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Article

A Systematic Review of Spanish Research on Terrorism and Post-Traumatic Stress Disorder: The Impact of the March 11 Terrorist Attacks in Madrid

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ABSTRACT

The aim of this study was to systematically review the Spanish scientific literature on terrorism and posttraumatic stress disorder (PTSD) to analyze whether the March 11 (11-M) terrorist attacks in Madrid influenced the development of this literature and to examine its main themes and research groups. Publications by Spanish authors on terrorism and PTSD were searched in PsycInfo, MEDLINE, PSICODOC, and ÍnDICEs-CSIC through December 2024. Eighty-one studies were identified, and their analysis revealed a notable expansion of the literature after 11-M, followed by sustained growth, consistent with international trends and focused on areas such as the prevalence of PTSD, risk and explanatory factors, associated psychopathology, and interventions for PTSD. The literature also offers distinct contributions, such as the study of prolonged terrorism, secondary victimization, and the role of social and historical context. Strengths of this literature include the large number of empirical studies, the attention to cognitive and social variables, and the existence of established research groups. Gaps remain in areas such as psychometric assessment, post-traumatic growth, and integrative theoretical frameworks, which call for a more diversified and international future agenda.

Una Revisión Sistemática de la Investigación Española sobre Terrorismo y Trastorno de Estrés Postraumático: el Impacto de los Atentados Terroristas del 11-M

Palabras clave
Terrorismo
Trastorno de estrés postraumático
Tratamiento psicológico
Análisis temático
Revisión sistemática

RESUMEN

El objetivo de este trabajo fue revisar sistemáticamente la literatura científica española sobre terrorismo y trastorno de estrés postraumático (TEPT) para analizar si los atentados del 11-M influyeron en su desarrollo y examinar sus temáticas y grupos de investigación. Se buscaron en PsycInfo, MEDLINE, PSICODOC e ÍnDICEs-CSIC publicaciones de autores españoles sobre terrorismo y TEPT hasta diciembre de 2024. Se identificaron 81 trabajos y su análisis reveló una notable expansión de la literatura tras el 11-M, seguida de un crecimiento sostenido, alineado con tendencias internacionales y centrado en áreas como la prevalencia del TEPT, los factores de riesgo o explicativos del TEPT, la psicopatología asociada y los tratamientos para el TEPT, pero con aportaciones específicas, como el estudio del terrorismo prolongado, la victimización secundaria y el papel del contexto social e histórico. Entre sus fortalezas destacan la abundancia de estudios empíricos, la atención a variables cognitivas y sociales y la existencia de grupos consolidados. Persisten lagunas en áreas como la evaluación psicométrica, el crecimiento postraumático y los marcos teóricos integradores, que requieren una agenda futura más diversificada e internacional.

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The year 2024 marked 20 years since the terrorist attacks that occurred on March 11, 2004, in Madrid, known as the March 11 attacks (11-M in Spanish). On that day, a group of jihadist terrorists detonated 10 bombs on four commuter trains, killing 191 people and injuring another 1,857 (Sentencia 65/2007, de 31 de octubre de 2007, de la Audiencia Nacional, Sala de lo Penal, Sección 2.ª [Judgment 65/2007, dated October 31, 2007, of the National Court, Criminal Chamber, Section 2]). It was the largest terrorist attack in Spanish history, the second deadliest in European history, and—considering both the number of fatalities and the number of injuries—the largest in Europe to date (National Consortium for the Study of Terrorism and Responses to Terrorism [START], 2022).

Given its magnitude, it seems logical that the March 11 attacks would have had a major impact in Spain across a wide range of areas, such as politics, society, the media, and the fight against terrorism (Martínez Solana & Manchón Campillo, 2022). Therefore, one would expect them to have also had a significant impact on Spanish research, especially in areas such as the psychopathological consequences of terrorism and, in particular, post-traumatic stress disorder (PTSD), the most common disorder following a terrorist attack (García-Vera et al., 2021; Sanz & García-Vera, 2021).

