INTELLIGENCE, SECURITY AND INTERDISCIPLINARITY

THREATENING LETTERS: MENTAL CONFUSION AND HATE AS MOST COMMON PREDICTORS OF ARREST FOR VIOLENT BEHAVIOUR

Margaret DIEKHUIS-KUIPER[*]

> *Motto: You are going to die soon. If I find you I'll kill you.*
> *You are going to die just like Pim Fortuyn. One of these days you're going to be shot to pieces so better watch your step. All the Muslims are going to kill you, you won't be safe in the streets, and this is a hint. My nigga/Muslim friends are going to kill you in New York City. I'll kill you if I see you!! Who can I hire to shoot Wilders in the head?*
> *If I catch you I'm going to smash your face in.*

> Example of internet threatening letters

Abstract
This study focused on digital and handwritten threats against individuals in what are known as the national security domain. Being threatened may stir up feelings of fear or unrest. Making threats towards people in the public domain can influence the public debate and may even jeopardize the democratic legal order when a fear of (repeated) threat stands in the way of open and frank discussion. Threats, and the subsequent assessment and decision-making process, are time-consuming and difficult, without other available documents. The main question was: which characteristics can be linked to criminal acts? Insights were gained from threat studies and from forensic linguistics to better understand the motives of those writing threatening letters. Bivariate- and logistic regression analysis were used for assessing characteristics in 450 letters. Mental confusion, which was operationalized in the theoretical framework as incoherent use of language, was linked to repeated threats. Mental confusion and hate increased the likelihood of being arrested for violence behaviour.

Keywords: *Public figures, violent behaviour, communicated threats, threat assessment, offender characteristics, forensic linguistics.*

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[*] Forensic Psychologist, PhD, Ministry of the Interior and Kingdom Relations, email: Margaret.kuiper@minbzk.nl.

Introduction

The assessment of threats in relation to future (criminal) behaviour is a question that occupies the National Police, the Public Prosecution Service (OM) and also, for example, the intelligence and security services. What are the presumed intentions of those that write threatening letters and which words indicate an elevated risk that the threatener will put action to words? The internet invites us to communicate digitally, and in addition to handwritten threatening letters threateners also appear to choose this method (De Groot, 2010). Threats can cause feelings of fear and unrest in those that have been threatened and those around them. Threatened persons – and others – can feel intimidated, or experience feeling socially restricted in their thoughts, actions, and movements (Bovenkerk, 2005). When threats are directed against public figures, this can influence the public debate and even constitute a threat to our democratic legal order, and the fear of (repeated) threats can stand in the way of open and frank discussion (Bovenkerk, 2005). The focus of this study was on threatening letters and non-criminal threatening letters directed at public figures whose security and unhampered performance of duties are of national importance, for example politicians and royalty. The aim of the study was two-fold: on the one hand expand available knowledge regarding the characteristics of threatening letters, which could assist in interpreting the intentions of the writers of such letters, and on the other establish which of these characteristics are most related to the chances that a person will be arrested on suspicion of violence.[1] In this study, threatening letters was taken to mean: letters and emails in which public figures receive (in)direct death threats, or are wished dead (Meloy, 2000). The threatening letter can also state conditional threats (Bovenkerk, 2005; Meloy, 2000, 2001), such as: "*Ransom before 11 September 9am or else the prime minister dies.*" This study differentiates between criminal and non-criminal threatening letters. Non-criminal threatening letters are: letters and emails directed at

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[1] This included assault and/or attempted manslaughter. Other criminal offences considered relevant in terms of acts of violence, are possession of arms and destruction of property.

public figures which at first glance do not seem to pose a threat. Their contents can be perceived as alarming or intimidating by those that receive them, for example because they contain a cry for help, incoherent use of language, threatened suicide, or a search for intimacy. In addition there were two relevant subgroups. The first subgroup concerned individuals that wrote only one letter. This group was compared to individuals that wrote letters repeatedly. In this study repeated letters are taken to mean: a second and possibly further letters written by one and the same individual. The second subgroup concerned individuals that were either arrested or not arrested on suspicion of a criminal offence after having written a first letter. Criminal offence in this study included assault and/or manslaughter, possession of arms, and destruction of property.

The idea behind this study was that behavioural experts or other assessors have to base their assessment on limited information, for example a letter. Such letters may contain valuable clues regarding the intentions and/or psychopathology of the writer, which is why it is relevant to analyse such missives (Dietz et al., 1991; Fein & Vossekuil, 1999; Meloy et al., 2004). The information provided by this process can also serve to provide greater security for the victim. The more accurate the prediction, the more thoroughly the police can provide coordinated security measures to protect the threatened person. In the assessment of a writer's intentions, the assessors generally rely on their experience, knowledge, and intuition. Although this approach is useful, this frequent method also constitutes a risk, because it is more susceptible to bias and false heuristics. Assigning greater importance to certain letters, or ignoring them, could result in bad decisions (Canter, 2000).

