Identifying Common Behavioural Traits of Lone-Wolves in Recent Terrorist Attacks in Europe

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Abstract—This article attempts to analyse behavioural traits of lone-wolves who struck and killed innocents in six different attacks in Europe in last nine months. The main objective of this study is to develop a profiling template in order to capture commonality of characteristics of these attackers. This study tries to understand the homogeneity of lone-wolves in terms of their social background and state of mind. The commonality among them can possibly be used to build a profiling template that could help detecting vulnerable persons who are prone to be self-radicalised or radicalised by someone else. The result of this study provides us an understanding of their commonality in terms of their state of mind and social characteristics.

Keywords—Behavioral pattern, terrorism, profiling, commonality.

I. INTRODUCTION

THE last six attacks in Europe in past nine months alarmingly demonstrate the growing threat posed by individuals who self-radicalise without direct interactions with any specific terrorist organisation. These individuals are called lone-wolves who are unpredictable, living next door and plotting to launch deadly strike anytime without any specific target [1]. Lone-wolf is extremely difficult to be detected, profiled, and defended against. These attacks demonstrate the very fact that it is profoundly important to understand the psychology and socioeconomic traits of terrorists who seem ordinary people with ordinary needs and ordinary limitations just like other non-terrorist individuals. A systematic analysis of these six terrorists in terms of their behavioural traits could reveal some commonality of their psychopathological as well as sociological attributes. The objective of this paper is to build a commonality map that could possibly be used to identify potential victim for self-radicalisation or radicalisation by someone else. However, enough care should be taken to ensure that such a pattern may not exhibit generalisation of all potential *to-be terrorists*.

The topic of profiling terrorists is so far characterised by theoretical speculation largely based on observations of demographic data. The most popular demographic profiling parameters are race, gender, age, religion, origin, and so on. Multiple theories and demographic data have been published based on profiling potential terrorists, but these approaches are found not to have very useful impact in identifying victims for potential radicalisation from a societal population [3]. Psychometric study could analyse characteristics of terrorist such as socio economic background, general traits, ideology, level of religiousness, marital status, family issues, childhood, perception about their surroundings and society. Terrorists may share numerous common sociological traits which could lead to build a profiling pattern. Very few studies have been conducted examining the commonalities of psychological and social bases of individuals in order to separate the future *to-be-terrorist* from others.

Trying to understand the actual motivations of lone-wolves is not the objective of this article, rather it is more important to stop vulnerable persons from being self-radicalised or radicalised by someone else. This is because finding actual motives could invariably lead away from the real-time actions of the offenders as they carry out attacks [2]. There is a fundamental difference between a lone-wolf and a common criminal. Lone-wolves are far more committed to their intentions than are common criminals. These individuals are motivated by their distorted perception about their surroundings, whereas normal criminals are driven by greed. A terrorist always has a 'moral' claim in order to justify his/her violent activities, and expects to publicise their acts [4]. A normal criminal does not have any such claim to be known to others.

The approach used in this study is twofold. First, the study examines behavioural aspects of individual lone-wolf. Second, the study seeks to develop a profiling template that could capture the psychological and sociological commonality of these lone-wolves. A profiling template can be used to assess motivations, likely behaviour, vulnerabilities of individual, pattern of their psychological states.

The world has witnessed a pattern of characteristics of attackers who are perpetrating major terrorist incidents. The preliminary results signify the fact that a new type of attacker with some common sociological and psychological traits have recently emerged. These attacks demonstrate how the terrorist profile has changed in recent days, and how these six attackers share a common pattern of behavioural attributes. This article is organised as follows. The next section outlines the methodology used in this study. Section III reports the preliminary results of the study. Section IV closes the paper with concluding remarks.

II. THE METHODOLOGY

This research is primarily based on case studies of six recent terrorist attacks. This study has collected a large amount of information related to the following lone-wolves involved in those attacks.

