

Language Profile of Lone Actor Terrorist Manifestos: A Mixed Methods Analysis.

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Attempts to profile behavioural factors of lone actor terrorists have resulted in inconclusive data arguing that the wide range of individual characteristics makes it difficult to categorise lone actor terrorists. Instead, research should investigate the methods used by lone actor terrorists such as the release of a manifesto. The present study used a mixed methods approach to analyse manifestos created by lone actor terrorists ($n = 19$). Smallest Space Analysis of the language variables within lone actor terrorist manifestos was used to identify three language typologies: *Instigator*, *Planner*, and *Conspiracy* typologies. Findings indicate that 89% of the case studies reviewed were able to be categorised into a typology based on the language used. Further analysis identified key language variables that can be found within the manifestos in each typology combined with behavioural factors to develop a language profile of each typology. Applications of the research are also discussed as well as limitations and future areas of research development.

Keywords: lone actor terrorism; manifesto analysis; Smallest Space Analysis; forensic linguistics.

With increasing scholarly research on the area, lone actor terrorism is considered a major threat within European and North American security services (Meloy & Gill, 2016), with former US President Barack Obama noting in the National Journal that ‘lone wolf’ terrorism was ‘the biggest concern we have right now’ (Madhani, 2011, cited in Simon, 2016). Prior to advancements in technology and broadcast media, terrorism was predominantly seen as a local issue. However, modern developments in technology allow terrorism to have a broader scope and reach wider audiences. Although the phenomenon of lone actor terrorism is not new, the current form of lone actor terrorism can be seen as distinct to our times with the internet and social media

being a development that enables wider communication (Kaplan, Lööw & Malkki, 2014).

The availability of cheap communications within the internet allows transnational terrorist groups to reach wider audiences, however the internet has provided more advantages to counter terrorism and terrorism prevention than for communications in terror organisations (Benson, 2014). Counter terrorism investigations investigating online communications and financial transactions can be beneficial when looking at group based terrorist organisations. However, these traditional means of investigation do not always apply to lone actor terrorists who are often not caught using these traditional methods (Bakker & de Graaf, 2011). Access to rudimentary weapons and online materials, such as radical writing, mean that individuals can plan, prepare, and carry out an attack without raising any traditional counter terrorism flags. Therefore, alternative methods need to be developed to combat the threat of lone actor terrorism.

Previous attempts to psychologically profile lone actor terrorists have identified that the pathways into lone actor terrorist action are so varied that it is difficult to identify individual characteristics (McCauley & Moskalenko, 2014). Instead, it is suggested that greater focus should look at how an individual develops a radical opinion and mobilises this opinion into action (McCauley & Moskalenko, 2014). Attempts to profile physical characteristics of lone actor terrorists have also been ineffectual. Gill et al. (2014) noted that lone actor terrorists can come from a range of different backgrounds including age, marital status, and education, leading to a large variation in physical characteristics. Instead, rather than exploring physical traits, research should investigate behavioural traits of individuals. Gill et al. (2014) suggests that information on behavioural indicators of radicalisation should be available to the wider public as

research indicates that the majority of offenders (83%) will make others aware of their grievances prior to an attack. As lone actor terrorists are difficult to identify and categorise, research should attempt to profile the modus operandi of the individual to see if there are any identifiable features within their behaviour (Bakker & de Graaf, 2011).

Attempts to identify typologies in lone actor terrorism has led to a wealth of literature and whilst this is beneficial, the wide range of different areas that have been studied, have generated varying typologies due to what is being investigated. Typologies of attack methods (Mozaffari, 1988), socio-political factors (Candilis et al., 2021), and demographic characteristics (Gill et al., 2014) have all attempted to develop a profile for terrorism, looking at physical characteristics in typologies. Other studies have generated typologies comparing the differences between lone actor terrorists and individuals in terror organisations. Research suggests that lone actor terrorists with a mental illness were 13.49 times higher than individuals in a terror organisation with a mental illness (Corner & Gill, 2015), suggesting behaviour beyond a physical characteristic.

An earlier typology of classifying terrorists within organisations explores the impact of ideology on the individual, separating individuals into three types: *Crusaders*, *Criminals*, and *Crazies* (Hacker, 1976). Individuals in the *Crusader* typology are driven by their ideology and are motivated to commit terrorist action due to their belief in the cause and are likely to come from a jihadist or neo-Nazism background (Miller, 2006). The *Criminal* typology includes individuals who are less ideologically driven and more opportunist, instead using excuses to commit violent behaviour (Miller, 2006). The *Crazies* typology is for individuals who are likely to suffer mental health conditions and present as unstable and disgruntled individuals (Miller, 2006). Whilst this study argues

these typologies can be found in terrorist organisations, it opens the field to understanding how these typologies can be updated and applied to lone actor terrorists.

A phenomenon that has been observed within lone actor terrorists is the production of a manifesto, a behaviour described as the creation of a ‘written or spoken communication intended to justify an act of violence’ (Kupper & Meloy, 2021, p.179). The development of a manifesto can be seen as broadcasting intent (Hamm & Spaaij, 2017) or leakage behaviour (Kupper & Meloy, 2021), an action in which an individual provides information or material prior to an attack. This behaviour can be particularly important to lone actor terrorists as it is a way to convey their motivations which may not be immediately clear as they are not affiliated to a terrorist organisation (Leonard et al., 2014). When no manifesto or content is provided, the lone actor can be seen simply as a ‘mad man’ rather than committing an act of terrorism, which ultimately becomes meaningless to the individuals’ intended purpose for the attack (Horgan et al. 2016). Therefore, understanding the material produced by lone actor terrorists could be a method to aid in counter terrorism.

