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LONE ACTOR TERRORISM: PATTERNS, TRENDS AND REFLECTIONS ON ITS IMPACT ON PUBLIC PERCEPTIONS OF (IN)SECURITY

TERRORISMO DE ATOR SOLITÁRIO: PADRÕES, TENDÊNCIAS E REFLEXÃO SOBRE O IMPACTO NO SENTIMENTO DE (IN) SEGURANÇA

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Abstract

This theoretical-empirical study examines lone-actor terrorism, which is characterised by attacks carried out by individuals with no formal ties to organised groups, and reflects on its impact on public perceptions of insecurity. The methodology combines a critical review of existing literature with an analysis of data on unaffiliated attacks, focusing on frequency, modus operandi, lethality, targets and location. The data, which covers the period from 1997 to 2020, was obtained from the Global Terrorism Database (GTD). The analysis revealed that, while unaffiliated terrorist attacks represent only 0.5% of global terrorism incidents, their frequency has increased in recent years, particularly in Western nations. Despite being statistically infrequent, these attacks have a heightened psychological and social impact due to their unpredictability and widespread coverage in the media, which contribute to a perception of insecurity that far exceeds the actual level of threat. These findings highlight the need for comprehensive preventive strategies, including strengthening social cohesion, promoting media literacy and monitoring individual radicalisation processes. By enhancing our understanding of the role of decentralised terrorism in amplifying public perceptions of insecurity, this study offers valuable insights that may inform future research and contribute to the development of more effective public policies.

Keywords: Terrorism; lone-wolf terrorism; lone-actor terrorism; unaffiliated terrorist attacks; insecurity; Global Terrorism Database.

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Resumo

Esta análise teórico-empírica tem por objetivo caracterizar o terrorismo de ator solitário, um fenómeno protagonizado por indivíduos não afiliados a grupos organizados, e refletir sobre o seu impacto no sentimento de insegurança. A metodologia combina revisão crítica da literatura com uma análise de dados sobre ataques levados a cabo por indivíduos não afiliados a qualquer organização terrorista, considerando frequência, modus operandi, letalidade, alvos e distribuição geográfica. Os dados, extraídos da Global Terrorismo Database (GTD), dizem respeito ao período 1997-2020. Os resultados indicam que o terrorismo não-afiliado representa 0,5% do total dos ataques perpetrados, com um aumento nos últimos anos, principalmente em países ocidentais. Apesar da sua baixa prevalência, a imprevisibilidade e a elevada cobertura mediática potenciam o impacto psicológico e social deste fenómeno, contribuindo para um sentimento de insegurança desproporcional à ameaça real. As conclusões apontam para a necessidade de estratégias preventivas integradas que incluam a promoção da coesão social, a literacia mediática e a monitorização da radicalização individual. Este estudo contribui para aprofundar o conhecimento acerca da relação entre terrorismo descentralizado e perceções públicas de insegurança, oferecendo insights valiosos para o desenho e a implementação de políticas públicas mais eficazes e para futuras investigações sobre o tema.

Palavras-chave: *Terrorismo; terrorismo de ator solitário; terrorismo não-afiliado; sentimento de insegurança; Global Terrorism Database.*

1. Introduction

In recent decades, terrorism has become increasingly complex and unpredictable. The emergence of individuals who operate independently, motivated by extremist ideologies or personal grievances, without direct guidance from hierarchical organisations (Bakker & De Graaf, 2011; Spaaij, 2010), has led to the concept of "lone-actor terrorism", "lone-wolf terrorism" or "freelance terrorism". These terms describe terrorist acts carried out by individuals or small groups with no formal ties to terrorist organisations.

Lone-actor terrorism represents a significant shift in the global terrorism landscape. Unlike attacks orchestrated by organised groups, those carried out by lone actors are generally harder to detect, more unpredictable, and can have profound psychological and social destabilising effects (Spaaij, 2010). Their decentralised nature and inherent unpredictability amplify feelings of insecurity, even in regions where the actual risk is statistically low (Jackson, 2005). In reality, this sense of insecurity is not purely determined by the objective likelihood of an attack, but also by the public's subjective perception of danger and vulnerability (Innes, 2004), which is often skewed by media narratives, political rhetoric and social media. These distortions help create a pervasive atmosphere of fear that influences public policy, security strategies and social cohesion (Altheide, 2006; Hartleb, 2020). As a largely invisible, unclassifiable and empirically under-explored phenomenon, lone-actor terrorism becomes a powerful trigger for these fears.

This study examines the phenomenon of lone-actor terrorism (also referred to here as lone-wolf terrorism, unaffiliated actor terrorism and freelance terrorism), which involves terrorist acts carried out by individuals or small groups who operate independently of formal terrorist organisations, even though they may share similar motivations or ideological beliefs. The analysis relies on empirical data from the Global Terrorism Database (GTD), spanning all incidents worldwide between 1997 and 2020. The starting point of 1997 was selected because it marks the beginning of systematic data collection on attacks carried out by unaffiliated individuals. The study concludes in 2020 to maintain data consistency, as a new data coding methodology was introduced in 2021, which could compromise comparability. The GTD was the primary source for the quantitative data used in the longitudinal and comparative analysis.

This article aims to offer insights into an emerging phenomenon – lone-actor terrorism – and its impact on public perceptions of insecurity. The study has two main objectives: (1) to examine the key characteristics of lone-actor terrorism and distinguish it from traditional forms of terrorism; and (2) to draw a theoretical link between lone-actor terrorism and its role in shaping societal feelings of insecurity.

The characterisation of terrorist attacks was based on data drawn from the GTD, the most extensive database of terrorist incidents[1] (LaFree, 2010, 2015). Covering global terrorist events from 1970 to 2020, the GTD offers detailed information on each occurrence. This theoretical and empirical approach aims to offer insights into lone-actor terrorism and examine how it may amplify societal perceptions of insecurity.

This study responds to the growing need for a systematic and empirical analysis of lone-actor terrorism, a phenomenon that, despite representing only a small fraction of all terrorist incidents (Spaaij, 2010), has seen an increase in recent years. Its decentralised nature, the independence of its perpetrators and their lack of formal ties to established organisations make it particularly challenging to detect and prevent (Bakker & De Graaf, 2011; Spaaij, 2011), as well as highly effective at causing psychological and social disruption (Jackson, 2005). By examining its defining characteristics and its impact on public perceptions of insecurity, this study seeks to contribute to the development of more effective prevention and intervention strategies.

This article is organised into seven chapters. After this introduction, Chapter 2 outlines the conceptual framework and traces the historical evolution of terrorism, focusing on four key themes: terrorism typologies; lone-actor terrorism; the relationship between terrorism and perceptions of insecurity; and the impact of terrorism on contemporary societies. Chapter 3 reviews the current state of research on lone-actor terrorism, summarising the findings of various studies on the profiles of perpetrators and the characteristics of such attacks. Chapter 4 describes the methodology used to analyse terrorist incidents between 1997 and 2020,

[1] The Global Terrorism Database (GTD), from which the terrorism-related data were sourced, is a comprehensive, publicly accessible database that tracks over 200,000 terrorist incidents worldwide since 1970. It is maintained by the National Consortium for the Study of Terrorism and Responses to Terrorism (START), based at the University of Maryland. The data are compiled from journalistic sources, government reports and academic research.

detailing the data sources, selected variables and analytical procedures. Chapter 5 presents the research findings, which are further discussed in Chapter 6. Chapter 7 contains the final reflections.

2. Terrorism: conceptual framework and historical evolution

Terrorism, as defined by Schmid (2011), is a form of political struggle that employs the threat or use of violence to instil fear and coerce an audience that extends beyond its immediate victims.

The impact of terrorism is more far reaching than the immediate physical damage to people or infrastructure. It undermines economic activity, deters foreign investment, weakens institutional stability and diminishes both personal and collective perceptions of security (Frey et al., 2007; Pinto, 2021). By provoking emotions such as panic, fear, anger and anxiety, terrorism also exploits psychological and symbolic dimensions (Loza, 2007). As such, terrorism is a political, psychological and sociological phenomenon defined by the deliberate use of violence to coerce, intimidate or pressure governments or populations into complying with political, ideological or religious demands. Ultimately, its goal is to drive political and social change by intentionally cultivating instability and fear across governmental, economic and psychological spheres (Eminue & Ufomba, 2011; Frey et al., 2007; Jones & Libicki, 2008).

While terrorism remains a relatively rare phenomenon in Portugal, it continues to shape international daily life, compelling governments to prioritise public policies focused on prevention and response. Such policies must not only ensure objective security but also safeguard the subjective well-being of the population. As Hobbes (2019 [original 1651]), argued, the perception of security is a cornerstone of the social contract and a fundamental pillar of the state and the rule of law.

Understanding the history of terrorism and its evolving manifestations is essential to contextualise the emergence of individualised forms of terrorism such as lone-actor attacks. By examining its evolution and typologies, we can identify emerging trends, core motivations and operational tactics. This historical perspective lays a strong foundation for exploring how terrorist acts shape public perceptions of security – and insecurity.