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- Lahouaiej-Bouhlel (*Nice attacker, July 14, 2016*);
- Anis Amri (*Berlin attacker, December 19, 2016*);
- Ziyed Ben Belgacem (*Paris Orley Airport attacker, March 18, 2017*);
- Khalid Masood (*London attacker, March 22, 2017*);
- Rakhmat Akilov (*Stockholm attacker, April 7, 2017*);
- Karim Cheurfi (*Champs Elysees attacker in Paris, April 20, 2017*).

The study has systematically collected reports from media, interviews of family members of the terrorists, and investigators' briefings. The research questions that this study attempts to address are:

- Do these lone-wolves exhibit any common psychological traits and sociological backgrounds?
- Can a profiling template be developed to identify vulnerable individuals who could be easily self-radicalised or radicalised by someone else?
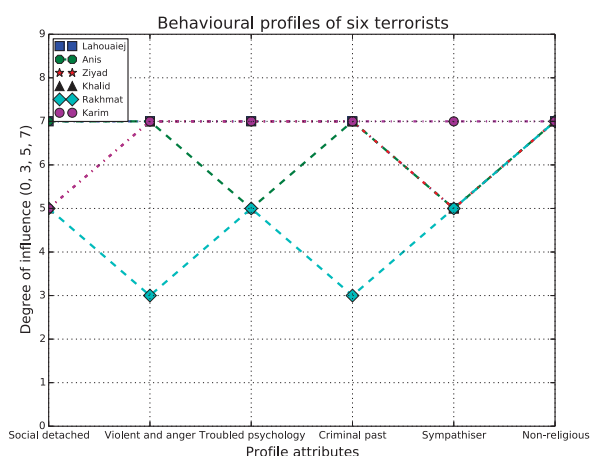

Fig. 1 Comparative profiles of six attackers

This article primarily focuses on the first research question. It uses several attributes of terrorists to profile them. For each attribute, we assign a score out of a set of discrete value $\{0, 3, 5, 7\}$ where 0 signifies no influence of a particular attribute; 3 means low influence; and 5 denotes significant influence; and 7 represents very significant influence of the attribute. The attributes are outlined below:

1) *Social detachment*: The relationship of the terrorist with his surroundings is captured in this attribute. The degree of his distant from the nearest family members, friends, colleagues, and neighbours. It also measures how little is known about this individual by his neighbours. If the detachment is high, the score of 7 is assigned. If the individual is very social, the score 0 is assigned.
2) *Violent and anger*: The individual may have a trail of violence and anger towards his colleagues, family members, or occasionally to anyone who came to his contact. This attribute records the level of such behaviour such as 7 means the person is very violent.
3) *Troubled psychology*: This captures how predictable the behaviour of the individual was, and if he had any weird

personality, or troubled relationship, or if he had any known psychological disorder.
4) *Criminal past*: This attributes represents if the person had any previous non-terrorism related criminal record, was known to police, or prisoned.
5) *Sympathiser*: This attribute records if the individual was sympathetic to terrorists ideology, actively explored or tried to acquire terrorism related materials, but did not have any formal relationship with any terrorist organisation.
6) *Non-Religious*: This measures the degree of involvement in religious practices. This attribute captures if the individual genuinely followed the decree of any religion. Score 7 signifies that the person was not religious at all, rather his activities were against the decree of his religion.
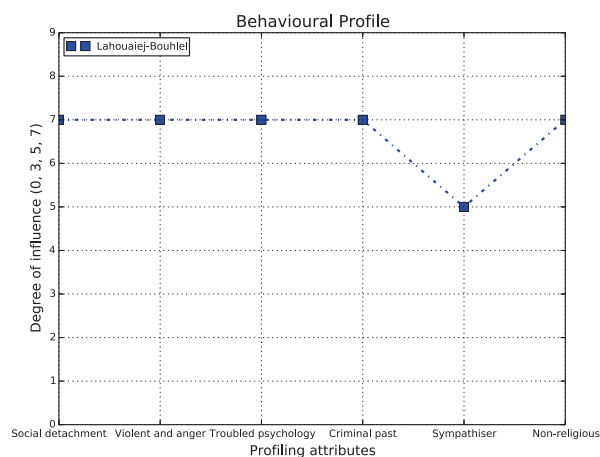