There has not been a great deal of qualitative scientific research, either nationally or internationally, into the phenomenon of threatening letters directed at public figures. In 2006 Smith studied threatening letters on the basis of an empirical analysis of the risks they constituted in the public and private domain. Smith focused on public and non-public figures, and for that reason that study is less comparable to the present one, which limited its focus to public figures whose security and unhampered functioning are of national importance. In 2014, James et.al. developed the CTAP-25, which is a generic measuring instrument

based on problematic letters in the public and private sector. CTAP-25 provides a triage score that is based on risk factors related to inappropriate communication or personal problems in, for example, a professional setting. Similar to the study by Smith (2009), CTAP-25 focused on problematic communications directed at public and non-public figures, and it is a generic risk management instrument for mapping problematic behaviour. In this study the focus was on the question whether the writer would act upon his threat and which words might be possible indicators of this. The focus, then, is on estimating the type of threat.

There are different types of threatening letters, in relation to which the main question is whether they provide enough elements to attribute meaning to the nature and form of the threat (Voerman, Brandt & Bullens 2014). This is a greater problem for digital and handwritten letters than for verbal/oral threats, as there is no direct social interaction between sender and receiver. In the present study information was collected from letters on the basis of a protocol and converted into quantitative data to be analysed. This means that the letter itself, rather than the contents of the (police) file, is used to assess whether the contents of the letter could provide information on background characteristics of the letter writer and their language use, and how this is related to later actions. Consequently the study had both an exploratory and a testing character. Firstly, characteristics or variables that are considered relevant to the assessment framework for the interpretation of letters or data were selected on the basis of the literature. The criteria were: which characteristics mentioned in descriptive studies of threatening letters can be related to future criminal behaviour? And which of these characteristics can be operationalised so that they can be used in a quantitative study? To assess this Cohen's kappa statistic was used (more on this under methodology).

This article will first look at the data set and what does the data set consist of? The development of the theoretical assessment framework – which methods and techniques were used to analyse letters? The section three discussed under methodology. The results are presented in section 4, illustrated by tables. Section five presents the conclusion and

discussion, and the article concludes with a series of recommendations in section six.

Data

Between 2012 and 2015 a total of 450 (digital and handwritten) threatening letters directed at persons in the public domain were collected for the purpose of this study. The letters concerned the period from 1999 – 2015. More specifically, 40% of the letters is from the period between February 1999 and January 2013 while the other 60% covers the period from January 2013 to February 2015. Part of the letter collection came from the Ministry of General Affairs, and part from the National Police. Some of the letters turned out to be doubles, because they existed in both a digital and physical format. After removing 172 doubles, a total of 278 letters remained. These letters were written by a total of 150 individuals.[2] Of these, 109 persons (73%) wrote only one letter and 41 individuals (27%) wrote more than one letter. These 41 repeated writers wrote 169 letters, an average of around four letters per person. Repeated letters were identified by equating the signature and/or handwriting in different letters. Remarkably, a large percentage (66%) of the 278 letters were signed with a first and/or last name, and sometimes also with an address (19%). In a number of cases a letter was signed anonymously, or with an alias or false name (15%). Although the letters were signed, of only 53 letter writers (35%) it was possible to ascertain in police systems (Blue View) whether the individual had been arrested on suspicion of a criminal offence, such as a violent act, after their first letter.[3] Of these 53 persons both their name and address were known, which was a decisive factor in whether someone could be traced in police systems and identified as a suspect.[4] The time between the first

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[2] The identities of the individuals in this group were established on the basis of address, signature, micro features and page lay-out characteristics such as use of uppercase and lowercase, numbers, date of the letter, form of the letter.

[3] Here, violent act is taken to mean assault and/or attempted manslaughter. Other criminal offences considered relevant in terms of acts of violence are possession of arms and destruction of property.

[4] Generally speaking, first name, last name and date of birth are sufficient information to find someone.

letter and the last incident[5] which resulted in the suspect's arrest, was calculated to be almost 27 months on average. This high average was the result of the fact that for some letters there was a very long time – several years – between threat and arrest of the suspect. The median turned out to be 18 months.

Methodology

In order to be able to assess the intentions of writers of threatening letters with greater accuracy, an assessment framework (theory) and a protocol (questionnaire) were used to assess a collection of 278 letters for certain letter characteristics (Table 1).

Table 1: Overview of variables tested for occurrence in letters[6]

Background characterstics	Presence (+) / absence (-)	Background characteristics	Presence (+) / absence (-)	Linguistic features	Presence (+) / absence (-)
Cognitive distortions	+	Modi operandi (weapons)	+	Self-reference ('I')	+
Confusion	+	Fixation	+	Conjunctions	+
Incoherent language	+	Anger	+		
Negative coping	+	Hatred-revulsion	+	*Details*	
Burdoned frame of mind	+	Revenge	+	Micro features and page lay-out	+
Lack of remorse	+	Powerlessness	+		
Cause fear	+				

| Prosocial engagement | - |
| Positive coping | - |

Some background elements, such as whether the writer suffers from depression or alcoholism, are difficult to determine on the basis of letters alone. Characteristics such as use of weapons or the occurrence of a description of the method were more concrete and verifiable. Emotions were categorized on the basis of Pennebaker (2011) and Chapman et al. (2009). According to Chapman et al. (2009) emotion words express feelings and desires, and negative emotions in particular, such as hatred and revenge, are associated with aggression. Pennebaker (2011) on the other hand wanted to demonstrate the relevance of linguistic markers, such as self-reference (I) and conjunctions in relation to self-awareness and deception. He posits that words like 'I' are an indication of state of mind and that self-reference and conjunctions are relevant because of the clues they contain regarding whether a person is telling the truth or not – which is also pertinent to the assessment of threatening letters. If these words are present in significant numbers, then they could be associated with future conduct. Which words, then, are related to repeat letter writing? And which words could serve as indicators that the letter writer will be arrested after having written the letter on suspicion of involvement in a violent act?