2.1. Terrorism: evolution and classification

Throughout history, terrorist tactics have evolved in tandem with social and technological changes by continually adapting and introducing new methods of operation and propaganda. This dynamic evolution has prompted scholars to develop various ways to categorise terrorism based on distinct criteria (Marsden & Schmid, 2011). For example, Piazza (2009) distinguishes between universal (or abstract) terrorism and strategic terrorism. Universal terrorists are motivated by broad ideologies and symbolic objectives, often carrying out indiscriminate attacks that result in higher casualties. Strategic terrorists, on the other hand, pursue concrete political or territorial goals, using violence as a means to achieve specific outcomes.

This dichotomic classification (universal vs. strategic) is one of many frameworks used to classify terrorist activities. Other approaches categorise terrorism based on political

ideologies, targets, methods, strategies or the underlying motivations driving such acts (Schmid, 2011).

The *Routledge Handbook of Political Research* includes a chapter on the typologies of terrorism (Marsden & Schmid, 2011), which addresses both the challenges of categorising terrorism and the importance of these classifications, but also notes that their usefulness depends on the intended audience, whether researchers, counterterrorism experts, government officials, lawyers or policymakers. One classification proposed in the book is based on the typology developed by Löckinger (2005, cited in Marsden & Schmid, 2011), a scholar under the supervision of Schmid. Löckinger's typology organises terrorism by the actors involved, the means and methods used, by motives and by geographic range.

Löckinger (2005, cited in Marsden & Schmid, 2011) identifies three primary forms of terrorism based on the **actors involved**:

- State terrorism[2]: the use of terror by a state (through the government, the military, the police or intelligence services) to instil fear and maintain control over the population (Schmid, 2011). Historical examples include authoritarian regimes and dictatorships that employ tactics such as disappearances, torture or massacres like the ones that took place during the "Dirty War" in Argentina;
- State-sponsored terrorism: the state does not use violence directly, but provides logistical assistance, training, funding or sanctuary to terrorist groups (Schmid, 2011). A contemporary example is Iran's backing of Hezbollah in Lebanon.
- Revolutionary terrorism: this category includes groups whose goals are to overthrow governments or transform social, political or ideological systems (Schmid, 2011). It encompasses more "traditional" form of terrorism. However, from an analytical perspective, we argue that it may be more accurate to classify it as non-state terrorism, as the word "revolutionary" emphasises the ideology, rather than the relationship with the state.

Löckinger (2005, cited in Marsden & Schmid, 2011) also classifies terrorism based on the **means or methods used:**

- Suicide terrorism: attacks in which the terrorist kills him- or herself as part of the operation, using their own body as a weapon. Examples include attacks carried out by the Islamic State in conflict zones (Schmid, 2011). While some scholars, including Pape (2006), argue that suicide terrorism is a method rather than a type of terrorism, others, such as Löckinger (2005, cited in Marsden & Schmid, 2011), view it as a separate category due to its impact and distinctive operational logic.
- Cyber-terrorism: the use of digital technologies to sabotage systems, steal information or disrupt critical infrastructure (Dyson & Dyson, 2014; Schmid, 2011; Weimann, 2012).

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[2] The concept of State Terrorism is contentious, as not all scholars or states classify government actions as terrorism. This is one of the reasons why such incidents are excluded from most terrorism databases.

– CBRN terrorism (Chemical, Biological, Radiological, and Nuclear): attacks in which chemical, biological, radiological or nuclear weapons are used to target populations (e.g. anthrax attacks) (Price & Price, 2009; Schmid, 2011; Tucker, 2000; Woloszyn, 2006).

Terrorism can also be categorised based on the **motives** behind the attacks:

– Religious terrorism: terrorism driven by extremist interpretations of religious doctrines (Rapoport, 2002; Schmid, 2011; Woloszyn, 2006), exemplified by groups such as Al Qaeda and the Islamic State;
– Narco-terrorism: a concept introduced to describe the atrocious nature of attacks by drug traffickers on security forces, which encompasses the use of terrorist methods by drug traffickers, cooperation between drug traffickers and terrorist groups and terrorism organisations financing themselves by trafficking – e.g. the Medellín Cartel, led by Pablo Escobar, and the *Fuerzas Armadas Revolucionarias de Colombia (*FARC) (Schmid, 2011);
– Political terrorism: the use of terrorist tactics to destabilise governments by revolutionary or dissident groups (Hoffman, 2017; Schmid, 2011; Woloszyn, 2006). Löckinger (2005, cited in Marsden & Schmid, 2011) divides political terrorism into three subgroups: "left-wing terrorism" seeks to overthrow capitalist systems and replace them with a socialist or communist regime (Meade, 1989; Schmid, 2011) – e.g. the attacks carried out by the Red Brigades (Meade, 1989); "right-wing terrorism" is often driven by anti-system, supremacist, xenophobic or nationalist ideologies (Michael, 2012) – in Portugal, Operation "Desarme 3D" (June 2025) led to the arrest of six individuals associated with the far-right group *Movimento Armilar Lusitano*, suspected of involvement in terrorist activities[3] (Polícia Judiciária, 2025); "single-issue terrorism" is dedicated to a specific cause, such as environmental (e.g., the Earth Liberation Front) or anti-abortion (e.g., the Army of God) activism.

Terrorism can also be categorised based on its **geographic range**:

– Domestic terrorism: attacks on domestic targets planned, financed and executed by local individuals or groups (Schmid, 2011) – e.g. the Irish Republican Army (IRA);
– International terrorism: attacks that involve more than one country, whether by the perpetrators' origins, the targets or the political repercussions (Schmid, 2011), such as the September 11 attacks in the United States, which were orchestrated from Afghanistan.

In recent decades, there has been a significant rise in decentralised and autonomous forms of terrorism in which attacks are carried out by individuals operating alone, without support from established terrorist networks (Bakker & De Graaf, 2011; Hartleb, 2020; Spaaij, 2011). These lone actors are often inspired by extremist ideologies, online rhetoric or causes promoted by organised groups (Hartleb, 2020; Nesser & Stenersen, 2014). Even

[3] The detained individuals are also accused of inciting violence and spreading hatred, as well as possessing illegal weapons, reportedly manufactured using 3D printers. During the operation, authorities seized explosives, firearms, ammunition and propaganda materials (Polícia Judiciária, 2025).

though Löckinger (2005, cited in Marsden & Schmid, 2011) does not include lone actors in his "actors involved" category, more recent research recognises lone-actor terrorism as a distinct phenomenon characterised by its independence from formal organisations, yet often driven by motivations aligned with broader terrorist causes, whether political, religious or single-issue (Hoffman, 2017). Given this evolution, it may be useful to expand the typology of terrorist actors by introducing a fourth category specifically for lone actors. Alternatively, as Wilkinson (1979) proposes, a sub-category of *sub-revolutionary terrorism* that pursues goals less ambitious than overthrowing the state.

2.2. Lone-actor terrorism

Most terrorism typologies have focused on organised, collective actions by groups that relatively structured, with defined internal hierarchies, financing channels and shared objectives. However, in recent decades, there has been a significant rise in decentralised attacks by individuals operating alone, without support from established terrorist networks (Bakker & De Graaf, 2011; Hartleb, 2020; Liem et al., 2018; Spaaij, 2011), who may still be inspired by extremist ideologies, online rhetoric or causes promoted by organised groups (Hartleb, 2020; Nesser & Stenersen, 2014).

The literature employs a variety of terms – such as "lone-actor terrorism," "lone-wolf terrorism" or "freelance terrorism" (particularly in Portuguese-language sources) – to describe these attacks, often interchangeably and inconsistently (Jah & Khoshnood, 2019). This terminological variation highlights the lack of consensus on the precise definition of a "lone actor." The term "lone wolf" has faced particular criticism. Hamm and Spaaij (2017) argue that it is primarily a media construct and a product of radical political discourse, rather than a concept grounded in social sciences or legal terminology. On the other hand, Joosse (2017) sees the shift towards "lone actor" in recent literature as a positive development, as it avoids the rhetorical and exaggerated connotations associated with the "lone wolf" metaphor. Similarly, Schuurman and Carthy (2023) favour the term "lone actor", noting that "lone wolf" implies a exceptional lethality and cunning, qualities that are rarely observed in such individuals or their attacks.

This lack of consensus is apparent not only in the definitions of these terms but also in the typologies used to classify them. Some definitions require that individuals act entirely alone, while others permit limited external support or prior ties to terrorist groups, provided the attack itself is carried out autonomously (Hamm & Spaaij, 2017; Kenyon et al., 2023; Liem et al., 2018; Schuurman & Carthy, 2023; Weimann, 2012). As Liem et al. (2018) note, the definition of a lone actor can range from completely independent individuals to dyads (pairs) or even small cells, illustrating the fluid nature of the concept.