Previous analysis of manifestos relating to targeted violence note that when compared against the Terrorism Radicalisation Protocol (TRAP-18), last resort behaviour occurred in 100% of the manifestos (Kupper & Meloy, 2021). Furthermore, last resort behaviour occurred in 67% of mixed ideologies and 25% of jihadist ideologies with the suggestion that jihadists are less likely to be motivated by an individual triggering event and are instead driven by martyrdom for the cause (Kupper & Meloy, 2021). This indicates that there are linguistic features that can be identifiable within manifestos and distinguishable into separate typologies. Further research using the TRAP-18 identified that lone actor terrorists demonstrate proximal warning behaviours compared to individuals who are deemed a security threat but have not

conducted an attack (Goodwill & Meloy, 2019). This further identifies that there are some ways to categorise lone actor terrorists.

With studies identifying behavioural characteristics of leakage behaviour within lone actor terrorist manifestos (Kupper & Meloy, 2021), research can look beyond the physical traits and analyse the language involved in the manifesto. Linguistic patterns in the way individuals speak and express themselves provide an indication of their psychological state (Torregrosa et al., 2019). The internet allows more people to express their views and disseminate extremist opinions (Cohen et al., 2014). Terror organisations such as ISIS and Al Qaeda have made use of the internet, especially social media, to engage in recruitment and propaganda (Torregrosa et al., 2019). For instance, Huey and Witmer (2016) analysed online tweets by females associated with pro-ISIS networks, identifying that radicalisation was evident in the language within the tweets. Ghajar-Khosravi et al. (2016) further analysed the language in tweets by female ISIS followers and identified repeated linguistic themes such as pro-ISIS support, punishment including torture, and other violent language.

The internet is not only used by terror organisations but has also been used by lone actor terrorists, who post on a variety of platforms including their own websites, such as Dylann Roof. Sentiment Analysis Text (SAT) analysis is a technique that analyses and classifies text based on positive, negative, and neutral opinions (Cohen et al., 2014). When SAT is applied to terrorist manifestos of lone actors, terms such as 'I will' or 'I am going to' followed by violent action terms can be seen, identified as leakage behaviour (Cohen et al., 2014). The Linguistic Inquiry and Word Count (LIWC) software is an analysis tool used to identifying patterns of language use (Baele, 2017). When LIWC is applied to lone actor manifestos, high levels of negative emotions are evident along with high levels of resentment and anger, indicating

negative emotions identified in lone actor manifestos (Baele, 2017). Psychological analysis of language can therefore further develop the understanding of the importance of language within lone actor terrorist manifestos.

The Present Study

Lone actor terrorists are difficult to identify and profile with alternative methods needing to be considered. In order to investigate an alternative method of profiling, this study is using a narrative approach to analyse the language used within lone actor terrorist manifestos, this study aims to investigate typologies within language that could be used to aid counter terrorism investigations.

The overall aim of this study is to explore the language used by lone actor terrorists to investigate differential typologies within manifestos. The study uses a mixed methods approach to analyse written and spoken manifestos created by lone actor terrorists.

Methods

Sample

A scoping review of the literature relating to lone actor terrorism identified a total of 117 case studies. The scoping review analysed literature on the topic of lone actor terrorism, and a list of individuals who are considered to be lone actor terrorists by academic and peer reviewed sources was developed. The use of academic literature to identify case studies was used to mitigate against any issues regarding missing data within the Global Terrorism Database identified by Spaaij and Hamm (2015).

Each of the 117 case studies were then analysed to identify if a manifesto was available, accessible, and written in the English language. Manifestos were considered if they were written before an attack took place or during an attack period if an individual conducted multiple attacks across a time span and was not immediately

apprehended (e.g. Ted Kacynski). Manifestos were not included if they were written after the individual was apprehended or if they contained more than one author (e.g. Timothy McVeigh & Eric Rudolph). Writings on social media (e.g. Robert Bowers) and threatening letters sent to targeted individuals (e.g. Clyton Waagner) were also excluded from the sample. While some manifestos contained images, the images were not analysed to form part of the data, only language content was analysed. Manifestos were found using academic literature and open source data.

The final sample comprised of 19 case studies, where the perpetrator was considered to be a lone actor terrorist who had created a manifesto. The attacks from the 19 case studies took place across North America, Europe and Oceania, including United States ($n = 16$), Canada ($n = 1$), Germany ($n = 1$) and New Zealand ($n = 1$). The attacks in the study took place between 1995 and 2019. All of the case studies were male with an age range of 15-88 years ($M = 33.58$; $SD = 18.36$) and had a variety of ideological backgrounds. Data on the ideologies of the case studies were collected from the Global Terrorism Database. Manifestos were taken from a variety of different years, ranging from 1995 (Ted Kacynski) to 2019 (Stephan Balliet). Table 1 summarises the case studies, manifesto types and ideologies.

Table 1

Summary of Case Studies Within the Study with Information on Ideology and Manifesto Type.

