicide attempt on the three-dimensional SSA. The coefficient of alienation of .15 shows a good fit of spatial representation of the co-occurrences of these characteristics. When visually examined, three themes stood out on the SSA plot; Planned Escape, Acceptance of Death and Negative Affect and Importance of Others. At the core of the these suicide notes are variables which had a frequency of more than 20%. These variables are apology (22%), psychiatric (22%), negself (28%), method (28%), plan (28%), bye (44%), lonely (18%) and purpose (18%) can both be found at the center of the plot. Their position within the plot however suggests their centrality and importance within these suicide
notes. Comparing these results with the SSA conducted on all suicide notes within the study, several variables are the same: *Bye, negself, method, plan*, and *psychiatric*.

**INSERT FIGURE 3 HERE**

**Planned Escape**

The variables which explain this theme are *discover* (*v*1), *effort* (*v*34), *preatt* (*v*8), *escape* (*v*6), *intern* (*v*26), *reunion* (*v*27). These variables suggest that their decision to die was predetermined, possibly for some time, for example considering what would happen after their death. Furthermore, this theme can be characterised by the authors experiences which may have prepared them for death. *Pre-attempts* (*v*8) at suicide may have led to the individual being more prepared for this current attempt. The escape aspect of this theme is supported by the variable *escape* (*v*6) which suggests authors saw no other option in their lives but death.

**Acceptance of Death**

This region contains five variables which suggest that the authors were content with their decision to die by suicide. *Thanks* (*v*42), *negnorm* (*v*11), *avoid* (*v*14), *solution* (*v*18), and *watch* (*v*28) all work together to create a sense that suggests the author is satisfied with dying. Also, the variable *mitpart* (*v*48) which attempts to diffuse any blame felt by their partner can further support this theme, as it is a way of typing up loose ends. The author wants to make sure that their loved ones know that the suicide is not their fault, to make the author feel better, and perhaps after making these amends, they feel more comfortable in their decision to end their lives. However, one note did include *ambiv* (*v*5), where the individual’s decision to die seemed transient, and this could simply be an anomaly within the results.
**Importance of Others**

This theme is characterised by a focus on other people and the impact they had on the author’s life, both positively and negatively (e.g. *asks* (v4), *memories* (v17), *relation* (v21), *posother* (v44), *noblame* (v43), *explove* (v39)), as well as negative feelings they have towards themselves (e.g. *regret* (v37), *burden* (v35)). The importance of others can be seen through the variable *relation* (v21) which uses relationships as an explanation for their death. Even when attempting to construct themselves negatively, this theme shows that they are acting in a way to benefit their reader. Variables, including *instruct* (v2) and *burden* (v35), both construct their death as being to the advantage of their reader. Both variables have been incorporated to help the reader, either through giving advice, or making their life easier because of the authors death. Despite this region being largely negative, it does involve instances of positivity towards others [*pospart* (v46), *posother* (v44), *explove* (v39), *Noblame* (v43)]. This perhaps resulted in a failed suicide attempt because they were aware of the strong connections.

**Discussion**

The findings of the present study reveal that suicide notes of those who died by suicide and survivors of suicide attempts can be distinguished with the use of content variables, i.e. themes which construct the narratives. The themes identified allow us to attempt to understand the mind of the author, and consequently help to reveal how the suicidal mind works, providing the opportunity to help through prevention strategies.

Despite Cerel et al. (2015) disregarding the importance of suicide notes, the current study does not come to the same conclusion. The suicide notes were found to have a worthy importance in being able to indicate suicidal individuals who may not necessarily be ready to commit suicide.

The SSA analysis showed certain themes being used more frequently than others by
suicide note authors of those who died and those who survived their attempt at suicide. The variables at the core of the SSA plot of combined suicide notes were: religion (v65), lonely (v26), asks (v5), bye (v57), psychiatric (v22), plan (v11), method (v8) and negself (v41). The variables at the core of the suicide notes of those who died were: preatt (v9), lonely (v26), negself (v41), elabmen (v36), thanks (v47), metaphor (v64), method (v8), noblame (v48), religion (v65). The variables at the core of the suicide notes of those who survived were: apology (v45), plan (v11), purpose (v18), psychiatric (v22), bye (v57), lonely (v26), negself (v41) and method (v8). This therefore shows that the variables lonely (v26), method (v8), negself (v41) and bye (v57) were at the core of all SSAs.

In relation to the previously mentioned types of suicide proposed by Durkheim (1951) the current study includes suicide notes which can be attributed to each of the four categories. Most notes fall within egoistic and anomic suicides. Some can be categorised as fatalistic, however few, if any from either condition show characteristics of an altruistic suicide.