A review of existing literature shows that no universally accepted definition currently exists for lone-actor, lone-wolf or freelance terrorism. Recent perspectives suggest that the concept of a lone actor should not be confined to rigid criteria, and that a multidimensional typology would better capture the diversity observed among these individuals, while still preserving coherence within a structured and comprehensive analytical framework (Clemmow et al., 2024).

While we acknowledge that there are conceptual and terminological nuances among these three terms, distinguishing between studies that focus on each one proves difficult. In practice, the literature often uses them interchangeably, resulting in some analytical overlap. For this study, we have opted to use the term l*one-actor terrorism*, not only because it captures the shared characteristic of lacking formal affiliation with terrorist organisations, but also because serves as broader category that could encompass other labels, such as lone-wolf, freelance or unaffiliated terrorism, regardless of the specific definition used. Additionally, lone-actor terrorism is the most commonly employed term in the specialised literature, further establishing its relevance as a key reference point. In this analysis, all conceptual formulations will be treated as equivalent, with an emphasis on the operational aspect of individual, unorganised action.

The rise of lone-actor terrorism is a sign of profound changes in radicalisation processes, which are facilitated by unrestricted access to the internet, social media and digital platforms that spread extremist narratives and provide new avenues for planning and executing attacks with relatively limited resources (Becker, 2014). Individual actions, disconnected from formal networks, are closely linked to intensive internet use, not only as a space for radicalisation but also as a source of information, ideological validation and practical knowledge (Kenyon et al., 2023). This shift has important implications for understanding the dynamics of lone-actor terrorism, highlighting the need to focus on its operational characteristics, which present additional challenges for prevention, regardless of how the concept is defined.

Lone actor terrorism is has distinct characteristics that make it particularly challenging to detect and prevent:

- Unpredictable targets and opaque motivations, which makes attacks difficult to anticipate (Becker, 2014);
- Absence of an organised network, which reduces the efficacy of conventional surveillance methods (Weimann, 2012);
- High symbolic impact even with limited or outdated resources, amplified by media coverage (Simi et al., 2016);
- Diverse ideological inspirations, ranging from jihadism to white supremacy, nationalism or even personal grievances (Borum et al., 1999; Corner & Gill, 2015; Hartleb, 2020).

According to the Global Terrorism Threat Assessment 2025 (Palmer et al., 2025) report, most recent attacks have been carried out by lone domestic terrorists who were radicalised online and motivated by violent extremist ideologies. This trend emphasises the urgent need for flexible preventive strategies, enhanced international cooperation and improved rapid response mechanisms.

As discussed in the previous chapter, digital radicalisation plays a central role in the growth of lone actor terrorism. A report in *The Guardian* (Makush, 2025) reveals that many acts of political violence in the US have been committed by individuals with no formal technical training but with access to online platforms, forums and channels where manuals on bomb-making, evading police detection and tactics to maximise attack impact circulate freely. The

European Union Terrorism Situation and Trend Report (Europol, 2018) includes the case of six individuals convicted for using social media platforms (including Blogger, Facebook, and YouTube) to spread propaganda and distribute combat training manuals.

The "do-it-yourself" approach facilitated by such content (which authorities find difficult to detect, remove or monitor) encourages individual, decentralised attacks that require minimal resources. At the same time, it contributes to the increasing sophistication of such attacks. The Buffalo (2022) and Nashville (2023) incidents in the US illustrate how lone-actor terrorism combines ideology with accessible technical expertise to create violence with significant symbolic and lethal impact.

Although online radicalisation is extremely common, and many low-sophistication attacks rely solely on digital manuals, some of the deadliest incidents (particularly those linked to jihadist causes) involve at least one attacker who had direct, in-person interactions or training with extremist cells, even if they later acted independently. Notable examples include the Fort Hood shooting in 2009 by Nidal Hasan, who maintained direct correspondence with Anwar al-Awlaki (a key figure in Al Qaeda in the Arabian Peninsula), from whom he received both ideological and operational guidance; and the 2015 Charlie Hebdo attack in Paris by the Kouachi brothers, who had contact with Al-Qaeda in Yemen and received training during one of their visits to the country. These cases show that personal interaction or training with extremist networks can significantly increase the lethality and sophistication of attacks, even when the attackers act alone.

International media outlets such as *CNN International* and *Al Jazeera* have reported a rise in lone-actor attacks across the US, Europe and the Middle East, highlighting the difficulties authorities face in predicting attacks by individuals operating outside formal terrorist networks (Rodrigues, n.d.). In Portugal, *Público* (2023) reported stronger security measures at borders and in public spaces, as well as growing concerns about the spread of extremist discourse online, which can trigger individual radicalisation processes (Rodrigues, 2025).

The operational characteristics of lone-actor terrorism suggest that the effectiveness and sophistication of attacks depend not only on available resources or radicalisation contexts, but also on the individual traits of the perpetrators. As Victoroff and Kruglanski (2009) emphasise, understanding who these actors are and the psychological, social and motivational factors that drive them is essential to develop response and prevention strategies.

However, it is important to recognise that there is no single sociodemographic profile of a lone actor. These individuals come from a variety of contexts, with different family histories and ethnic backgrounds, education levels and socioeconomic status, and their operational capabilities, training and access to financial resources also differ (Kenyon et al., 2023).

Several academic sources (see Loza, 2007; Van Zuijdewijn & Bakker, 2016; Victoroff & Kruglanski, 2009) suggest that many lone-actor terrorists exhibit identity disorders and subjective perceptions of reality, often coupled with feelings of social alienation, traumatic experiences and extremist worldviews. Comparative studies also indicate a higher prevalence of mental illness and personality disorders among lone actors (approximately 40% in Europe and the US) compared to organised terrorists and the general population (Kenyon et al., 2023).

However, these factors should be viewed as risk-enhancing conditions rather than as direct causes of terrorist behaviour, as they do not, on their own, explain the strategic planning and execution of violent acts.

Scholars like Dyson and Dyson (2014) and Hudson (2007) caution against the notion of a "typical terrorist profile". Many lone actors show no signs of psychopathology or prior deviant behaviour; in fact, they often lead seemingly normal lives, which makes their actions more difficult to anticipate. Despite this, certain behavioural patterns can be observed, such as careful planning, targeting civilians or familiar locations, and using readily available weapons (Kenyon et al., 2023).

The motivations behind lone-actor terrorism often stem from a combination of personal and ideological factors. These can include desires for fame, revenge, frustration, identity validation, or political or religious convictions. Research suggests that some individuals disguise personal motives behind political rhetoric to justify their actions, while extremist groups may take credit for acts committed by individuals with no direct connection to their cause, using these incidents to project an image of strength (Joosse, 2007). Van Buuren and De Graaf (2014) describe many of these acts as "performative violence", wherein individuals seek to assert their identity and draw public attention.

The diversity within lone-actor terrorism makes it challenging to track and predict, underscoring the need for an interdisciplinary approach that combines political, ideological, social and psychological perspectives. As noted by Hudson (2007), Victoroff & Kruglanski (2009) and Gill et al. (2014), terrorism cannot be reduced to a single model or a stereotypical profile because it is a form of violence that adapts to different contexts, opportunities and vulnerabilities, producing a high symbolic and psychological impact that amplifies fear and insecurity in society while heightening perceptions of social vulnerability.

2.3. Terrorism and perceived insecurity

The perception of insecurity is a complex, subjective experience that does not always accurately reflect objective threats or the actual risk of an attack. To understand the social and psychological impact of terrorism, it is essential to distinguish between two types of insecurity: objective insecurity, which is based on tangible indicators such as crime rates or the frequency of attacks, and subjective insecurity, which refers to individual or collective perceptions of danger and vulnerability (Innes, 2004).

This distinction is central to theories on fear and crime, which argue that perceptions of insecurity are not solely the result of direct exposure to a violent event, but are also shaped by a mix of social, cultural and communicative factors. Paul Slovic's (2000) risk theory proposes that the perception of danger is influenced by subjective assessments of the likelihood and severity of a risk (or threat), which are in turn mediated by personal experiences, available knowledge and the way information is communicated. The media (and the communication strategies it employs) plays a crucial role in constructing and amplifying feelings of insecurity, as well as shaping how people perceive risk (Altheide, 2006).

Media coverage of terrorist events often sensationalises the most dramatic and violent aspects of the attacks and tends to exaggerate the actual threat (Altheide, 2006). The rapid spread of images and narratives on social media further intensifies fear, acting as a trigger for collective panic. Additionally, political and security rhetoric, which stresses the need for protection and vigilance, helps reinforce the sense of ongoing danger (Huddy et al., 2007). This phenomenon, referred to as "media terror," transforms each attack into a significant event with collective emotional and psychological impact, even for those far removed from the actual location the attack, extending its effects long after the event itself (Altheide, 2006).