Examples of the method for making letter characteristics verifiable in the protocol are: threat classification (distinguishing between direct, conditional, indirect threat, or no threat), type of offence (violent offence, vandalism, possession of arms, assault, and other offences), form of the letter (handwritten, digital), addressing (Royal House, Prime Minister, Member of Parliament, other) and language use (emotion words, conjunctions, detailed information, self-reference). The protocol further operationalised abstract characteristics, such as burdened frame of mind, in questions such as: 1. The writer indicates being in pain and 2. The writer suffers from mental anguish as a result of personal loss. Using this method, more information could be obtained from the letters, and the verifiability of the letters was improved. The variables were coded as either present

(1) or absent (2). By coding the letters according to a protocol it was also possible to have the letters be assessed by two independent assessors[7] (Bijleveld, 2013), using Cohen's kappa statistic. A kappa of 1 (complete agreement) occurred for the characteristics: modi operandi (firearm, explosives, nuclear weapons), reference to own children, reference to spouse and reference to next of kin. A kappa of 0.75 – 1 (strong agreement) was found for the characteristics: distrust, confusion (conspiracy thinking), powerlessness, suicidal tendencies, threats, absence of modi operandi, reference to other persons, conjunctions, and terms abuse. A kappa of 0.4 – 0.75 (reasonable degree of agreement) was found for the characteristics: seeking justification, black and white thinking, exaggeration of events, incoherent language, emotional outburst, obtain concrete interests, defend acquired rights, revenge, cause fear, fixation, hatred, anger, personal loss/negative coping, pain, sacrifice one's life for a purpose, financial compensation, detailed information (location), prosocial engagement, positive coping, references to therapist, and use of uppercase/bold type. There were no characteristics that scored a kappa lower than 0.4. The sum of all calculated kappas divided by the number of known kappas resulted in a kappa of 0.74 (Appendix I). The characteristics for which the kappa could not be calculated, because they were too infrequent or entirely absent from the letters, were excluded in the data analysis. This also applied to characteristics with a kappa lower than 0.5, because this value is considered a less reliable score (Bijleveld, 2013). Some of the characteristics this applied to be: positive coping (seeking help) and prosocial engagement (offering help). The characteristic of 'negative coping' (personal loss, pain) was also excluded, because the inter-assessor reliability assessment revealed that there was an overlap with the characteristic of 'powerlessness'. The characteristic of 'powerlessness' also turned out to have a higher kappa than the characteristic of 'negative coping', which explains why only powerlessness was included in the analysis. Four of the eighteen characteristics that occur in Table I have therefore not been included in

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[7] In order to establish inter-assessor reliability it was necessary that two other assessors assess the data. Two master's students in Forensic Criminology from the University of Leiden were asked to do this.

the analysis, either because the kappa was too low, or because the kappa could not be established. Consequently the model featured a total of 14 variables. The question that could have been asked here, was: which average reliability values were to be expected for certain combinations of assessor category type and knowledge of the instrument? The results show that those values were slightly higher for concrete letter characteristics (e.g. the occurrence of weapons, location, terms of abuse, uppercase type) than for a number of abstract characteristics, including the characteristic of 'remorse'. For the abstract letter characteristics the guidelines and operationalisations of the assessment framework were used, which also involved interpretation, experience, and knowledge (Baarda & De Goede, 2006). In practice this could mean not only those extra guidelines may be required for the way in which certain (abstract) letter characteristics ought to be interpreted, but also that knowledge and behavioural training for assessors are necessary.

In order to quantify the linguistic domains, the number of self-references (use of 'I') and the presence of conjunctions in the letters were counted. Conjunctions selected in the protocol included conjunctions of time (while), reason (because, as), restriction (except), purpose (so that), and condition (if, in case, provided that, unless). With regard to the occurrence of conjunctions, the assessment did not concern the combination of all these conjunctions, but rather whether the writer used any conjunctions in the letters. Self-references were divided into three groups in order to be able to compare the letters with each other: the number of self-references (use of 'I') in a letter were either in the first group (1 – 5), the second group (6 – 10) or the third group (11 – 15). This involved a relative step, created for that purpose, in which the number of self-references was counted for every ten lines. The development of the assessment framework and the drafting of the protocol (questionnaire) and the analysis of the letters took six months altogether.[8] All cases were documented, numbered, and processed in

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[8] Aspects in the questionnaire – including gender, age, convictions, drugs, stalking – could not be verified adequately, if at all, in police systems, so these were not taken into consideration.