One variable which was added within the current study was religion (v65). This variable was not included within the original Giles (2007) dictionary, or on Ioannou and Debowska’s (2014) updated version. The variable was included due to its frequent use within suicide notes, showing up in 21 notes. The variable was included in the analysis of a suicide note if the author referred to a God, a Heaven or a Hell, or an afterlife. The mention of religion was found more within suicide notes of those who died than by those who survived. This should be noted for future replication studies using content dictionaries aimed at exploring suicide notes.

The frequent occurrence of the variable within the current study would suggest that religion was an important aspect of feeling at peace with their decision, as this was not a common feature within suicide notes of those who survived their attempt of suicide. Research from Gearing and Lizardi (2009) found that greater religiosity predicted a decreased risk of
suicidal behaviour, however the current study has not found a similar result, finding more instances of religious comments within suicide notes of individuals who succeeded in dying by suicide.

**Previous Research**

Unlike the Handelman and Lester (2007) study, the current study found suicide notes of those who died to contain more metaphysical references (the current study measured this using the variable ‘religion’). However, similarities were found referring to positive emotions discussed within notes. The current study found that authors of suicide notes who died by their attempt were more likely to have positive reflections about their suicide. This may be because they are more content with their decision to die, in comparison with authors of suicide notes where the author survived.

Suicide notes of those who survived their attempt in this research, unlike the previous study by Handelman and Lester (2007), saw more references to other people, in a mixture of both positive and negative ways. This could suggest that in the current research, those who did not die by suicide were still connected largely to the people they would have left behind. Other variables produce a notion that individuals were more concerned with reducing pain that would have been felt by the reader.

DeJong, Overholser and Stockmeier (2010) found that suicide note authors who died by their attempt were more likely to show signs of alcohol abuse, and dealt with job stress and financial problems prior to their death. The current study saw that suicide note writers who died attributed their reason for suicide to addiction on five separate occasions, and financial struggles seven times.

**Strengths, Limitations and Future Research**

A strength to this study is that all the suicide notes retrieved for use in the current
experiment were suicide notes from a recent time-period, containing suicide notes from 2007-2014. Even within this short period, there have been changes in the world which have impacted on many people’s lives, specifically advancements in technology. While the current study attempts to combat this issue, it is arguable the only way to be successful in addressing this issue is to collect the suicide notes from the same period.

A limitation with the research is the lack of demographic information available for each suicide note. The only demographic information available was that which the individual chose to provide, preventing the generating of theories on how the results of the study can be used or applied to a wider population. Another limitation rests in the fact that the researchers cannot know for certain if an individual who produced a suicide note and no longer came back to the website followed through and died by their suicide attempted. Additionally, we cannot be certain that an individual who came back and continued to post didn’t subsequently go on to commit suicide. The assumption made is that if a note was published and there was no follow-up activity from that regular user, then for this study, this suicide is considered as being acted out. While it is a methodological flaw, it is one that is not possible to be directly addressed. When working with this sort of unobtrusive data, this is one of the problems that researchers will encounter. However, all steps were made to ensure that posts that were classified as being successful, where just that, to the best of our knowledge.

Future research would benefit by analysing suicide notes to determine potential risk factors. If potential themes and indicators could be identified in relation to what counts as suicidal behaviour, these criteria could potentially be used to develop a scale to target suicidal individuals. Further research should also focus on the internet and social media sites relating to the increasing role it is playing regarding suicidal behaviours. Cerel et al. (2015) reported that recently it has become more common for suicide notes and final messages to be left on a social media platform, but also through using text messaging and video. A novel approach
would be to look at the impact online media has on suicide note construction by examining if there is any comparison regarding how suicide notes are presented on screen compared to real life.

Future research should consider the differences between suicide notes written by males and females to identify any gender differences in the styles of notes left, as gender differences are crucial as far as shared meanings and social expectations are concerned.

**Research Implications**

Namratha, Kishor, Sathyanarayana Rao and Raman (2015) agree that studying suicide notes can have implications in terms of developing strategies for suicide prevention. Non-fatal suicide attempts have been found to be the strongest known clinical predictor of eventual suicide (Harris & Barraclough, 1997). One variable which occurred frequently (15%) within the suicide notes was *pre-attempt*. Bertolote and Fleischmann (2002) estimated that there are 10-20 million non-fatal suicide attempts every year, with approximately 10-15% of attempters eventually dying by suicide (Suominen, 2004). A better understanding could help to prevent future successful suicides.

**Conclusion**

The content analysis of suicide notes enables researchers to establish the themes which occur in suicide notes of those who either die or survive their suicide attempt. The findings in this research have both significant theoretical implications in the comprehension of suicidal ideation as well as practical implication. For example, moderators on The Suicide Project and similar sites could be trained using these results to spot signs of suicidal behaviour which they can be aware of when monitoring the site, to provide any extra support which the individual may need. This research attempts to progress our understanding of how suicidal ideation affects cognitive processes that are reflected in the language found within a suicide note.
References