The unpredictable and indiscriminate nature of terrorist attacks makes risk assessment particularly challenging, contributing to generalised anxiety and social distrust (Jackson, 2005). Direct or indirect exposure to attacks, as well as the presence of communities associated with terrorist groups, tends to amplify perceptions of risk and insecurity, creating localised effects that can skew national statistics (Lupton, 1999). As Cucchi (2015) notes, the state of fear and insecurity persists beyond the immediate aftermath of an attack, seeping into daily life and becoming ingrained in the collective consciousness. This enduring fear often triggers self-protective behaviours, such as limiting movement or changing daily routines, while also fuelling distrust towards perceived "others", particularly social or cultural groups seen as potential threats. Ultimately, the sense of insecurity is the result of a complex interaction of objective and subjective factors, shaped by symbolic and communicative processes.

Empirical research has demonstrated that although there is a link between terrorism and heightened feelings of insecurity and fear, the level of fear and perceived insecurity often far exceeds the actual risk of becoming a victim.

This discrepancy between actual risk and subjective perception makes populations more inclined to accept institutional measures that restrict individual freedoms in the name of security. In other words, a persistent climate of insecurity can lead the public to support exceptional security measures. Sugahara (2008) refers to this as the paradox of freedom and security: to prevent future attacks, governments often implement policies that limit civil liberties, such as increased surveillance, stricter border controls or the temporary suspension of democratic safeguards. While these measures are designed to protect, they can undermine social cohesion, exacerbate inequalities and erode the foundations of democratic societies (Cucchi, 2015; Holsti, 2013). Paradoxically, by reshaping institutional and social structures, terrorism partially achieves its symbolic goals, even if its actual destructive impact remains limited.

2.4. The impact of terrorism on contemporary societies

Terrorism is a global phenomenon that affects the social, political, economic and psychological fabric of societies. Beyond the immediate physical harm and direct violence, terrorism destabilises political systems, weakens democratic institutions and damages mental health, creating a pervasive atmosphere of tension and insecurity.

On a psychological level, exposure to terrorist threats, or even their portrayal in the media, can heighten feelings of fear, anxiety and vulnerability, potentially leading to an increase in psychological disorders such as post-traumatic stress and chronic anxiety (Galito,

2013). Studies also suggest that the social impact of terrorism is more severe in societies with weaker social cohesion and greater economic inequality (LaFree & Bersani, 2014).

Economically, terrorist attacks inflict substantial damage, including destroyed infrastructure, a decline in tourism, reduced investment, and the need for substantial resources to rebuild and implement tighter security measures (Frey et al., 2007; Pinto, 2021). These effects can trigger economic downturns that diminish collective well-being and deepen social disparities.

Politically, the threat of terrorism often compels governments to implement stricter security measures. While these measures are justified as essential for national protection, they ignite debates about the limits of freedom in contexts of insecurity, exposing the paradox of security vs. freedom, that is, the dilemma of strengthening security at the expense of individual liberties and fundamental rights (Galito, 2013; Sugahara, 2008). Critics argue that such policies may overlook the social and psychological factors that fuel radicalisation (Schmid, 2011). Moreover, they can have a broader societal impact by undermining social cohesion and eroding public trust in the institutions responsible for maintaining order, which are often perceived as ineffective in ensuring security.

A contemporary analysis of lone-actor terrorism demands a multidimensional approach that explores the interplay of ideological, social and psychological factors, such as social exclusion, marginalisation and the erosion of community ties, which are identified in the literature as contributing to radicalisation (Silke, 2014). To develop effective strategies for preventing and countering terrorism, it is essential to adopt an integrated approach that combines security and law enforcement efforts with social, educational and community-based initiatives aimed at addressing the root causes of radicalisation and fear.

In particular, when addressing lone-actor terrorism, the literature recommends a range of preventive measures, which include identifying early signs of radicalisation, engaging local communities and reducing the appeal of extremist ideologies. Bakker and De Graaf (2011) emphasise the importance of monitoring radicalisation processes, encouraging community collaboration, identifying and evaluating risk factors that might lead to attacks, discrediting violent narratives, raising public awareness, promoting responsible media practices to avoid amplifying terrorist acts and enforcing tighter regulations on access to weapons and hazardous materials, especially those used in explosive devices.

These recommendations align with broader institutional frameworks, such as the European Union's counter-terrorism guidelines, which call for measures to limit access to weapons, explosives and dangerous substances, as well as initiatives to counter radicalisation and strengthen social cohesion.

In line with these recommendations, Portugal implemented its National Strategy for Combating Terrorism (2023) (ENCT) through Council of Ministers Resolution 40/2023. The strategy addresses the phenomenon of violent extremism, based on the principle that strengthening societal resilience is essential to counter radicalisation that could lead to terrorism. The resolution outlines several action plans developed by the Counter-Terrorism Coordination Unit (UCAT) to enforce the ENCT, including:

- The Action Plan for the Prevention of Radicalisation, Violent Extremism and Recruitment to Terrorism;
- The Action Plan for the Protection and Security of Critical Infrastructures;
- The Communication Action Plan;
- The National Plan for Prevention of and Response to Chemical, Biological, Radiological and Nuclear (CBRN) Security Incidents.

Although significant progress has been made, the unpredictable and complex nature of terrorism, particularly lone-actor terrorism, demands ongoing policy updates. At the same time, it is essential to ensure that preventive measures are effective while safeguarding human rights and fundamental freedoms, ensuring that efforts to enhance security do not unintentionally worsen social divisions or amplify perceptions of insecurity.

3. State of the art

3.1. Contemporary terrorism trends in Europe

The European Union Terrorism Situation and Trend Report (Europol, 2023) (Figure 1) identifies three dominant ideological groups responsible for terrorist attacks in Europe between 2019 and 2023: jihadism, far-right extremism and nationalism. Although the proportion of attacks attributed to each ideology fluctuated annually, left-wing ideologies led in terms of total incidents during this period (102 attacks), followed by nationalism (85 attacks) and jihadism (63 attacks). The highest number of attacks was recorded in 2023 (120), including the peak figures for incidents motivated by left-wing and nationalist ideologies (32 and 70 attacks, respectively).

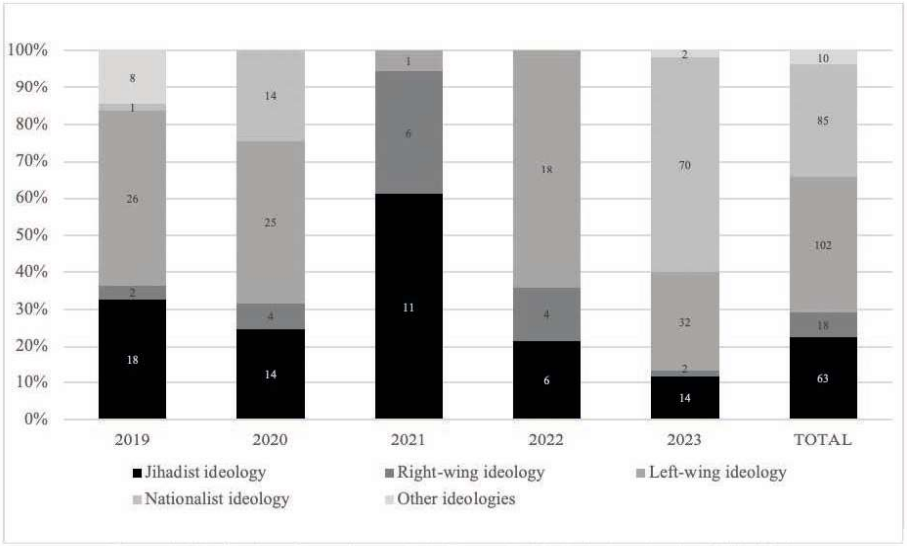

Figure 1 – Distribution of terrorist attacks in Europe by ideological motivation (2019–2023)
Source: Adapted from Europol (2023)

The "other ideologies" category, which includes less structured motivations or is associated with phenomena like lone-actor terrorism, was particularly significant in years such as 2019 and 2023.

Typically unaffiliated with formal organisations and driven by vague motivations, lone-actor terrorism challenges traditional analytical frameworks. This contributes to the fragmentation of the terrorist landscape, amplifying public perceptions of unpredictability and insecurity (Gill, 2015; Weimann, 2012).

3.2. Empirical data on lone actor terrorism

Empirical research on lone-actor terrorism remains relatively scarce, primarily because studies have historically focused on organised terrorist groups (Hamm & Spaaij, 2017). Additionally, the existing literature is often inconsistent in defining and operationalising key concepts (as previously noted), hindering comparative analysis and making it difficult to draw definitive conclusions. Despite these challenges, research on lone-actor terrorism has evolved in response to societal, political, technological and security changes. Several common patterns have been identified, including increasing ideologisation, social isolation, emotional instability, resentment toward institutions or minorities and the targeting of civilians to maximise the symbolic impact of attacks (Bakker & De Graaf, 2011; Klein et al., 2017).

Early research focused on defining the phenomenon, identifying its characteristics and exploring ideological motivations. However, with the growth of international databases and the development of sophisticated analytical tools, studies have shifted towards a more empirical approach. This progression has broadened the scope to include radicalisation processes, operational trends, societal consequences and the challenges of preventing lone-actor terrorism.