Fig. 2 Profile of Lahouaiej-Bouhlel: Nice, France attacker

III. PRELIMINARY RESULTS

The preliminary results of the study suggest that evolving social and psychological attributes significantly contribute to the genesis of the terrorist mindset. Table I depicts the behavioural profiles of the six lone-wolves. We have assigned scores to six attributes of each individual. The comparative profiles of these attackers are plotted in a graph shown in Fig. 1. It shows that most of the profiles are overlapping due to closeness of properties. Only Rekhmat has less overlapping with others in two attributes, namely, *Violent and anger* and *Criminal past*.

Lahouaiej-Bouhlel was 31 years old, divorced and a father of three. He was described as a depressed, unstable, violent and aggressive 'loner.' He had a nervous breakdown, and he was seeing psychologists for several years. He did not have any direct contact with any terrorist organisation. He had five prior criminal offences including armed violence. Lately, he searched Internet for jihadists propaganda chants. He was not interested in religion, did not pray, and never observed Ramadan. He was the lone attacker in Nice, France, killed 84 people, and was killed by police. Fig. 2 captures the profile of Lahouaiej-Bouhlel.

TABLE I
BEHAVIOURAL PROFILES OF SIX LONE-WOLVES

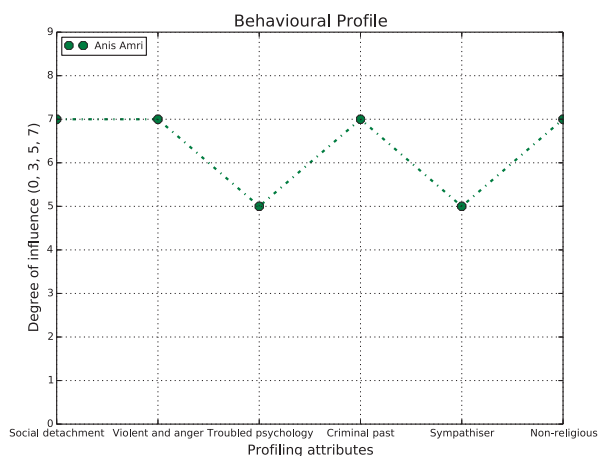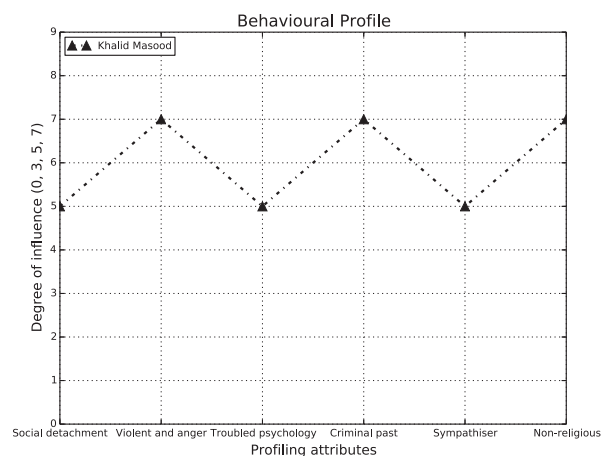|	Social detachment	Violent and anger	Troubled psychology	Criminal past	Sympathiser	Non-religious	Total
Lahouaiej-Bouhlel	7	7	7	7	5	7	40
Anis Amri	7	7	5	7	5	7	38
Ziyed Ben Belgacem	5	7	7	7	5	7	38
Khalid Masood	5	7	5	7	5	7	36
Rakhmat Akilov	5	3	5	3	5	7	38
Karim Cheurfi	5	7	7	7	7	7	40