Case Study number	Case Study	Ideology	Manifesto type
1	James Von Brunn	Anti-Semitic extremism	Written
2	Elliot Rodger	Incel extremist	Written and video
3	Brenton Tarrant	Anti-Muslim extremist	Written
4	Ted Kacynski	Anti-Technology extremist	Written
5	John Bedell	Anti-Government extremist	Audio
6	John T Earnest	White supremacist	Written
7	Stephan Balliet	Anti-Semitic extremist	Written

8	Dylann Roof	White supremacist	Written
9	Joseph Stack	Anti-Government extremist	Written
10	Lucas Helder	Anti-Government extremist	Written
11	Patrick Crusius	White supremacist	Written
12	Chris Harper Mercer	Incel Extremist	Written
13	James Lee	Environmentalist	Written
14	Anson Chi	Sovereign Citizen	Written
15	Jim Adkisson	Anti-liberal extremist	Written
16	Faisal Mohammad	Jihadi-inspired extremists	Written
17	Charles Bishop	Jihadi-inspired extremists	Written
18	Mohammed Reza	Muslim extremist	Written
19	Michael Bibeau	Jihadi-inspired extremists	Video

Materials

Each case study manifesto required a two-factor validity process whereby at least two sources were required to list the manifesto as belonging to a specific case study author. The manifestos used were in a variety of material types including written, video, and audio manifestos. The video and audio manifestos were transcribed so that psychological features within the language could be analysed in the same capacity as the written manifestos. This study only looked at the language used and compared all the transcripts regardless of the original format. When transcribed, the page length of manifesto's ranged from 1 page to 185 pages ($M = 31.58$; $SD = 56.47$).

Procedure

Each case study manifesto was individually analysed against a collection of 87 variables developed from a pilot study identifying key language variables. The variable list is included within the appendix. The variable list was developed from a combination of literature analysis and thematic analysis of the manifestos, allowing for the variables to be developed from pre-existing ideas in literature and self-developed from the manifesto text. Each manifesto was analysed which looked at the presence or absence of each of the 87 variables. The data from each case study manifesto were then coded for further analysis.

Analysis

Data generated from the manifesto analysis were further analysed using Smallest Space Analysis (SSA-I; Lingoes, 1973), a form of multi dimensional scaling (MDS). SSA works by computing the association of coefficients between all of the variables presented. These coefficients are then presented in a spatial format where each variable is represented by a point in the spatial field in relation to every other variable. The closer two points are within the spatial field, the more inter-correlated the variables are. Similarly, the further the distance between two specific points, the lower the association (Ioannou et al., 2017). Regions of points can be identified and thematic structures can be defined identifying underlying themes (Canter & Ioannou, 2004). SSA argues that in the case of a null hypothesis, the variables presented will have no clear relationship nor correlation to each other (Canter & Ioannou, 2004). Therefore, visually examining the SSA output to see the spread of data can test the hypothesis.

SSA examination has been successfully used to examine various types of data relating to criminal behaviour such as criminal narrative experience (Youngs & Canter, 2012), as well as focussing on specific crimes such as arson (Canter & Fritzon, 1998), and stranger murder (Salfati & Canter, 1999). Therefore, the application of SSA should be suitable with lone actor terrorist data.

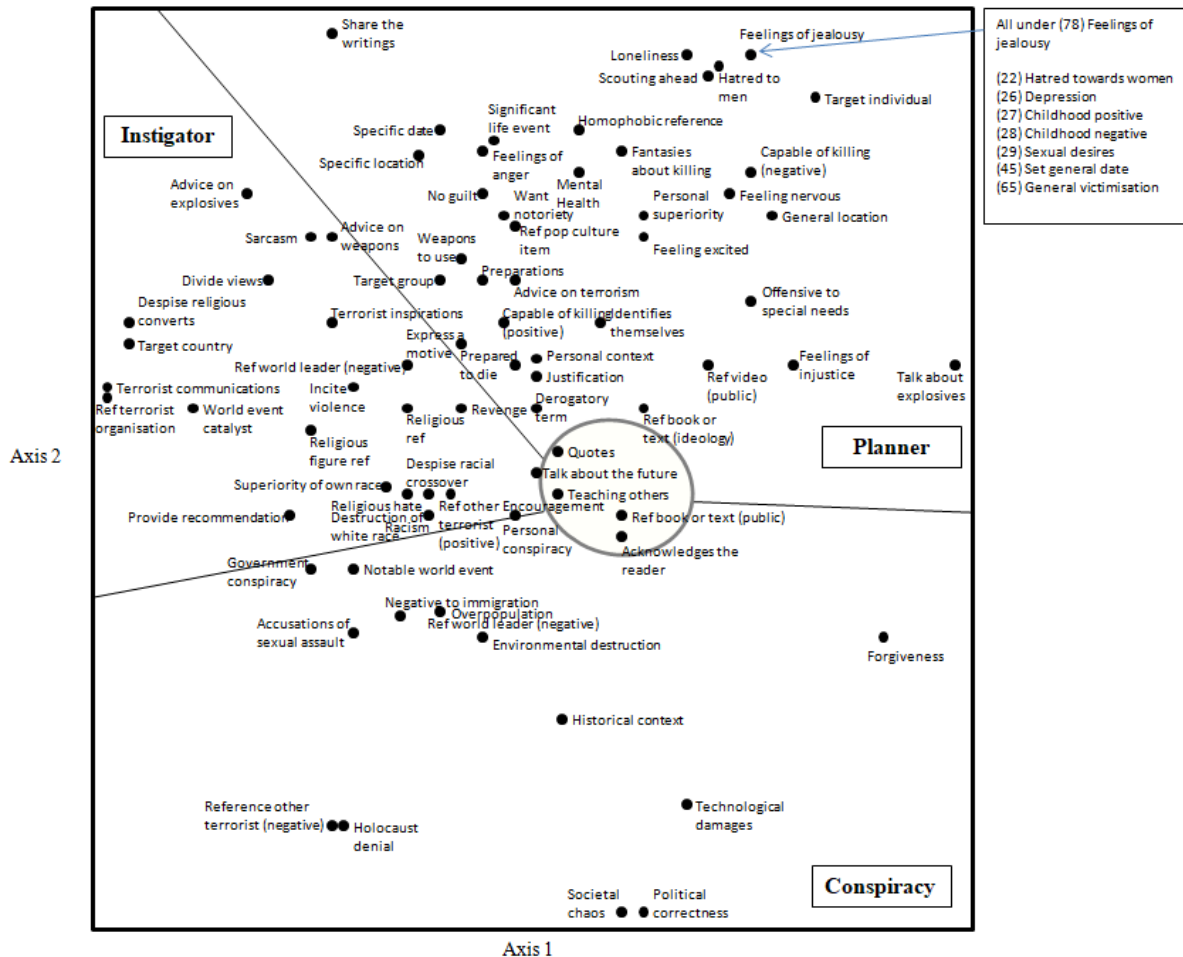
Borg and Lingoes (1987) suggest that the coefficients of alienation presented in an SSA signify how closely the rank orders between the variable points relate to the rank orders of the correlations between variables. This means that the smaller the coefficient of alienation, the better the fit between the SSA configuration presented and the correlation matrix from which the variables have originated from (Canter & Ioannou, 2004).