Lone-actor terrorism is characterised by its decentralised structure and wide range of operational methods, which are reflected in the choice of targets, weapons, and the motivations and radicalisation pathways of the perpetrators (LaFree et al., 2014; Mekaj & Aliaj, 2018; Rosa, 2024). This diversity distinguishes it from traditional models of organised terrorism. The lack of a uniform profile for perpetrators is one of the most debated aspects in the literature. Although, as we have seen, no single profile exists (Gill et al., 2014; Hudson, 2007; Victoroff & Kruglanski, 2009), research consistently points to recurring factors such as social isolation, psychological disorders and mental illness (Gill et al., 2014; Jah & Khoshnood, 2019; Schuurman & Carthy, 2023; Zeman et al., 2018), along with alienation, cognitive rigidity and a history of social exclusion (McCauley & Moskalenko, 2014; Meloy & Yakeley, 2014). Another consistent finding is the predominance of male perpetrators (Tatara & Retnaningsih, 2022; Waliyanri & Syauqillah, 2022).

Beyond individual and contextual factors, studies suggest that lone-actor attacks are often preceded by a prolonged planning phase. During this period, perpetrators may publish manifestos, engage in online communication and prepare media coverage to maximise the symbolic impact of their actions (Brine & Brine, 2021; Hartleb, 2020).

The methods of attack can vary widely across regions and over time. In conflict zones or areas with institutional instability, such as the Middle East and parts of Africa, suicide bombings and attacks with explosives are more common, often inspired by transnational jihadist movements. In contrast, in Western contexts (e.g., Europe and North America), attacks are more likely to involve firearms, vehicle rammings and stabbings, often carried out by individuals with histories of online radicalisation and social marginalisation (Lozada & Sánchez, 2024; Martinez, 2016). The literature shows that suicide attacks and armed assaults typically have higher success rates[4], particularly when targeting civilians or symbolic infrastructure (Demir et al., 2024; Lynch & Ryder, 2012).

Regarding weapon selection, firearms and explosives are the most frequent choices due to their high lethality and impact (Demir et al., 2024; Gunaratna, 2005). Access to more advanced weaponry is often facilitated through criminal networks and transnational black markets (Mekaj & Aliaj, 2018), allowing even isolated actors to carry out highly destructive attacks. According to Bellandi (2019), Hu et al. (2019), and Rosa (2024), the choice of weapon is not only a practical decision but also strategic and ideological, reflecting propaganda goals, contextual limitations and the nature of the intended targets.

Becker (2014) found that between 1940 and 2013, 60% of lone-actor terrorist attacks in the US targeted civilians, with firearms being the most frequently used weapon. Furthermore, Klein et al. (2017) found that unaffiliated terrorists, especially far-right extremists, tend to carry out more successful attacks than organised groups. The authors define success as the effective use of a weapon against a target, resulting in observable damage. Notable examples include the Oklahoma City bombing (1995), the armed assault on the North Valley Jewish Community Center in California (1999) and the truck bombing of a government building in Los Angeles (1990).

However, the significance of these attacks goes beyond their immediate operational outcomes. In addition to target selection, weaponry and immediate impact, the indirect and symbolic consequences must also be considered. Bakker and De Graaf (2011) caution against the potential contagion effect of such attacks, as media attention can serve as a symbolic catalyst, inspiring similar actions by other alienated or ideologically driven individuals. This dynamic underscores the complexity of countering lone-actor terrorism, which requires not only strong security measures but also responsible media management to avoid inadvertently amplifying the risk of imitation (Brine & Brine, 2021; Usman & Owubokiri, 2023).

Another important aspect of terrorist attacks is the pattern of claiming responsibility. Kearns (2021) points out that most attacks go unclaimed, but groups with religious or ideological motivations are more inclined to take credit, often for purposes of propaganda or recruitment (Bellandi, 2019; Egger & Magni-Berton, 2021). The rise of information and

[4] Whether a lone-actor attack is considered "successful" depends on the criteria used to evaluate it, such as the number of casualties, the precision with which it is executed or the media attention it garners (Demir et al., 2022; Lynch & Ryder, 2012).

communication technologies, particularly social media, has expanded the speed and scope of these claims, reshaping the symbolic dynamics associated with terrorism (Usman & Owubokiri, 2023).

Although significant progress has been made in understanding lone-actor terrorism, significant knowledge gaps remain, particularly regarding weapon selection, the strategic motives behind claiming responsibility, and the role of mental health and social exclusion in the development of violent behaviour that leads to attacks (Kearns, 2021; Osman, 2012). Additionally, ambiguities persist around what constitutes a "successful" attack (whether it should be assessed by its execution, the number of casualties or its symbolic impact), as well as the boundary between terrorist violence and other forms of extreme individual violence. These limitations complicate comparative studies, limit the generalisability of findings and hinder the development of effective preventive strategies (Egger & Magni-Berton, 2021; Kearns, 2021). To address these issues, we must enhance our understanding of the distinct characteristics of lone-actor terrorism, as this will inform the development of more focused and effective policies and interventions. This requires empirical studies that examine the evolution, distribution and unique features of the phenomenon.

4. Methodology and method

Building on the theoretical and conceptual framework that underpins the understanding lone-actor terrorism and its influence on perceptions of insecurity, this chapter outlines the methodological approach used for the empirical analysis. It provides an overview of the data source, the variables[5] considered and the statistical analysis procedures employed.

4.1. Data source: Global Terrorism Database (GTB)

The Global Terrorism Database (GTD) is widely recognised as the most comprehensive resource for terrorist incident data (LaFree, 2010, 2015). Originally created in the 1970s by Pinkerton Global Intelligence Services (PGIS) to assist corporate clients in risk assessments, the GTD now includes data on religious, economic and social terrorism dating back to 1970 (LaFree & Dugan, 2007). The database exclusively relies on unclassified sources, with most data drawn from media reports (LaFree et al., 2014). It currently includes over 200,000 incidents recorded between 1970 and 2020. For each event, the GTD captures a minimum of 45 variables, including date, location, weapons used, victim profiles and casualty numbers. More recent entries may include more than 120 variables.

4.2. Variables analysed

The analysis covers the period from 1997 to 2020, as it was in 1997 that the database began systematically tracking a variable related to lone-actor terrorism: "unaffiliated individual" (classified as yes/no). A total of 13 variables were extracted from the Global Terrorism Database

[5] This is the term used by the Global Terrorism Database.

for this analysis. Table 1 provides a description of each variable and its corresponding characteristics[6].

Table 1 – Variables included in the study and their characteristics

Variable	Description and characteristics
1) Year	
2) Country / 3) Region	
4) Type of attack	Classified based on 9 categories (an attack may fall into more than one category): 1) assassination, 2) hijacking, 3) kidnapping, 4) barricade incident, 5) bombing/explosion, 6) armed assault, 7) unarmed assault, 8) facility/infrastructure attack, 9) unknown
5) Success of attack	Defined by the tangible effects of the attack (not based on the perpetrator's objectives). For example, a bomb that detonates inside a building is considered a successful attack, even if the building does not collapse or if the attack does not result in repressive measures by the government.
6) Type of weapon	The weapons used in attacks are classified into 13 categories (up to four different types may be recorded for each incident): 1) biological weapons; 2) chemical weapons; 3) radiological weapons; 4) nuclear weapons; 5) firearms; 6) explosives; 7) fake weapons; 8) incendiary weapons; 9) melee weapons; 10) vehicles; 11) sabotage equipment; 12) other types of weapons, and; 13) unknown type of weapon
7) Type of target	Targets are classified into 22 categories: 1) companies; 2) government (general); 3) police; 4) military; 5) abortion-related targets; 6) airports and aircraft; 7) government (diplomatic); 8) educational institutions; 9) food or water supply; 10) journalists and media; 11) maritime (including ports and maritime facilities); 12) NGOs; 13) other types of targets; 14) citizens and private property; 15) religious figures/institutions; 16) telecommunications; 17) non-state terrorists/military; 18) tourists; 19) means of transport (excluding aviation); 20) unknown type of target; 21) public services, and; 22) violent political parties
8) Target subtype	This variable provides specific details about the target within each main category (for example, a restaurant, bar or café would be recorded as a subtype within the broader "businesses" category)
9) Unaffiliated individual	This variable indicates whether the attack was carried out by an individual or group with no known affiliation to any terrorist group or organisation. It has been systematically recorded since 1997. This is the most direct variable for identifying lone-actor terrorism, as the defining feature of this phenomenon is the absence of ties to organised terrorist structures
10) Number of perpetrators	The number of terrorists involved in the incident
11) Claims of responsibility	This variable indicates whether any group or individual(s) took credit for the attack
12) Number of fatalities	The confirmed number of deaths resulting from the incident. It is calculated by subtracting the number of terrorists killed in the attack from the total fatalities
13) Number of injured victims	The confirmed number of non-fatal injuries resulting from the attack. This variable is calculated by subtracting the number of terrorists injured from the total injured

Source: Adapted from *Global Terrorism Database Codebook: Methodology, Inclusion Criteria and Variables (2021)*

[6] For more information on each of these variables, see the *Global Terrorism Database Codebook: Methodology, Inclusion Criteria and Variables* (2021).