Statistical Package for the Social Sciences (SPSS),[9] version 19. This allowed for an anonymized analysis of letter writer data. SPSS was used to analyse the data quantitatively. The letters were analysed using bivariate and multivariate techniques (Lammers, 2007), and a chi-squared test was used for the descriptive analyses.[10] This test determined which relationships or differences existed between the characteristics of threatening letters and non-criminal threatening letters, repeated letters versus single letters, and whether or not the writer was arrested for a criminal offence. To assess which characteristics were decisive, a logistic regression analysis was applied for threatening letters, repeated letters, or committing a criminal offence.[11]

To summarise, the first step in the assessment of the kind of letters that this study is concerned with was the development of an assessment framework in which 18 (linguistic) characteristics are operationalised. This operationalisation used insights from forensic linguistics (Bogaerts, 2012; Dietz, 2010; Ekman, 1999; Vrij, 2010). In order to establish inter-assessor reliability the letters were assessed independently by two persons. Using SPSS version 19 the data was analysed using bivariate and multivariate techniques. The theoretical framework developed for this analysis constituted the guideline for a protocol (questionnaire) that improved letter assessment.

Results

The first finding was that direct threats were the most frequent (Table 2). Remarkably most letter writers address their letter to different public figures, and only a small group limited itself to addressing the Prime Minister or the Royal Family. Negative emotions, such as hatred, revenge, causing fear, and other factors, such as modi operandi and detailed information, were significantly associated with

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[9] SPSS is a statistical computer program used for data collection, entry and analysis.

[10] The chi-squared test was used to establish whether letter characteristics were interrelated or significantly different from each other.

[11] Logistic regression analysis is used to establish whether there is a relationship between one dichotomous dependent variable and a number of independent variables. A dichotomous variable is a variable that can have only one of two values as output, for example 'yes' or 'no'.

the first group of letter writers that issue death threats, whereas fixation and confusion were significantly associated with the second group of non-criminal letter writers. This second group constituted half of this study, and requires the most care and attention from the authorities in charge of assessment, in view of the fact that they may require health care intervention. Fixation could play a role in carrying out an act (Meloy, 2001, 2011), which is what makes this second group, in addition to the threatening letters, highly relevant in terms of requiring constant assessment and monitoring. The frequent use of conjunctions proved significant only in the case of non-criminal threatening letters.

Table 2: Similarities and differences between threatening letters and non-criminal threatening letters (n=278 letter)

Threatened persons	*Threatening letters n=125*	*Non-criminal threatening letters n=153*	*$X^2(1)$*	*Cramer's V*
Prime Minister	20%	24%	.388	
Royal Family	14%	28%	.003*	.175
Other[12]	80%	62%	.538	
Type of letter				
Indirect threat	25%		.000**	1
Direct threat	49%			
Conditional threat	26%			
Details: Microfeatures and page lay-out features				
Handwritten	64%	73%	.126	
Digital	36%	28%		
Uppercase	43%	32%	.055	
Location and	19%	5%	.000**	.231

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[12] This category applied when there was reference s to organisations, minister, state secretaries, and members of parliament or other politicians. The reason why the sum is greater than 100 per cent is because several individuals received letters from more than one writer.

numbers[13]

Linguistic features				
Number of self-references	90%	84%	.258	
0-5	8%	14%		
6-10	2%	2%		
11-15				
Conjunctions[14]	47%	62%	.013*	.149
Background characteristics				
Cognitive distortion	67%	71%	.543	
Modi operandi[15]	54%	3%	.000**	.578
Incoherent language	75%	84%	.058	
Frame of mind, suicide	9%	15%	.115	
Fixation	6%	25%	.000**	.260
Confusion[16]	42%	73%	.000**	.320
Revenge	34%	13%	.000**	.253
Anger	50%	40%	.079	
Powerlessness[17]	9%	22%	.003**	.181
Cause fear	37%	0%	.000**	.493
Hatred	45%	9%	.000**	.418

The second analysis (Table 3, repeated letters) did not use the whole of the data file of letters (n=278), but only focused on those

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[13] Location, time, date and numbers have been combined.

[14] For example: while, after, except, because, as, so that, if, in case, provided that, unless.

[15] Examples mentioned in letters: firearms, stabbing weapons, explosives and for example powder letters in which the substance often turned out to be washing powder or flour. The modi operandi percentage for the other letters indicates that instead of a treat the letter featured a desire for intimacy, involving a description of what the writer would like to do to get close to someone.

[16] For example conspiracy thinking, when the writer is convinced they are being followed or bugged.

[17] For example, the writer indicates not being able to solve their problems on their own, leading to feelings of powerlessness.

individuals that wrote both types of threatening letters, i.e. with and without criminal content (n=150). The analysis on repeated letters is, therefore, an analysis at an individual level, in order to avoid improperly counting writers that were responsible for repeated letters more than once. For repeated letters the characteristics of the first letter were considered. For this analysis only letters with a known date were used. This step eliminated 17 letters from the dataset, so that the test set was n=133.

In the group of repeated letter writers (Table 3) there were, in comparison with the group of one-off letter writers (49%), relatively many people sending letters in longhand (72%). A minority of the group writing more than one letter issued a direct threat (13%), which is in contrast to the writers of a one-off letter, among whom threatening letters (also with a direct threat) were much more common (35%). Furthermore, when compared to one-off letters, repeated letters differed significantly in terms of negative emotions such as fixation (18% vs. 4%) and confusion (72% vs. 35%). These emotions occurred significantly more in the letters by writers writing more than one letter, and they were for 69% non-criminal letters. To summarise, then, there are differences between individuals who write once and individuals who write more than one letter. For the latter group, this concerns the characteristics of 'confusion' and 'fixation'. This group also stands out for the fact that its letters are generally in longhand and non-criminal in their content.