Results

Figure 1 illustrates the distribution of the 87 variables. The two-dimensional SSA indicates a Guttman-Lingoes coefficient of alienation 0.19885 in 40 iterations, showing a good fit between the coefficients of lone actor terrorist language features and their corresponding representation in a geometric configuration.

Figure 1

Two-Dimensional Smallest Space Analysis (SSA) Indicating Regional Language Typologies Identified Within Lone Actor Terrorist Manifestos.



Note. Coefficient of Alienation = 0.19885 in 40 iterations.

Frequency

The first examination of the SSA plot looks at the frequency of the data. Each of the 87 variables were analysed to identify how often they were mentioned across the 19 case

studies. The most frequent variables were categorised into a 'Central' subgroup, meaning that the variable occurred frequently across multiple different case studies and were not novel to a specific typology. There were four variables included in the Central subgroup occurring in over 53% of the case studies. The four variables within the Central subgroup include *Teaching others* (63%), *Acknowledging the reader* (63%), *Quoting sources or authors* (53%), and *Reference a book or text publically available* (53%). The Central variables can be found within the circle in Figure 1. By separating the four most frequent variables when looking at regional structures, the data allows for more accurate analysis regarding typologies.

Regional Structures

The second stage to examine within the SSA plot is to test the hypothesis that there are different typologies or regions within the data. By examining the SSA output in Figure 1, it is apparent that there are three regions that the variables fall into which have been categorised as *Instigator*, *Planner*, and *Conspiracy*. All individual variables and percentages can be found in the appendix.

Instigator.

The Instigator group is comprised of 24 variables. This region contains variables that focus on hate and hateful rhetoric as well as encouraging others through incitory language. Therefore, this type of offender could be described as an individual who sees themselves as a visionary or superior to other ideologies and wants to lead the way in encouraging others to follow their actions. They will often use sarcasm and divisive views to spark outrage and debate on controversial topics such as immigration or gun control. They will often provide advice to others on how they can procure weapons or explosives to use in attacks as well as provide recommendations on literature that feeds

into their ideology. These individuals are more likely to come from an extreme religious or racial ideology such as white supremacists or jihadi-inspired extremists.

Planner.

The Planner group is comprised of 44 variables. This region contains variables that focus on the physical planning aspect of an attack. This includes more language variables concerning the physical behaviours the individual has undertaken in preparation for an attack such as discussing the weapons they plan to use as well as the location and date of their planned attack. This group also uses emotion-based language to discuss how they feel such as nervous, excited, or angry. They also discuss physical aspects in relation to death such as being prepared to die and feeling capable of killing others for what they believe in. Offenders in this group are likely to give an indication of their justification for the attack which is linked to personal context within their life. Individuals in this group see themselves as experiencing personal injustice against themselves through negative experiences in society. Individuals in this typology can come from a variety of ideological backgrounds due to the more personal nature of variables within this typology; this group is where Incel based ideologies fall.

Conspiracy.

The Conspiracy group is comprised of 15 variables. This region contains variables that focus on conspiracy-based notions. This can include a personal conspiracy that an individual thinks is against themselves or a wider conspiracy in current culture such as holocaust denial. Therefore this type of offender often blames outside factors for issues affecting their life such as negative feelings for immigration and overpopulation. This type of individual can believe a wide range of conspiracies such as environmental issues or technological damages. These individuals are more likely to come from an anti-

government or anti-technology ideology and can include sovereign citizens, who are a branch of American anti-government movements.

Scales

The three themes of language typologies were proposed to reflect different language classifications of lone actor terrorists. Having distinct classifications implies that each of the themes should form a scale in the understanding that variables reliably create a regional structure. Cronbach's alpha tests were used to determine the reliability coefficient of how well each variable fits into a defined region.

As can be observed for the *Instigator* theme with 24 items, the alpha coefficient was .89. In addition, the *Planner* theme with 44 items had an alpha coefficient of .95, with the *Conspiracy* theme with 15 items having an alpha coefficient of .84. Therefore, all three themes indicate a high degree of association between the variables within a given region and the theme identified.