4.3. Analysis procedures

This study focused on a descriptive analysis of terrorist incidents carried out by individuals unaffiliated with terrorist organisations (a key characteristic of lone-actor terrorism), using data drawn from the Global Terrorism Database (GTD), which compiles information from journalistic sources, government reports and academic studies. The analysis covered the period from 1997 2020, as the variable "unaffiliated individual" was only systematically tracked from 1997 onwards. Additionally, the GTD underwent a methodological restructuring[7] in 2021, which may compromise the comparability and reliability of the data. Furthermore, complete records for subsequent years are not yet available. The selected variables were analysed using descriptive statistical methods, including absolute and relative frequencies and measures of central tendency.

5. Data presentation

Between 1997 and 2020, a total of 145,400 terrorist attacks were recorded, with 0.5% attributed to individuals unaffiliated with terrorist organisations (n=729).

An examination of the temporal trends in these attacks over the same period (Figure 2) reveals similar patterns between the overall number of terrorist incidents and those carried out by unaffiliated individuals. Both categories display a phase of relative stability, with low annual figures from 1997 to 2011 (compared to the following years), followed by a significant increase, peaking in 2014, when the total number of attacks reached nearly 17,000 incidents.

From 2015 onwards, the overall number of attacks gradually decreased, stabilising at around 6,000 incidents annually between 2018 and 2020. In contrast, attacks by unaffiliated individuals continued to increase until 2017, reaching a peak of 105 incidents (n=105). After 2017, slight decline was observed, with annual figures fluctuating between 60 and 90 attacks from 2018 to 2020.

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[7] Starting in 2021, the methodology was restructured, leading to the creation of two distinct databases: one for incidents recorded between 1970 and 2020, and another for data on attacks from 2021 onwards. This separation occurred due to changes in the coding criteria and the variables collected, which in some cases, prevents direct comparison between the two periods.

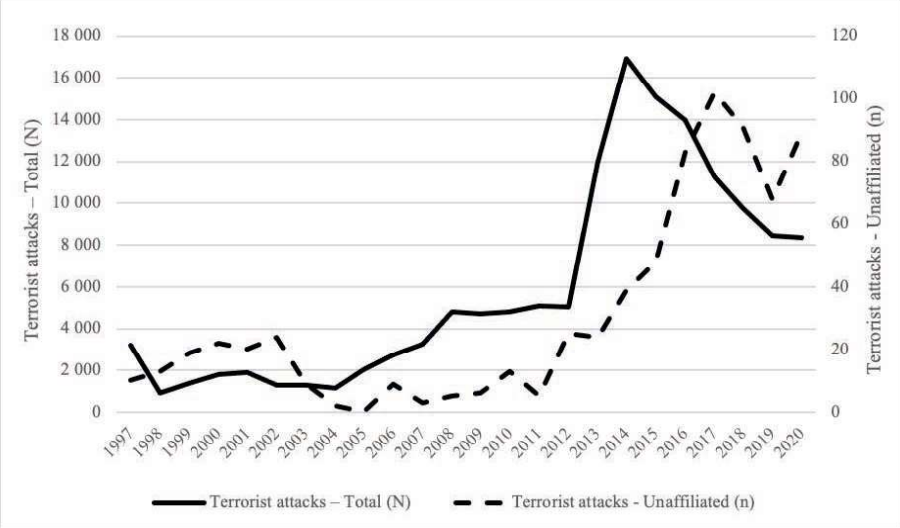

Figure 2 – Global evolution of terrorist attacks (1997–2020)
Source: Adapted from Global Terrorism Database

Table 2 summarises the key findings from the analysis of terrorist attacks worldwide between 1997 and 2020. It compares all recorded attacks, all attacks excluding those by unaffiliated individuals, and attacks carried out by unaffiliated individuals.

Globally, explosives (n=76,092 incidents) and firearms (n=43,219 incidents) were the most commonly used weapons in terrorist attacks [Terrorist attacks – total (excluding unaffiliated attacks)]. However, in attacks by unaffiliated individuals, firearms (n=218 incidents) and incendiary devices (n=147 incidents) were more commonly employed, highlighting distinct tactical preferences.

When examining global attack targets (excluding those by unaffiliated individuals), civilians and private property were the most frequent targets (n=40,431 incidents), followed by military targets (n=25,039). Similarly, unaffiliated attacks primarily targeted civilians and private property (n=212 incidents), with religious institutions (n=110) being the second most common target, particularly places of worship (n=88).

In terms of human impact, terrorist attacks worldwide resulted in an average of 1.9 fatalities per incident. Unaffiliated attacks led to fewer fatalities on average (1.2 victims per incident) but caused more injuries (4.5 per incident compared to the global average of 3.2, excluding unaffiliated attacks).

In terms of perpetrator involvement, the global average number of perpetrators per attack (excluding those by unaffiliated individuals) was 16.2. However, the median (2) and mode (1) indicate that most attacks are carried out by individuals or small groups. As expected, unaffiliated attacks involved only one perpetrator, with the mean, median and mode all equal to 1.

Table 2 – Characteristics of terrorist attacks worldwide, 1997–2020

Dimension	**Terrorist attacks**	**Terrorist attacks - Total** (excluding unaffiliated attacks)	**Terrorist attacks - Unaffiliated**
Total number of attacks	145,400 attacks	144,671 attacks	729 attacks (0.5% of global total)
Trend 1997-2011	Stability with low values	Stability with low values	Residual frequency
Trend 2012- 2014	Sharp increase to peak	Sharp increase to peak	Start of growth
Peak	2014 (16,960 attacks)	2014 (16,921 attacks)	2017 (102 attacks)
Post-peak trend	Gradual decline, stabilisation (6,000/year)	Gradual decline, stabilisation (6,000/year)	Oscillation between 60-90 attacks/year
Claimed attacks/all incidents	23,807 attacks out of 145,400 (16.4%)	23.353 attacks out of 144,671 (16.1%)	454 attacks out of 729 (62.3%)
Main weapons used	Explosives (76,230 attacks), firearms (43,437 attacks)	Explosives (76,092 attacks), firearms (43,219 attacks)	Firearms (218 attacks), incendiary weapons (147 attacks)
Main targets	Civilians/private property (40,643 attacks), military targets (25,073 attacks)	Civilians/private property (40,431 attacks), military targets (25,039 attacks)	Civilians/private property (212 attacks), religious targets (110 attacks) – mainly places of worship (88 attacks)
Average fatalities/attack	1.9 fatalities/attack	1.9 fatalities/attack	1.2 fatalities/attack
Average injured victims/attack	3.3 injured/attack	3.2 injured/attack	4.5 injured/attack
No. of terrorists/attack	Mean: 15.8; Median: 2; Mode: 1	Mean: 16.2; Median: 2; Mode: 1	Prevalence of individual action
Most affected countries	Iraq, Afghanistan, Pakistan	Iraq, Afghanistan, Pakistan	US, France, UK, Germany
Geographical profile of lone actor terrorism	—	—	Predominance in Western countries
Contextual interpretation	Armed conflicts and political instability	Armed conflicts and political instability	Individual radicalisation in the West

Another important aspect is the claim rate. Of the 729 attacks attributed to unaffiliated individuals, 454 were claimed (62.3%), compared to just 16.1% of the remaining attacks (23,353 out of 144,671).

As for geographical trends, the countries most affected by terrorist attacks (excluding unaffiliated incidents) were Iraq (27,399 attacks), Afghanistan (18,805) and Pakistan (13,968). Attacks by unaffiliated individuals were predominantly concentrated in Western countries, particularly the US (366 attacks), France (54), the UK (47) and Germany (37).

Europe saw a total of 9,303 terrorist incidents between 1997 and 2020, accounting for approximately 0.6% of the global total. As shown in Figure 3, the number of attacks in Europe declined until 2007, followed by a rise until 2014, the year with the highest number of incidents during the analysed period, and then a decrease through the end of the period. When comparing 2020 to 1997, there was a 42.4% decrease in the total number of terrorist attacks in Europe. However, unaffiliated (lone-actor) attacks began to rise sharply from 2009,

peaking in 2017, before declining in subsequent years. Comparing the first and last years of the dataset, unaffiliated attacks in Europe saw an exponential increase, from just one attack in 1997 to 39 in 2020.