Fig. 3 Profile of Anis Amri: Berlin attacker

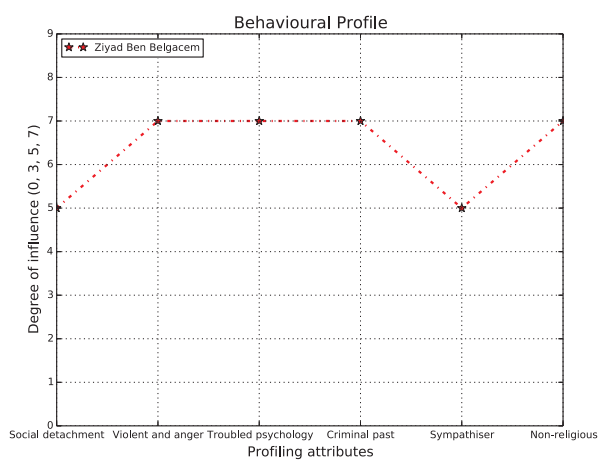Fig. 5 Profile of Khalid Masood: London Westminster attacker

Fig. 4 Profile of Ziyad Ben Belgacem: Paris Orley Airport attacker

in jail and probably radicalised there. He was earlier suspected for Islamic radicalisation, but no evidence was found. He was not a practicing Muslim. He attacked on a patrolling law enforcement personnel at Paris Orley Airport, killed none. He was killed by police. Fig. 4 expresses his profile.
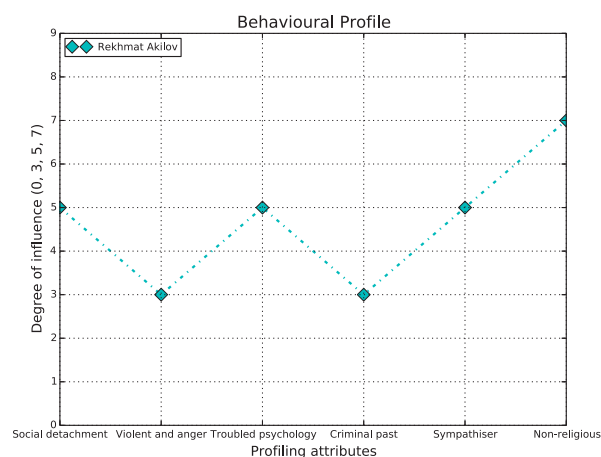

Fig. 6 Profile of Rekhmat Akilov: Stockholm attacker

Anis Amri was 24 years old, single, and had a reputation for violence and intimidation. He had known links with extremists. He was known to police for his interests, and had apparent connection with extremists entities, but he was not a formal member of any such cell. He had prior record of criminal activities and was jailed. He was not religious at all. Anis killed 12 innocent people in Berlin, Germany, and was later killed by police in Italy. His profile is plotted in Fig. 3.

Ziyad Ben Belgacem, a 39 years old male, single, was a drug addict, involved in drug trafficking, serial offender with psychological problems, and had violent past. He was known to police for multiple offences on his criminal record. He was

Khalid Masood, plotted in Fig. 5, was 52 years old, raised as Adrian Aiao, married with children, and had a reputation of simmering anger and violent behaviour. He was involved in drug dealing and addiction. He had criminal records, and was jailed several times, but not directly related to terrorisms. He was known to law enforcement agencies. Lately, he sometimes visited mosque but prayed in odd occasion. He was reported