Table 3: Characteristics associated with repeated letters (n=133 persons)

Threatened persons	One-off letters n=94	Repeated letters n=39	$X^2(1)$	Cramer's V
Prime Minister	20%	28%	.315	
Royal Family	20%	28%	.315	
Other[18]	72%	59%	.282	

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[18] This category applied when there were reference s to organisations, minister, state secretaries, and members of parliament or other politicians. The reason why the sum is greater than 100 per cent is because several individuals received letters from more than one writer.

Type of letter				
Indirect threat	13%	10%		
Direct threat	35%	13%		
Conditional threat	15%	8%		
Non-criminal threatening letter[19]	37%	69%	.007**	.302
Details: microfeatures and page lay-out characteristics				
Handwritten[20]	49%	72%	.016*	.209
Digital	51%	28%		
Uppercase	30%	35%	.057	
Location and numbers[21]	16%	5%	.089	
Linguistic features				
Number of self-references	80%	87%	.600	
0-5	16%	10%		
6-10	4%	3%		
11-15				
Conjunctions[22]	48%	59%	.244	
Background characteristics				
Cognitive distortion	69%	77%	.366	
Modi operandi[23]	39%	18%	.017*	.207
Incoherent language	72%	77%	.585	

[19] On the whole, repeated letters were not threatening letters.

[20] The repeated letters were predominantly handwritten and to a lesser extent digital. This is a significant difference with one-off letters, where handwritten and digital letters were equal in numbers.

[21] Location, time, date and numbers have been combined.

[22] For example: while, after, except, because, as, so that, if, in case, provided that, unless.

[23] Examples mentioned in letters: firearms, stabbing weapons, explosives and for example powder letters in which the substance often turned out to be washing powder or flour.

Frame of mind, suicide	26%	13%	.106	
Fixation	4%	18%	.009**	.226
Confusion[24]	35%	72%	.000**	.335
Revenge	25%	18%	.413	
Anger	51%	41%	.292	
Powerlessness[25]	27%	21%	.460	
Cause fear	27%	8%	.015*	.211
Hatred	30%	21%	.273	

For the third analysis (Table 4) only those individuals (n=39) were selected that were arrested on suspicion of a criminal act after writing their first letter, and individuals (n=14) of whom it can be stated with certainty that they were not arrested for a criminal offence. Among the individuals arrested for a criminal offence, the emotion 'hatred' turned out to be significantly frequent (36% vs. 7%). For other negative emotions, however, no significant differences were found. Another significant characteristic that occurred more frequently for the group of writers arrested on suspicion of a criminal act in comparison to those that were not, is 'confusion' (67% vs. 36%). Also remarkable was the fact that the characteristics 'uppercase' and 'revenge' were not significantly more frequent by a small margin in the case of persons arrested on suspicion of a criminal act in comparison to persons who were not arrested. Contrary to expectation, fixation occurred less frequently with the group of arrested individuals (5% vs. 29%).

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[24] For example conspiracy thinking, when the writer is convinced they are being followed or bugged.

[25] For example, the writer indicates not being able to solve their problems on their own, leading to feelings of powerlessness.

Table 4: Characteristics associated with being a suspect in a criminal offence (n=53 persons)

Threatened persons	*Not a suspect n=14*	*Arrested for criminal offence n=39*		$X^2(1)$	*Cramer's V*
Prime Minister	14%	33%		.175	
Royal Family	50%	33%		.270	
Other[26]	43%	58%		.807	
Type of letter					
Indirect threat	7%	15%		.766	
Direct threat	22%	21%			
Conditional threat	7%	13%			
Non-criminal threatening letter	64%	51%			
Details: micro features and page lay-out characteristics					
Handwritten	50%	64%		.355	
Digital	50%	36%			
Uppercase	14%	42%		.061	
Location and numbers[27]	14%	5%		.266	
Linguistic features					
Number of self-references				.335	
0-5	93%	74%			
	7%	23%			

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[26] This category applied when there were reference s to organisations, minister, state secretaries, and members of parliament or other politicians. The reason why the sum is greater than 100 per cent is because several individuals received letters from more than one writer.

[27] Location, time, date and numbers have been combined.

6-10	0%	3%		
11-15				
Conjunctions[28]	71%	62%	.508	
Background characteristics				
Cognitive distortion	79%	82%	.775	
Modi operandi[29]	29%	23%	.682	
Incoherent language	79%	90%	.290	
Frame of mind, suicide	21%	21%	.942	
Fixation	29%	5%	.018*	.326
Confusion[30]	36%	67%	.044*	.277
Revenge	7%	33%	.057	
Anger	43%	51%	.589	
Powerlessness[31]	21%	28%	.622	
Cause fear	7%	8%	.947	
Hatred	7%	36%	.040*	.281

Logistic regression analysis (Table 5) was then used to investigate which characteristics in letters were risk-increasing, which made it possible to select for repeated letter writers and for individuals who would later be arrested on suspicion of a criminal offence, such as assault. For this analysis only the independent variables – i.e. predictor variables – were used in the model. The independent variables are from the categories 'background characteristics' and 'linguistic characteristics' (Table 1). The dependent variables are: threat yes/no,

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[28] For example: while, after, except, because, as, so that, if, in case, provided that, unless.