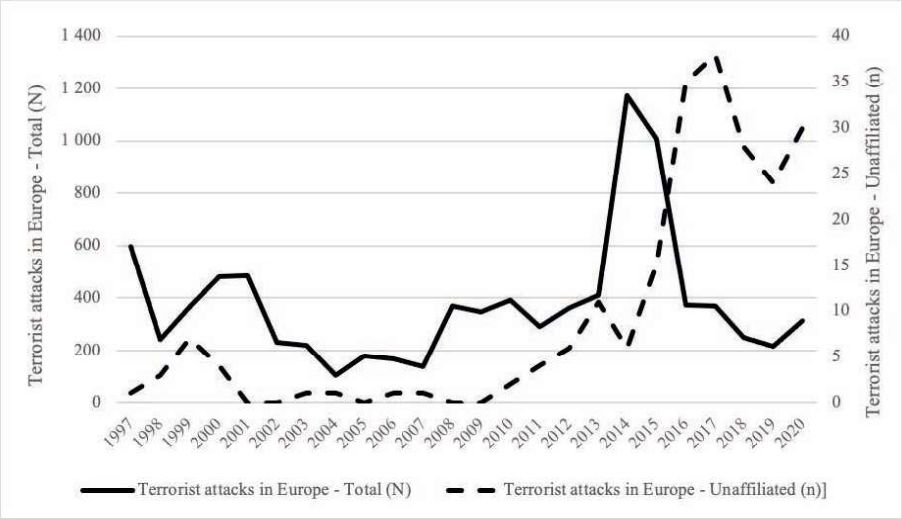

Figure 3 – Trends in the number of attacks by unaffiliated individuals in Europe between 1997 and 2020

Source: Adapted from the Global Terrorism Database

Table 3 shows the breakdown of terrorist attacks in Europe between 1997 and 2020 by: all incidents, all incidents excluding unaffiliated attacks and attacks by unaffiliated individuals.

Table 3 – Characteristics of terrorist attacks in Europe between 1997 and 2020

Dimension	**Terrorist attacks - Total**	**Terrorist attacks - Total** (excluding unaffiliated attacks)	**Terrorist attacks - Unaffiliated**
Total number of attacks	9,303 attacks	9,085 attacks	218 (2.3% of the total number of attacks committed in Europe)
Peak	2014 (1,178 attacks)	2014 (1,172 attacks)	2017 (38 attacks)
Claimed attacks/all incidents	1.509 attacks out of 9.303 (17.6%)	1,363 attacks out of 9,085 (16.3%)	146 attacks out of 218 (67.3%)
Main weapons used	Explosives (5,114 attacks), incendiary weapons (1,746 attacks) and firearms (1,716 attacks)	Explosives (5,077 attacks), incendiary weapons (1,717 attacks) and firearms (1,661 attacks)	Melee weapons (71 attacks), firearms (55 attacks) and explosives (37 attacks)
Main targets	Civilians/private property (2,246 attacks), police (1,306 attacks)	Civilians/private property (2,178 attacks), police (1,277 attacks)	Civilians/private property (68 attacks), religious targets (32 attacks) - mainly places of worship

[Cont.]

Average fatalities/attack	0.7 fatalities/attack	0.6 fatalities/attack	1.5 fatalities/attack
Average injured victims/ attack	1.9 injured/attack	1.8 injured/attack	6.5 injured/attack
No. of terrorists/attack	Average: 10.8; Median: 2; Mode: 1	Average: 12.4; Median: 2; Mode: 1	Predominance of individual action
Most affected countries	Russia, Ukraine, United Kingdom	Russia, Ukraine, United Kingdom	France, United Kingdom, Germany

Of the 9,303 terrorist attacks recorded in Europe, 218 (2.3%) were carried out by unaffiliated individuals. The peak year for global attacks (excluding unaffiliated incidents) was 2014, with 1,172 incidents, while unaffiliated attacks reached their highest point in 2017 with 38 attacks.

As seen in the global analysis, there is a noticeable difference in claim rates within Europe: only 16.3% of global attacks (excluding unaffiliated ones) were claimed, compared to 67.3% of unaffiliated attacks. Regarding weapon preferences, global attacks (excluding unaffiliated incidents) mainly involved explosives (n=5,077), incendiary weapons (n=1,717) and firearms (n=1,661). Unaffiliated attacks were primarily carried out with melee weapons (n=71), followed by firearms (n=55) and explosives (n=37).

Global attacks (excluding unaffiliated incidents) most frequently targeted civilians and private property (n=2,178) and police forces (n=1,277). Unaffiliated attacks were mostly aimed at civilians (n=68), followed by religious targets (n=32), particularly places of worship. The average number of fatalities per attack n Europe was 0.6 for all attacks (excluding unaffiliated incidents) and 1.5 for unaffiliated attacks. The average number of injured victims per attack was 1.8 victims per incident for global attacks, while unaffiliated attacks averaged 6.5.

Regarding the number of perpetrators, global attacks (excluding those by unaffiliated individuals) involved an average of 12.4 individuals, although the median was 2 and the mode was 1. Unaffiliated attacks were overwhelmingly carried out by individuals. Geographically, global attacks were most concentrated in Russia, Ukraine and the UK, whereas unaffiliated attacks predominantly occurred in France, the UK and Germany.

6. Discussion of findings

This article examined the characteristics of terrorist attacks between 1997 and 2020, focusing on attacks by unaffiliated individuals, and explored the societal implications of terrorism, particularly lone-actor attacks. An analysis of empirical data from the Global Terrorism Database alongside insights from specialised literature, as outlined in Chapter 2 (conceptual framework) and Chapter 3 (state-of-the-art), showed that an increasing number of attacks are being carried out by isolated actors, often radicalised in digital spaces. This shift challenges traditional models of prevention, detection and response, highlighting the need for innovative, multidimensional approaches within security systems.

According to the European Union Terrorism Situation and Trend Report (Europol, 2023), there is an increasing ideological diversity in terrorist attacks across the EU, with noticeable

surges in ideologies such as radical nationalism, which were previously less prominent. This development, combined with the fragmentation of terrorist groups and the rise in autonomous actions (as reported by outlets like CNN and Al Jazeera, Rodrigues, n.d.), reflects a global trend toward decentralisation and the individualisation of extremist violence. In Portugal, although the number of attacks remains low, preventive measures have been strengthened, notably through the implementation of the National Strategy to Combat Terrorism (CMR no. 40/2023).

An integrated analysis of terrorist incidents between 1997 and 2020 reveals distinct patterns when comparing global attacks to those carried out by unaffiliated individuals, both globally and in Europe. On a global scale, there were 145,400 recorded terrorist attacks during this period, with only 729 (0.5%) attributed to lone actors. In Europe, the proportion is higher, with 218 unaffiliated attacks (2.3% of the total 9,303 recorded incidents). While these incidents are still a minority, their growing frequency and unique operational characteristics suggest an upward trend in individual radicalisation, often facilitated by online environments and social networks (Gill et al., 2014; Lozada & Sánchez, 2024).

The temporal analysis of terrorist attacks reveals significant differences between organised attacks (excluding unaffiliated incidents) and lone-actor attacks. When considering all attacks during the entire analysed period (excluding those committed by unaffiliated individuals), there was a phase of relative stability until 2011, followed by a sharp increase leading to a peak in 2014, with nearly 17,000 attacks. After 2014, the total number of attacks gradually declined, stabilising at around 6,000 per year between 2018 and 2020. In contrast, unaffiliated attacks followed an upward trajectory until 2017, reaching a peak at 105 incidents, which stabilised at 60 to 90 attacks annually until 2020. In Europe, unaffiliated attacks have grown exponentially since 2009, peaking in 2017. This trend reveals that, despite representing a minority of incidents, unaffiliated attacks have gained significance in recent decades, reflecting the dynamics of solitary radicalisation and the decentralisation of terrorist actions in the West.

In terms of weaponry and tactics, most global attacks (excluding unaffiliated incidents) were carried out using explosives and firearms. These types of attacks are often associated with armed conflicts or political instability, as seen in Iraq, Afghanistan and Pakistan. Conversely, unaffiliated attacks typically employed firearms, melee weapons and incendiary devices. In other words, simpler, more accessible methods compatible with individual action and limited organisational support. This difference in tactics is in line with the literature on lone-actor terrorism, where operational simplicity is a defining characteristic of most attacks (Schuurman & Carthy, 2023; Brine & Brine, 2021).

The targets of terrorist attacks also differ significantly. On a global scale, civilians and private property are the most common targets, followed by military targets, reflecting contexts of war and instability. In contrast, attacks by unaffiliated individuals, both internationally and in Europe, also focus on civilians and private property but include symbolic targets such as places of worship and public spaces, which suggests ideological or symbolic motivations (Lozada & Sánchez, 2024; Meloy & Yakeley, 2014). This pattern underscores the complexity

of prevention and the unpredictable nature of such attacks, challenging traditional security paradigms.

Regarding human impact, unaffiliated attacks tend to cause more injuries, even though their fatality rates are lower or similar to those of other attacks. In Europe, unaffiliated attacks resulted in an average of 1.5 fatalities and 6.5 injuries per incident, compared to 0.6 fatalities and 1.8 injuries for global attacks (excluding unaffiliated incidents). Worldwide, unaffiliated attacks caused an average of 1.2 deaths and 4.5 injuries, whereas other attacks averaged 1.9 deaths and 3.2 injuries. These figures suggest that, while less frequent and slightly less lethal, attacks by unaffiliated individuals may have a more pronounced psychological impact on victims and society, amplifying feelings of insecurity, as highlighted by Innes (2004), Jackson (2005) and Slovic (2000).