Testing the Framework

While the SSA indicates that lone actor terrorists can be classified into distinct themes, the capabilities of SSA do not extend to categorising the case studies themselves, which instead has to be manually tested. To examine the regional subcategories identified in the SSA, each of the 19 case studies were individually examined to determine which particular subcategory each lone actor terrorist case study would fit into. A percentage score was calculated for each individual case for each of the three themes, reflecting the proportion that a case study could fall into the *Instigator*, *Planner*, and *Conspiracy* categories. As the categories contained unequal numbers of variables, percentages were used to account for the number differences. A case study was classified as belonging to a specific theme if the dominant theme contained the highest percentage of variables (Canter & Heritage, 1990). For example, Case Study 6, has 61% of the variables

occurring within the Instigator theme, 45% within the Planner theme, and 7% within the Conspiracy theme, making Case Study 6 predominantly in the Instigator theme.

A case study was considered a combined theme if the proportion of variables presented in two or more themes were the same (Ioannou et al., 2017). By using this criteria, 89.5% ($n = 17$) of case studies could be classified into a single category, whilst 10.5% ($n = 2$) were considered to be a combined category type. The most frequent type of category was Conspiracy, representing 42.1% ($n = 8$) of the case studies. This was followed by the Instigator group, representing 31.6% ($n = 6$) of the case studies and finally the Planner group, representing 15.8% ($n = 3$) of the case studies. The two case studies that were not categorisable into a single group fell with less than 1% difference between the Instigator group and Planner group and can therefore be considered a hybrid between the two.

Profiling the data

Once the typologies have been analysed and the case studies have been attributed to typologies, analysis can then look to see if there are any distinct behavioural or physical factors between the typologies. Case studies were separated based on their given typologies and the variables attributed to the designated typology were analysed to see how frequently they occurred within their typology. Additional information regarding the case studies were also analysed for the profiling and taken from the Global Terrorism Database such as age, ideology and target location.

Instigator

As mentioned above, this typology is focused on hateful rhetoric related to religion and race. Key variables noted within the manifestos of this typology include: *Religious reference* (67%), *Religious figure reference* (67%), *Hate speech for another race/religion* (67%), *Key world event catalyst* (67%) and *Revenge* (67%). This indicates

that Instigators will predominantly talk about religion, which includes discussion of their own religion in a positive light. *Religious hate* found in 50% of the case studies is also an important variable, indicating that they author will discuss their own religion positively and religions different to their own will be considered with hateful language.

The variable *Key world event catalyst* refers to a world event which the case study describes as being a catalyst for their radicalisation. This can be a large or small scale event, but is one that caught the wider public's attention. For example, the murder of Ebba Åkerlund in a 2017 terror attack in Sweden is noted as being a catalyst in the manifesto of Brenton Tarrant. In contrast, Canada's involvement in the Afghanistan War is referenced as a catalyst in the manifesto of Michael Zehaf Bibeau, demonstrating the impact different world events can have on an author. *Revenge* was also another prominent feature found within manifestos in the Instigator group for example, identified within the manifesto of Charles Bishop, wanting to take revenge on the United States government for their perceived actions against Palestine.

Combined analysis of location information, combined with variables within the language data can begin to form an understanding of potential target locations. Offenders in this typology are likely to target religious buildings or government buildings. The exact location will depend on the individual's personal grievance against a specific group of people which can lead to a wider range of religious buildings including mosques, synagogues and churches as well as government buildings including those related to educational facilities and political facilities such as parliaments. All six case studies found within Instigator group conducted attacks against religious buildings, educational facilities, or government facilities.

Other behavioural factors that can be noted within the Instigator group, is that the offenders tend to be younger in age, ranging from 15 to 32 years ($M = 23$; $SD = 5.6$).

Offenders within this typology also have a variety of different ideologies and are ethnically diverse. Therefore, while this offender group tends to be younger, they can also be extremely varied based on ideology indicating the importance of the linguistic data as there are less identifiable physical and behavioural traits.

Planner

Case studies found within the Planner group indicate individuals have a focus on planning out their attack and noting what they plan to do within their manifesto. Key variables noted within the manifestos of this typology include: *Justification (100%)*, *Prepared to die (100%)*, *Capable of killing in a positive emotion (100%)*, *Discuss specific location of planned attack (100%)*, and *Identifies target group (100%)*. This identifies that individuals in the Planner group like to map out and prepare what they are going to do in their attack. This can be seen in the style of a manual whereby the writer is noting what they plan to do so others can follow their actions. *Justification* is simply where the writer uses language to justify why they are going to carry out an attack, such as within the manifesto of Elliot Rodger, the world can be seen as a brutal place and he justifies his violent actions as fighting for his place in the world.

Discussions of death are also common within the Planner group, seen in the variables *Prepared to die* and *Capable of killing in a positive emotion*. The variable *Prepared to die* refers to language relating to the writers own death, either by suicide after the attack, or the understanding that they could die in the process of an attack from law enforcement. This notion can be seen in the manifesto of Elliot Rodger where he plans to die during the attack to escape punishment and in the manifesto of Jim Adkisson, where he notes that he plans to kill his targeted group until he is killed by the police. Another variable of significance to the Planner group is being *Capable of killing in a positive emotion*. This means that the author has identified that they feel physically

capable of committing murder and comfortable to do so in the belief the murder is justified. This differs from the variable *Capable of killing in a negative emotion* (33%) where the author uses language about being regretful that feel that they have to kill. Therefore the positive connotation with feeling capable with killing can be seen as more dangerous as this individual justifies committing murder for their ideological beliefs.

Other physical features that can be noted within the language of the Planner group are the variables *Discuss specific location of planned attack* and *Identifies target group*. These variables can be seen as physical factors as the author is directly noting planned behaviour. Discussing the location that someone plans to attack can be seen as a risky behaviour, as broadcasting your intended target can lead to increased security, all three of the case studies within the Planner group have engaged in this language feature with Jim Adkisson noting the exact church and State he was intending to attack. *Identifies target group* is another variable that carries risk of increased security, were the author names the group or type of individual they intend to target. This variable was noted in all three case studies such as within the manifesto of Elliot Rodger, who intended to target attractive young couples.