[29] Examples mentioned in letters: firearms, stabbing weapons, explosives and for example powder letters in which the substance often turned out to be washing powder or flour.

[30] For example conspiracy thinking, when the writer is convinced they are being followed or bugged.

[31] For example, the writer indicates not being able to solve their problems on their own, leading to feelings of powerlessness.

repeated letter yes/no, arrest on suspicion of criminal offence yes/no. For repeated letters (n=133) and for individuals arrested on suspicion of a criminal offence (n=53) the data sets were used that also served for the bivariate analyses. Because the model consists of a fair amount of independent variables (14)[32], for the first regression analysis for threat Cronbach's Alpha (α) was applied first to establish whether a number of variables could be collected in a single scale, in order to make the model better testable. From this test it emerged that the Cronbach's Alpha value for 'hatred-revenge' was α=0.653. For 'frame of mind-powerlessness' the value was α=0,656. This justified limiting the model (number of characteristics) for threat (going from 14 to 12 characteristics), by turning 'hatred-revenge' and 'frame of mind-powerlessness' respectively into two new scales.[33] In order to assess whether the threat contained in the first letter could also be a predictor for repeated letters, 'threat' was then used as a characteristic for the second regression analysis for persons that wrote more than one letter, so that the model (in the second column) used for testing counted 13 characteristics (instead of 12). For the analysis of repeated letters yes/no, again only the characteristics of the first letter were used. For the final regression analysis (third column) both the factors of 'threat' and 'repeated letters' were added to the model for being arrested on suspicion of a criminal offence. The goal here was to investigate whether these characteristics would improve the model, so that consequently the model for the third column counted 14 characteristics. Contrary to the first two regression analyses, which consisted of fairly large data sets (n=278, n=133), the method for this test was more exploratory and the forward Wald selection test was applied because the data set was considerably smaller (n=53) and the results were difficult to interpret as a result of multicollinearity.[34] Using

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[32] Characteristics with kappa lower than 0.5 were excluded from the analysis.

[33] For the other characteristics, the Cronbach's Alphas were lower than 0.450 and for that reason too unreliable for constituting new scales as well.

[34] Multicollinearity is a statistical phenomenon in which two or more predictive variables in a regression model show strong correlation, which means that at least one of them can be predicted on the basis of the model. Multicollinearity influences the calculation of coefficients, because in such cases the characteristics overlap at least partially.

the forward Wald selection test it was then tested in three steps which characteristics in this model were important (Lammers, 2007). In other words, the independent characteristics were added one by one, and for each it was tested whether the addition improved the model. This explains why the third column in Table 5 is relatively sparsely populated, which is due to the different selection procedure used for this test and the fact that the smaller data set used was the more accurate one. As a result this column contains only those characteristics for which tests have shown that they are significant predictors. The characteristics 'hatred-revenge' and 'confusion' in particular are significantly associated with the chance of being arrested on suspicion of a criminal offence. In addition, the characteristic of 'fixation' turned out to be less associated with those that were later arrested on suspicion of a criminal offence (Exp (B) <1). In the other analyses (Table 2, 3) fixation appeared mostly in connection with non-criminal threatening letters and with repeated letters. Furthermore the characteristic of 'confusion' turned out to be an important predictor for whether a letter writer would resort to writing more than one letter.

Table 5 Regression analyses:
threatening letters, repeated letters and arrest for criminal offences

	Threatening letter (n=278)		Repeated letter (n=133)		Arrest for criminal offence (n=53)	
Background characteristics	Exp (B)	Sig.	Exp (B)	Sig.	Exp (B)	Sig.
Cognitive distortion	,804	,594	1,127	,849		
Modi operandi	22,139	,000**	1,125	,870		
Incoherent language	1,515	,376	,584	,360		
Fixation	,520	,236	1,190	,823	,075	,025*
Confusion	,399	,014*	3,177	,034*	13,529	,005**
Hatred-revenge	5,521	,001**	1,400	,622	20,038	,032*

Anger	1,253	,539	,640	,403		
Powerlessness/ Frame of mind	,213	,018*	,335	,144		
Cause fear[35]			,414	,331		
Linguistic features						
Number of self-references	1,258	,583	,542	,262		
0-5						
6-10						
11-15						
Conjunctions	,700	,300	1,181	,727		
Details[36]	2,583	,012*	1,120	,806		
Added predictor variables[37]						
Threat			,307	,051		
Repeated letter						
Constant	,633	,777	3,067	,672	,031	,151
Nagelkerke R Square		,541		,293		,445
N		278		133		53

Conclusion and discussion

For persons who were arrested on suspicion of a criminal offence, this study has shown that the characteristics of 'hatred-revenge' and 'confusion' are predictor variables for these threateners.

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[35] The characteristic of 'cause fear' was difficult to calculate because of overlap with other coefficients. For that reason it was removed from the model so that the total number of characteristics in that column is 11 instead of 12.

[36] For the purpose of this analysis only microfeatures were assessed, including: uppercase, location, time, date, and numbers.

[37] For repeated letters in the second column the characteristic of 'threat' was added to the regression analysis as an independent variable in order to determine whether this characteristic might be significantly associated with repeated letter writing. For arrest for criminal offence the characteristics of 'threat' and 'repeated letter writing' were added. Both characteristics turned out not to be significantly associated with repeated letter writing and arrest for a criminal offence.