In terms of perpetrator involvement, that is, the number of perpetrators per attack, global incidents (excluding those by unaffiliated actors) involved an average of 16.2 individuals per attack. However, the median and mode indicate that most attacks are carried out by individuals or small groups. Attacks by unaffiliated individuals are typically carried out by solitary actors, both internationally and in Europe, making them especially difficult to detect and prevent (Gill et al., 2014; Hamm & Spaaij, 2017; Spaaij, 2010).

Another important aspect to consider is the claim rate. Unaffiliated attacks are claimed much more frequently than those by organised groups: 62.3% unaffiliated attacks were claimed globally, and 67.3% were claimed in Europe, compared to just 16% for other attacks in both contexts. This suggests that lone actors have a stronger need for visibility and ideological validation, which reinforces the symbolic and media-driven nature of these attacks (Brine & Brine, 2021; Altheide, 2006; Weimann, 2012).

Geographically, unaffiliated attacks are predominantly concentrated in Western nations such as the US, France, the UK and Germany. This trend indicates an increase in solitary radicalisation within democratic, urban and digitally connected societies, contrasting with the locations of global attacks, which are predominantly in countries experiencing armed conflicts and political instability, such as Iraq, Afghanistan and Pakistan. This pattern suggests that unaffiliated terrorism in Western countries is shaped by a complex social and media landscape where the repercussions of an attack are often amplified through media coverage and the spread of information across digital networks. Here, the perceived threat is influenced not only by the lethality of the attack but also by how it is communicated and publicly amplified. Mediatisation plays a pivotal role in this dynamic. As Altheide (2006) argues, sensational and repeated media coverage contributes to the creation of "media terror", which emotionally and symbolically amplifies the threat. The circulation of disturbing images, alarmist rhetoric and sensationalist narratives transform localised incidents into collective experiences of insecurity. Additionally, social media and digital platforms not only spread fear but also act as incubators for radicalisation and recruitment (Weimann, 2012).

Although this study specifically examines attacks by unaffiliated individuals, the patterns observed offer broader insights into lone-actor terrorism. This form of terrorism is characterised by decentralised actions carried out by individuals or small groups that operate

independently from terrorist organisations. These attacks are often driven by symbolic motives and are inherently difficult to predict (Schuurman & Carthy, 2023; Lozada & Sánchez, 2024). Research into lone-actor terrorism highlights its significant economic, social and political consequences, including reduced investment, a decline in tourism and increased calls for stricter security measures, which can infringe on fundamental rights and liberties, exacerbating the tension between security and freedom (Sugahara, 2008). Lone-actor terrorism intensifies this dilemma, requiring rapid and effective responses to threats that do not fit traditional risk categories. As Hoffman (2017) points out, the decentralised nature of these attacks challenges the effectiveness of security systems and erodes public trust in democratic institutions. This effect is magnified when attacks provoke disproportionate institutional reactions, which, as McCauley and Moskalenko (2014) demonstrate, can undermine social cohesion. This erosion can be aggravated by anti-terrorist measures that rely on cultural or ethnic profiling, fuelling discrimination and exclusion and creating new cycles of radicalisation (Silke, 2003, 2014). Moreover, Meloy and Yakeley (2014) argue that many lone-actor terrorists show psychological vulnerabilities, emphasising the importance of preventive mental health and social inclusion initiatives.

In response to these challenges, various strategies have been proposed. Bakker and De Graaf (2011) recommend a range of measures, including the control of arms and explosives, community awareness campaigns, programmes to delegitimise violent ideologies and ethical media communication strategies. At the European level, the EU's Counter-Terrorism Strategy includes initiatives to restrict access to dangerous materials and promote social cohesion as a way to counter radicalisation. In Portugal, Council of Ministers Resolution 40/2023, which approves the National Strategy for Combating Terrorism (ENCT), reflects this multifaceted approach, incorporating targeted action plans such as the Radicalisation Prevention Plan and the CBRN Incident Communication and Response Plan.

However, the rapid evolution of lone-actor terrorism demands the continuous adaptation of public policies. Effective countermeasures against lone actor terrorism require a delicate balance between protecting society and upholding fundamental rights. Additionally, these strategies must adopt an interdisciplinary approach – drawing from fields such as psychology, sociology, criminology, public security and communication – that places community resilience at the centre of prevention efforts. Scholars like Bellandi (2019) and Martinez (2016) argue that counterterrorism strategies should be based on systemic analyses of the dynamics of exclusion, inequality and disinformation, which often precede radicalisation. Moreover, Rosa (2024) argues that strengthening local detection and early intervention capacities, coupled with strong community networks, can provide an effective response to the threat of lone actor terrorism.

While this study specifically examines unaffiliated attacks, its findings are consistent with the operational characteristics of lone-actor terrorism identified in the literature: unpredictability, high symbolic impact and the ability to instil fear. Understanding these dynamics is essential for developing interdisciplinary, ethical and sustainable responses that ensure security without compromising democratic values.

7. Conclusions

Terrorism, in its many forms, presents a global threat that is complex, dynamic and multifaceted. Its effects extend far beyond physical destruction and loss of life, leaving a lasting imprint on society. It cultivates an atmosphere of constant fear, fuels discrimination, discrimination, justifies encroachments on personal freedoms and leads to the securitisation of everyday life. In response, strategies to combat terrorism cannot rely solely on repressive or reactive measures. A comprehensive, multidisciplinary and globally coordinated strategy is needed that addresses the underlying causes of radicalisation, the contexts in which it occurs and the psychosocial effects of extremist violence.

This article has focused on a particularly insidious and evolving form of terrorism: lone-actor terrorism, which is characterised by violent acts carried out by individuals unaffiliated with organised terrorist groups, who are often radicalised in isolation and driven by extremist ideologies, personal grievances or social resentments.

The literature on lone actor terrorism offers multiple definitions, reflecting differences in criteria such as organisational autonomy, ideological motives and methods of execution (Gill, 2015; Hamm & Spaaij, 2017; Schmid, 2011). While some scholars emphasise the absence of formal ties to terrorist groups, others focus on the role of individual radicalisation, often facilitated by digital environments and social media. These varying definitions highlight the complexity of lone-actor terrorism, indicating that it is a multifaceted phenomenon, requiring a theoretical framework that accounts for both operational characteristics and psychological and symbolic dimensions.

Although statistically infrequent, lone-actor terrorism exhibits certain characteristics that make it particularly destabilising (unpredictability, decentralisation, the absence of consistent patterns and high media visibility). These features significantly heighten perceptions of insecurity, even in regions with low attack rates, such as Portugal.

The analysis of data from Global Terrorism Database (GTD) revealed an upward trend in unaffiliated attacks in Western nations, accompanied by distinctive characteristics: while these attacks tend produce fewer fatalities on average, they often cause a higher number of injuries per incident, amplifying their symbolic and psychological impact. The deliberate targeting of civilians and symbolic locations, the predominance of individual action and the intense media exposure of such events all contribute to reinforcing a collective sense of vulnerability and sustained fear.

By integrating empirical evidence with theoretical perspectives on subjective insecurity, this study highlights how lone-actor terrorism erodes public confidence in institutional and social control, fostering a persistent perception of threat. This finding underscores the need for public policies that go beyond conventional security measures, and instead prioritise preventing radicalisation, strengthening social cohesion, promoting media literacy and building community resilience. This study enhances our understanding of lone-actor terrorism as a unique phenomenon, highlighting its distinct characteristics while differentiating it from more traditional forms of terrorism and acknowledging its role in creating a pervasive sense of insecurity.

It is essential to acknowledge the limitations of this study. The lack of systematic, tailored data on lone actor terrorism makes it difficult to track this phenomenon with precision and conduct comprehensive comparative analyses. While the GTD (GTD) is widely used and respected, it relies primarily on journalistic sources, which can introduce biases, omissions or inconsistencies, especially for less visible attacks, such as those carried out by unaffiliated individuals. While these incidents are identifiable in the database, they may not fully capture the broader concept of lone-actor terrorism, which also involves elements such as operational autonomy, ideological motivation and tactical innovation. Given that the definition of lone actor terrorism can vary depending on interpretation, the data presented here should be approached with caution. Although the trends observed reflect characteristics of recorded incidents, they should not be assumed to represent the full scope of lone-actor terrorism. The patterns and trends identified should be seen as indicative and context-dependent, offering insights based on available data, rather than providing a definitive portrayal of the phenomenon.

These conceptual and empirical limitations highlight the need for future studies that adopt interdisciplinary approaches. Such research should combine multiple data sources, refine definitions and better operationalise concepts, employing mixed methods, including statistical analysis, case studies, expert interviews, media content analysis and investigations into risk perception and feelings of insecurity. This combined approach would enhance our understanding of lone-actor terrorism, providing valuable insights into its dynamics, characteristics and radicalisation processes. It would also shed light on the effectiveness of preventive measures and the role of media coverage in shaping perceptions of insecurity. These findings could then guide the development of more effective prevention and intervention strategies that align with the democratic values of modern societies.

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