Other language variables that can be seen within behavioural factors that are important to note within the Planner group are other behaviours that involve the preparations of an attack including: *Talk of weapons to use* (67%), *Scouting ahead of an attack* (67%), and *Preparations* (67%), a variable which includes the author discussing what they need to do ahead of an attack, such as preparing their weapons, ammunition and other gear such as body armour. These can all be seen a physical factors which result in the author conducting a behaviour with the associated variable.

Emotional factors are also important within the Planner group with increased variables relating to emotion such as *Feelings of anger* (67%) and *Feeling nervous*

(67%). When considering how these language features can translate into behavioural factors, an individual in this group may appear more anxious than normal in the lead up to the attack as well as increased anger which could be targeted at the individuals intended target group. Due to the large amount of emotive language within the manifestos, it would be beneficial to consider other areas that could be evident in behaviour such as mental health issues. Offenders in the Planner typology are also likely to *Identify themselves* (67%) and attribute their real name with their manifesto, which can help with aid in terrorism investigations.

Conspiracy

As the name suggests individuals found within the Conspiracy group are likely to believe in conspiracy theories and use them to formulate their ideology. Key variables noted within the manifestos of this typology include: *Personal conspiracy* (88%), *Environmental destruction* (75%), *Notable world event* (50%), and *Overpopulation* (50%). This highlights how conspiracies are fundamental within this typology type and can lead to extremist beliefs.

The variable *Personal conspiracy* relates to where an individual thinks there is a conspiracy based effect which is affecting their life for example in the manifesto written by Ted Kacynski there is a suggestion that ‘the leftists’ are inventing problems, similarly in the manifesto written by Patrick Crusius, he blames damages on corporations that have ties with the government. Illustrating where a conspiracy is directly impacting on the authors life.

A specific conspiracy which features heavily within this group is *Environmental destruction*, a variable where the individual blames their issues and the world issues on the destruction of the natural environment. This variable can be seen where the author blames a specific group for the destruction of the environment or it can be seen where

the author describes how the collective human race has led to environmental destruction. An example where the author blames a specific group can be seen in the manifesto written by James Von Brunn who blames the government for desecration of the earth and pollution of the environment. Similarly, the manifesto written by Anson Chi notes that the human race will have to pay the price for the issues they have caused through the destruction of the planet.

When considering the behavioural features that relate to the Conspiracy typology, it is important to look at the attack locations. Seven out of the eight case studies within the Conspiracy typology attacked locations that are intrinsically linked to the author's conspiracy ideology. For example, James Von Brunn, who is considered to be an Anti-Semitic extremist, included frequent holocaust denial within his manifesto and went on to carry out an attack at the Holocaust museum in Washington D.C. Other examples include Lucas Helder, an Anti-Government extremists, targeting United States mailboxes and Anson Chi, a sovereign citizen, targeting a gas pipeline, indicating the important link between the conspiracy ideology and attack locations.

Another behavioural features that can be found in case studies within the Conspiracy typology is the attack method used by offenders. Explosives were used in 50% of case studies found within the Conspiracy typology compared to only 9% of the other typologies, suggesting the use of explosives is a preferred attack method found within the Conspiracy typology. Individuals within the this typology tend to be older in age, with those in study aged between 21 and 88 ($M = 43.6$; $SD = 20.38$), indicating that age can be a factor in the development of conspiracy based ideologies.

This study therefore indicates that there are identifiable typologies within the language of lone actor terrorists and those individuals are able to be categorised into specific typologies based on the language within their manifestos.

Discussion

The main objective of this study was to examine if there are identifiable language typologies that can be found within the manifestos of lone actor terrorists. The study analysed a sample of 19 manifestos created by lone actor terrorists using mixed methods. Analysis of 19 manifestos using Smallest Space Analysis, identified three themes of language within the lone actor terrorist manifestos used within the study. Further analysis identified that 89.5% of the case studies could be categorised into a specific language typology.

The study identified three distinct language typologies of lone actor terrorist language used within manifestos as well as four specific language variables that occur frequently across all categories of lone actor terrorist.

Whilst variables found within the Central subgroup occur most frequently, they are still important to consider in relation to manifesto analysis. The Central variables: *Teaching others* (63%), *Acknowledging the reader* (63%), *Quoting sources or authors* (53%), and *Reference a book or text publically available* (53%) are features that occur frequently across all typology types and can be found in a variety of different lone actor terrorist manifestos. Further analysis of the data noted that three typologies were identifiable with different language features in lone actor terrorist manifestos. The three typologies were noted to be *Instigator*, *Planner* and *Conspiracy*. Each of the different typologies contained different language features indicative of that typology.

The Instigator group identified that individuals are likely to use incitatory language where they try to encourage others into their ideology and preach hateful language against races and religions different from their own. The Planner group are more likely to describe the practical features of planning out their attack and the emotional implications of their actions. The Conspiracy group are more likely to discuss

conspiracies and blame those conspiracies for their current situations. This therefore supports that language typologies are identifiable within the sample of case studies used to analyse the language of lone actor terrorism.