This result – the most important results of the regression analyses – can be used for selection purposes when assessing threatening letters and non-criminal threatening letters. The characteristic of 'confusion' is a relevant predictor variable to indicate whether someone will write more than one letter, and the characteristics of 'confusion' and 'hatred' together contribute to the chances that someone will be arrested in the future on suspicion of a criminal offence, such as assault.

This study referred to Pennebaker (2011) to interpret the relevance of conjunctions, detailed information and self-reference. In Pennebaker's theory, self-reference, detailed information and conjunctions are associated with exposing violent intentions. Conjunctions (non-criminal threatening letters) as well as detailed information (threatening letters) occurred significantly more often in the letters, but in follow-up analyses only the aspect of detailed information persisted as a factor in threatening letters.

Contrary to expectation, fixation turned out to be uncorrelated with threatening letters or to individuals arrested on suspicion of a criminal offence. In Meloy's theory (2001, 2011) fixation could play a role in carrying out an act. In the descriptive analyses, fixation was perceived as a significant characteristic in non-criminal threatening letters. Non-criminal threatening letters were mostly found with persons who wrote more than one letter, and who also significantly featured the characteristic of 'confusion'. This second group constituted half of this study, and requires the most care and attention of the authorities in charge of assessment, in view of the fact that they may require health care intervention. In the case of the descriptive analyses the characteristic of 'powerlessness' also turned out to occur significantly with writers of non-criminal threatening letters. Possibly, but this is hypothetical, for this group this characteristic is a contributing reason for writing letters repeatedly. Future research should therefore try to examine repeated letters for possible observable changes in the writer's frame of mind between the first and the follow-up letters. The characteristics of 'hatred-revenge' and 'confusion' emerged from the regression analyses of this study as the most strongly and significantly correlated with the chances of arrest on suspicion of a criminal offence. For repeated letters this characteristic proved to be

'confusion. These aspects persisted in the regression analyses and they may be relevant for the assessment of repeated letters and for individuals arrested on suspicion of a criminal offence. In the first place the aspect of confusion was found to be a significant predictor variable in 72% of repeated letter cases. Confusion also emerged in the descriptive studies of threateners, e.g. Fein et al. (1999), in which this aspect was found to be a possible match between threateners and perpetrators of violence. Fein et. al. based themselves on the personal backgrounds – available for threateners and for almost half of the perpetrators of violence – of those who carried out an attack on a public figure in the US in the past. Confusion was also present as a characteristic in a study of threatening letters addressed to the Dutch Royal Family (Van der Meer et al., 2012). The major part of letter writers examined in this study turned out to be known to or undergoing treatment at psychiatric clinics or other care institutions. The fact that confused letter writers may have a history with health care providers was also shown in a study into threats against the British Royal Family by James et al. (2009). According to the researchers, 80% of the tested individuals appeared to suffer from a psychiatric disorder, such as depression, psychosis, and schizophrenia, sometimes in combination with other factors like substance abuse and past violent behaviour.

The regression analyses also showed that acknowledging hatred or revenge as a motive for the letter correlates with a heightened chance of arrest on suspicion of a violent offence, which is in agreement with the theory of Chapman et al. (2009). The function of hatred is to rule out or eliminate certain objects, and in the literature it is seen as a dangerous emotion (Chapman et al., 2009; Ekman, 2008; Levenson, 2003). Hatred can be viewed as a moral emotion that is intrinsically motivating, i.e. there is a possible link between moral emotions and the motivation for action.

It may be appropriate to account for differentiation in these results. The personal circumstances of a threatener can change, and both internal and external changes can influence the question whether a threatener will send another email or letter. A threatening letter may have been written as the result of a particular combination of time and a set of circumstances, and the same caveat applies to the assessment of

a threatening letter's risk. Risk assessment is dynamic, and sometimes requires a renewed assessment when a repeat letter occurs (Jopeck, 2000). Although it was possible in this study to show for a small group whether, after writing a letter, an arrest on suspicion of a criminal offence like assault took place, it did not consider whether this action was directed at a public figure. The reason for this can be found in the focus of the study. The assault, for which someone may have been arrested, could also have been directed at someone who is not in the public eye. A study by Smith (2006) shows that a threatener often takes a course of action that is different from the one announced in the letter, or chooses a different person or object that is relatively unprotected or vulnerable. Not only assessors, but also security officials should be aware of the fact that writers of threatening letters could also target persons or objects that are not protected. Still, this study adds to the available knowledge regarding the phenomenon of threatening letters, in particular in the finding that non-criminal letters may require the most time and/or attention because of the possibility of repeated letters (69%). More than criminal threatening letters, this category also requires the most care and attention of the assessing authorities, in view of the fact that they may require health care intervention.

Recommendations

The first recommendation concerns the police and other organisations in the field of security: the characteristics identified in this study provide a procedural aid for the collection of information or for investigation. In theory the assessment is restricted to providing an estimation of the characteristics, so that it provides a cue for further investigation in order to arrive at a well-considered judgement. To that end it is important that also other available information can be requested, in order to create a case file.