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not being a religious person. He was the lone attacker in Westminster, London, killed 6 people. Later he was shot dead by police.
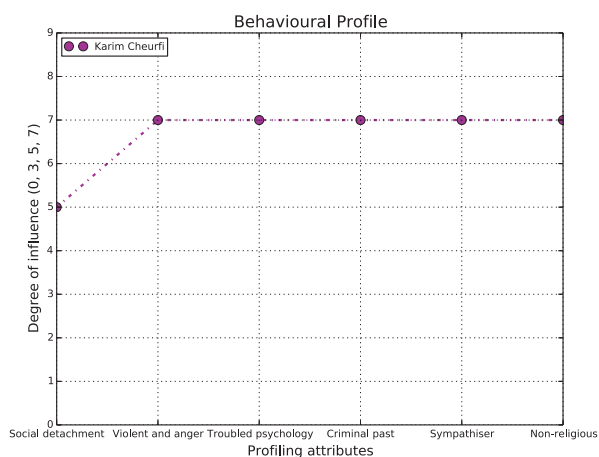

Fig. 7 Profile of Karim Cheufri: Champs Elysees (France) attacker

Rekhmat Akilov, 39 years old, married, and has children. He was known to police due to his residency issue. He was a reserved person, not very social. He had an interest in extremist propaganda sites linked to ISIS. He usually partied and drank. He was described as not being religious. Much details of Rekhmat are not known yet because he is currently in police custody. Fig. 6 depicts his profile.

Karim Cheurfi, 39 years old, single, opened fire at police on Champs Elysees in Paris killing one police officer. He was reported as a naive, deeply troubled and psychologically fragile person. He had a long criminal record, took part in theft, and was in prison for more than one decade for attempted murder. He tried to make contact a combatant involved in terrorist activity in overseas. He was characterised as a potential sympathiser to terrorist activities. He was excessively violent. He was not religious. His profile is seen in Fig. 7.

All these attackers have some striking similarities in terms of their psychological and social states. These are outlined below:

- Most of them were 'isolated' or withdrawn from their surroundings. Neighbours knew very little about these individuals. They kept themselves distant from their neighbours and colleagues.
- Five of these have violent past and anger. Most of these attackers except Rekhmat had bad temperament and created troubles either with family members or colleagues.
- They have prior criminal record. All except Rekhmat were jailed in the past due to criminal activities. Rekhmat had issues with immigration matters. All of them were known to police. Each of them had issue with local law enforcement agencies, mostly related to criminal activities or immigration matters.
- All of them had interests in extremist sites in one or another occasion. These attackers were either sympathetic to terrorist activities or actively explored terrorism related

materials. None of these were direct member of any terrorist cell.
- All were described as being non-religious. They did not perform or observe religious activities. Some of these terrorists used to drink, take drugs, sleep with multiple partners which are against the doctrine of their religion.
- Five of them are above 30 years old. Three of these are married and have children.
- None of them were suicidal.

In order to use the proposed profiling template, it is important to set the threshold of the total score. If an individual exceeds a threshold, he/she may need further assessment if the person needs to be monitored. Once a person exceeds the threshold score, the person may need assistance so that he/she does not fall in the trap of radicalisation. Various methods are available to discourage them from being radicalised. A potentially protective factor such as providing him/her a new social role and sense of identity could reduce the risk of engagement and interested in radical ideology [5]. The Dutch re-integration initiative was found to be useful for both disengagement and deradicalisation [6].

IV. Conclusion and Further Work

This study is a genesis for a template-based approach towards systematically identifying potential victims before they are radicalised. This study is based only on information we collected from media reports. We will conduct a more detailed analysis of comprehensive data (such as police reports) related to individual attackers in order to establish more common patterns of their psychological and socioeconomic traits. We anticipate that the results of the comprehensive study will help us identify more factors that influence and determine terrorist behaviour - resulting in to a template of behaviours. We also note that the contribution of each of the six factors to the computation of terrorist behaviours may not be the same. For this reason we will investigate the possibility of strengthening the behavioural metrics we have identified by examining the effect of assigning an importance weight (out of 100%) to each attribute compared to the other five attributes. Adding all six weights together always gives 100%.

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