Additionally, the study identified that lone actor terrorists can be categorised into a specific language typology. The study found that 89.5% of the case studies of lone actor terrorists analysed were able to be classified into one of the three typologies. Previous research has noted that lone actor terrorists are difficult to categorise (Bakker & de Graaf, 2011) and physical traits can be varied making lone actors difficult to identify (Gill et al., 2014). The difficulties in categorising lone actor terrorists can rise from the broad scope of ideologies involved, however when research moves away from looking at differences in ideologies and instead look at the modus operandi suggested by Bakker and de Graaf (2011), different categories of lone actor terrorists begin to arise. This study moves beyond looking at physical factors and instead looks at language involved within the manifestos generated by lone actor terrorists, which could suggest why there is a high level of case studies which could be categorised into typologies.

As previously mentioned, typologies identified in group based terrorism identified three groups known as *Crusaders*, *Criminals*, and *Crazies* (Hacker, 1976). When these typologies are considered in relation to the present study, the similarities in the groupings become clear. The *Crusader* group provides support to the *Instigator* group with both being ideologically driven, seen by the variables that focus on revenge and hate speech. Miller (2006) also described the crusader group as jihadist or neo-Nazism types, similar to the jihadist and white supremacists identified for this typology in this study. The *Criminal* typology has links to the *Conspiracy* group, whereby excuses are used to commit violent action and can be seen in the variables with placing

blame on conspiracies such as environmental and technological damages. The *Crazies* group supports the *Planner* typology where mental health and other emotional factors are prevalent. An updated approach using the term *Planner* instead of *Crazies* would help further reduce stigmatisation of mental health issues. Although the three typologies identified by Hacker (1976) focus on group-based terrorism, this study shows the application of how these typologies can be found within lone actor terrorism as well.

Implications

The results of the study therefore build on the acknowledgement of the significance of manifesto analysis. Kupper and Meloy (2021) noted that last resort behaviour was identified in 100% of the manifestos analysed within their study. Whilst last resort behaviour was not a variable within this study, the closest variables would be *Prepared to die* (58%) and *Capable of Killing* (37%). This study shows that whilst they did not occur at the same level as the Kupper and Meloy (2021) study, they are still significant factors to indicating warning behaviours that could lead to violent action. One reason for the discrepancy could be the separation between ideologies. In the Kupper and Meloy (2021) study when last resort behaviour was separated into ideologies, it was more prevalent in mixed ideologies (67%) than in jihadist ideologies (25%), as the present study did not separate ideologies, this could explain why lower levels of this type of behaviour were found in the study. When these two variables are considered against the entire collection of lone actor manifestos, the lower levels are not similar the study by Kupper and Meloy (2021), however when the two variables are considered against the *Planner* typology group, they are present in 100% of the manifestos.

Current analysis tools such as the SAT and LIWC can be used to gather information on basic language and emotion, acting as a starting point for further psychological analysis. Baele (2017) identified high levels of negative emotions,

especially anger, when analysing lone actor terrorist manifestos. The variable *Feelings of anger* was found in 67% of the *Planner* typologies but only occurred in 16% of the data as a collective, indicating low levels of discussing anger when comparing all manifestos. This could be due to the variable in this study only looking at direct discussion of anger, compared to the LIWC which looks at semantics of anger.

Another limitation to only using the LIWC, whilst identifying the high levels of negative language, overlooks the psychological implications of positive language. For example, the variable *Feeling excited* would be coded under positive emotions in the LIWC, when only looking at surface language. However, the psychological implications of this variable are actually negative, that is, an individual stating that they are excited to commit acts of terrorism. Therefore, a combined approach looking at surface language as well as deeper psychological analysis would provide the best approach for understanding the language of lone actor terrorist manifestos.

Whilst the study identifies key language variables within each typology that can be indicative of an individual's typology, it is important to note the use of a single variable within the study is not indicative of an individual going on to commit an act of lone actor terrorism. This is due to fact that some variables can used in a non-criminal context, such as *Environmental destruction*. If an individual, for example, posts an essay online about the destruction of the environment, it does not mean they are going to commit an act of terrorism, they could simply be discussing environmental issues. The variables should instead be used in combination with other each other and other factors. For example if an individual posts a sample of writing online discussing the weapons they have access too, that they feel they are prepared to die and believe that killing others is justified if it meets their beliefs, this could indicate an individual within the *Planner* typology and further investigations should then take place. Therefore the

typologies and associated variables should be seen as in investigative aid and not a lone actor terrorist identifier.

Limitations and future research

Whilst the data within the study, begins to identify language used within lone actor terrorist manifestos, it can be seen as one of the many studies that is attempting to develop a type of profile of lone actor terrorists. The novel approach used within the study aims to identify key language variables and categorise lone actor terrorists within these typologies, however there are limitations that can be found within this study, areas that could be mitigated with future research to further progress the field.

Whilst Hamm and Spaaij (2017) noted that ‘Broadcasting intent’ can be seen in 70% of lone actor terrorist cases, only 19 manifestos were analysed as part of the study, considered to be a relatively small sample size compared to the 117 lone actor terrorist case studies originally identified. For example, only manifestos that were produced in the English language were used and so future studies could include a larger sample of manifestos and compare the difference between English and non-English language manifestos. Other areas of expansion could explore individuals who may be affiliated with a terrorist organisation but act alone under their own direction and autonomous cells. Broadening this scope would allow for the inclusion of individuals who may act alone but have affiliations to organisations such as Rachelle Shannon who acted alone but is associated with an anti-abortion movement.

Another limitation of the study is the reliance that the manifesto authors are telling the truth in what they write within the manifesto. A phenomenon found within online subcultures is posting content purely for the reaction and this type of behaviour may thus be found within the manifestos. Therefore, analysing additional information

about the individuals, such as follow up interviews, where researchers discuss the individuals' manifesto, could help to mitigate any exaggerations.