The second recommendation has to do with organisations that work with largescale data or detection programmes. The digitalisation of society requires different ways of thinking and acting if threateners are to be identified at an early stage. The communication techniques of threateners change, and this requires innovative methods for practical efficient methods for data assessment. It is quite possible that detection

programs lack some of the nuances of a human approach, but testing for characteristics such as 'hatred-revenge' and 'confusion' could also be applied to large data files using the assessment protocol developed to that end. What is relevant here, is that assessors have complete access to all necessary information, and data analysis on deviant behaviour will contribute to this.

Recommendation three: make the methodology for assessing threatening letters a part of the training of assessors who as part of their work have to assess and process such letters on a day-to-day basis.

The fourth recommendation is for those that are threatened: file a police report. In order to have a clear view of the threats directed at politicians it is important that public figures report threats to the police. The reason for this is because the number of threats directed at public figures is much larger than the number of filed reports. The possibility of monitoring threats using a database would also provide insight into how frequent and over which extended period some threateners have been issuing threats.

The fifth recommendation is concerned with follow-up research intended to generalise the results of this study and apply them to the decentralised domain (civilians). In order to be able to generalise the results externally also to a larger group, it is advisable to repeat the study for external validation in the decentralised domain, such as local administrative authorities. This will also make it possible to investigate whether the characteristics in the assessment table show a certain degree of consistency (or pattern) that could also apply to larger groups of threateners that have been arrested on suspicion of offences (Bateman & Salfati, 2007). Furthermore this study noted frustration-aggression or emotional aggression in particular in the case of direct threats, with references in the threatening letter to an external provocative event that constituted the trigger for the letter and that expressed itself as causing fear (Kemper & Ruig, 2009). In the case of conditional threats also instrumental aggression was noted, wherein certain conditions were attached to obtaining a goal. More so than emotional aggression, instrumental aggression may be connected to action. Hypotheses that could be examined in follow-up studies, could include: (1) from which of these two groups was a perpetrator later

convicted for offences like assault, and (2) which rational conduct preceded the violence in order to, for example, obtain emotional benefit (Kruize & Wijmer, 1994)?

The sixth and final recommendation concerns fixation and creating a timeline. The characteristic of fixation was most frequent in this study in the case of repeated letters and in non-criminal threatening letters. In the literature fixation is associated with violent behaviour and it is a characteristic that overlaps with stalking (Brandt, 2012), with a pattern of harassing and disturbing letters, emails, or packages that are perceived by the person being threatened as frightening (MacKenzie, et al., 2009; Rugala et al., 2004). Repeated letters are therefore very relevant for follow-up studies, also from the point of view of the person being harassed; these letters will, after all, have an impact on the social and private life of someone being threatened. In those letters the characteristic of fixation was most frequent, in addition to the non-criminal threatening letters. The frequency of threatening communications by someone can be plotted on a timeline that provides insight into the progress and contents of the communications (Van der Meer & Diekhuis, 2013). A timeline can be used to map changes in frame of mind or language use. A first contact could, for example, develop out of frustration or a disorder and eventually result in a specific threat directed at a politician or other public figure. A follow-up study could focus on the characteristics of the second threatening letter and any other letters written by the same person, and compare the results.

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Appendix[38]

Cohen's Kappa

Name of variable	Cohen's kappa
Cognitive distortions justification	.618
Cognitive distortions black-and-white thinking	.645
Cognitive distortions distrust	.759
Cognitive distortions exaggeration of events	.731
Incoherent language	.696
Emotionel outburst	.673
obtain concrete interests	.641
defend acquired rights	.67
Revenge	.587
Cause fear	.718
Fixation	.628
Confusion	.806
Social isolation	X
Unknown	X
Hatred / revulsion	.689
Anger	.694
Powerlessness	.932
Personal loss / negative coping	.602
Pain*	X
Pain / hurt	X
Pain / sacrifice one's life for a purpose	.494
Burdoned frame of mind or suicidal	.936

[38] Note: the X in the table indicates that SPSS was unable to calculate the kappa, because the variable was a constant. The variable pain (hurt) for example, was not observed in the letters by either assessor 1 or assessor 2, and both scored this aspect as 'absent'. Some characteristics were operationalized as sub characteristics in order to improve their measurability, such as cognitive distortions, modi operandi, and references to other persons, negative coping, positive coping, and anger. This explains the number of characteristics. For the characteristic of 'self-reference' ('I') no kappa was calculated, instead counting the number of self-references for each ten lines of the letter. Consequently, a kappa was only calculated for nominal or categorical variables.

tendencies	
Remorse	X
Threats	.817
Media threat	X
Financial compensation	.628
Location	.642
Date	X
Time	X
Numbers	X
Modus operandi firearms	1
Modus operandi stabbing weapon	X
Modus operandi explosives	1
Modus operandi nuclear weapons	1
Modus operandi vice	X
Modus operandi other	.73
Modus operandi absent	.801
Prosocial engagement	.401
Positive coping	.482
Reference to parents	X
Reference to siblings	X
Reference to other next of kin	X
Reference to own children	1
Reference to spouse	1
Reference to friends	X
Reference to psychiatrist	X
Reference to therapist	.656
Reference to other close persons	1
Reference to other persons	.909
Conjunctions	.802
Terms of abuse	.845
Uppercase / bold	.703