Lone actor terrorists do not operate within a social vacuum, they may be isolated individuals with limited personal or intimate relationships, but they are still individuals acting within a community (Smith et al., 2015). Lone actor terrorists come from a variety of different backgrounds include educational and employment backgrounds where these individuals are interacting within the community (Gill et al., 2014). Therefore if there were programmes within the community such as in workplaces and educational facilities, that aim to educate people on possible warning behaviours, like the variables identified within the study, this could lead to more referrals to terrorism prevention programmes. It is important to note that a single or small number of variables present in an individual's language are not indicative of them being a lone actor terrorist, and further investigations should be conducted.

Therefore, applications of the data need to be considered before implementation. Further research and development could lead to this data being used as part of an investigative tool by counter terrorism departments; however it should not be solely relied upon without further validation. Further applications of this data can also move beyond looking at lone actor terrorists and look at other areas of violent behaviour. Kupper and Meloy (2021) discuss looking at targeted violence manifestos, which move beyond solely looking at lone actor terrorists. This could therefore look at areas such as school shootings, extremist protests and organisations, and other grievance-based attacks. The creation of computer algorithms using language variables identified can be also be developed to further aid as an investigative tool. Therefore whilst attempts to profile lone actor terrorists are growing, there is still room for the field to develop further.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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Appendices

Table 2

List of Variables within the Instigator Typology and Corresponding Percentages

Variable number	Variable name	Typology	Percentages
1	Religious Reference	Instigator	67%
2	Religious Figure reference	Instigator	67%
3	Religious Hate	Instigator	50%
5	Hate Speech of another race and racism	Instigator	67%
6	Destruction of white race (Caucasian writer)	Instigator	50%
7	Superiority of own race	Instigator	50%
9	Reference a political/world leader (Negative)	Instigator	50%
10	Key world event Catalyst	Instigator	67%
13	Reference other terrorist (positive)	Instigator	50%
15	Reference terrorist organisation	Instigator	33%
34	Revenge	Instigator	67%
36	Incite Violence in others	Instigator	33%
37	Divide people's views	Instigator	33%
41	Despise religious converts	Instigator	17%
42	Despise racial crossover	Instigator	50%
49	Advice on weapons	Instigator	33%
51	Advice on explosives	Instigator	17%
53	Provide recommendations	Instigator	17%
54	Identifies target country	Instigator	33%
62	Encouragement	Instigator	50%
76	Talk about the Future	Instigator	50%
80	Terrorist communications	Instigator	33%
81	Terrorist inspirations	Instigator	50%
82	Sarcasm	Instigator	33%

Table 3*List of Variables within the Planner Typology and Corresponding Percentages*

Variable number	Variable name	Typology	Percentages
4	Derogatory term to non-white individual	Planner	67%
17	References a book or text (Ideology)	Planner	33%
18	Reference a TV show, film or video (Public)	Planner	33%
19	Reference a pop-culture item	Planner	33%
20	Justification	Planner	100%
21	Feelings of injustice	Planner	33%
22	Hatred towards women	Planner	33%
23	Hatred towards men	Planner	33%
24	Mental Health	Planner	67%
25	Loneliness	Planner	33%
26	Depression	Planner	33%
27	Talking about childhood positively	Planner	33%
28	Talking about childhood negatively	Planner	33%
29	Sexual Desires	Planner	33%
30	Prepared to die	Planner	100%
31	Capable of killing (Positive)	Planner	100%
32	Capable of killing (Negative)	Planner	33%
33	Fantasies about killing	Planner	33%
35	Want Notoriety	Planner	33%
38	No feelings of guilt	Planner	33%
39	Feelings of excitement	Planner	33%
40	Feeling nervous	Planner	67%
44	Set specific date of attack	Planner	67%
45	Set general date of attack	Planner	33%

46	Discuss specific location of planned attack	Planner	100%
47	Discuss general location of planned attack	Planner	67%
48	Talk of weapons to use	Planner	67%
50	Talk of explosives	Planner	33%
52	General advice on committing terrorism	Planner	33%
55	Identifies target group	Planner	100%
56	Identifies target individual	Planner	33%
57	Express a motive	Planner	67%
58	Scouting ahead of the attack	Planner	67%
59	Identifies themselves	Planner	67%
61	Share the writings	Planner	33%
65	General victimisation	Planner	33%
71	Offensive language to those with special needs	Planner	33%
73	Personal Context	Planner	67%
74	Significant life event	Planner	67%
75	Personal Superiority complex	Planner	33%
77	Feelings of anger	Planner	67%
78	Feelings of jealousy	Planner	33%
79	Preparations	Planner	67%
86	Homophobic reference	Planner	67%

Table 4*List of Variables within the Conspiracy Typology and Corresponding Percentages*

Variable number	Variable name	Typology	Percentages
8	Reference a political/world leader (Positive)	Conspiracy	38%
11	Government Conspiracy	Conspiracy	38%
12	Holocaust Denial	Conspiracy	13%
14	Reference other terrorist (Negative)	Conspiracy	13%
43	Negative feelings for immigration	Conspiracy	38%
63	Political Correctness	Conspiracy	13%
64	Societal Chaos	Conspiracy	13%
66	Personal conspiracy	Conspiracy	88%
67	Historical context	Conspiracy	38%
70	Accusations of sexual assault	Conspiracy	25%
72	Notable World Event	Conspiracy	50%
83	Environmental destruction	Conspiracy	75%
84	Technological damages	Conspiracy	38%
85	Forgiveness	Conspiracy	0%
87	Overpopulation	Conspiracy	50%