This hypothesis also appears consistent with what happened in research in those areas following the terrorist attacks of September 11, 2001, in the United States, known as the 9/11 attacks. On that date, four coordinated groups of jihadist terrorists hijacked four commercial airliners in mid-flight, and two of them crashed into the two towers of the World Trade Center in New York, causing them to collapse, while a third crashed into the Pentagon in Washington, D.C. The fourth plane crashed in a field in Pennsylvania after passengers and crew staged a rebellion aboard the aircraft in an attempt to regain control of the plane hijacked by the terrorists. In total, nearly 3,000 people were killed and more than 21,000 were injured (National Consortium for the Study of Terrorism and Responses to Terrorism [START], 2022). These attacks were the largest in U.S. history—and possibly in human history—and their magnitude had a profound impact across all spheres: political, economic, social, psychological, and/or cultural, not only in the U.S. but also throughout most of the world (Silver, 2011; Jackson et al., 2023; Morgan, 2009a, 2009b, 2009c; Shaffer & Kaplan, 2024).

Regarding research on the psychopathological consequences of terrorism, including PTSD, García-Vera and Sanz (2016) argued that scientific interest in this topic reached a turning point following the 9/11 attacks, resulting in an extraordinary rise in the number of scientific publications on the subject beginning that year. However, Durodié and Wainwright (2019) suggested that this increase in the number of publications on terrorism and mental health was not caused by the 9/11 attacks but had emerged earlier, between the mid- and late 1990s, in connection with the publication, in 1994, of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (American Psychiatric Association, 1994), which included new and influential diagnostic criteria for PTSD, and in the wake of the emergence and effects of a new cultural discourse or narrative that emphasized individuals' supposed vulnerabilities.

In two very recent studies, García de Marina et al. (2025) and Hernández-Martínez et al. (2026) have provided historical and bibliometric arguments that refute the proposals of Durodié and Wainwright (2019) and confirm those of García-Vera and Sanz (2016). In particular, García de Marina et al. (2025), after conducting a historical analysis of PTSD, argue that, since the late 19th century and prior to the publication of the DSM-IV, there was already a body of scientific literature proposing various psychopathological constructs (e.g., railway spine, shell shock, war neurosis, gross stress reaction, concentration camp syndrome, rape trauma syndrome, post-Vietnam syndrome, and "Northern syndrome"[1]) that recognized the significance of certain events in causing psychological disturbances and assumed that such events could trigger them in people without any predisposition, suggesting that this supposed cultural discourse or narrative emphasizing the individual's alleged vulnerabilities predates the DSM-IV by a considerable margin. Furthermore, García de Marina et al. (2025) demonstrated that the diagnostic criteria for PTSD proposed in the DSM-IV were not so different from—nor did they represent such a radical change from—those proposed in previous editions of the DSM published in 1980 (DSM-III) and in 1987 (DSM-III-R), which would undermine the argument that the innovations introduced by the DSM-IV in the diagnosis of PTSD had such a significant influence on the increase in the scientific literature on terrorism and mental health or PTSD that it could also explain that possible increase following the 9/11 attacks.

In this regard, the results of the bibliometric analyses conducted by Hernández-Martínez et al. (2026) also show: (a) that there was already scientific interest in the effects of terrorism prior to 1994; (b) that, after the diagnosis of PTSD was introduced in the DSM-III in 1980, there was a linear increase in publications on terrorism and PTSD, with no discernible turning point or surge following the publication of the DSM-IV in 1994; (c) that this growth was, in contrast, extraordinary after 2001, showing a clear turning point starting in that year, and (d) that this extraordinary growth could be explained by factors such as the magnitude of the 9/11 attacks, the availability of massive funding for research into all aspects related to terrorism—including its psychopathological consequences—and the availability of victim registries that facilitated such research. In conclusion, the findings of Hernández-Martínez et al. (2026) also refuted the notion that 9/11 did not significantly influence the development of the field of terrorism and PTSD, demonstrating, on the contrary, that 9/11 was a key turning point.

Within this theoretical and empirical context, the main objective of this study was to systematically review the Spanish scientific literature on terrorism and PTSD to determine whether the March 11 attacks had an impact on that literature similar to that of the 9/11 attacks, and to further analyze the characteristics of that body of research in terms of the research groups involved and the general and specific topics addressed, so that its strengths and weaknesses can be analyzed and areas requiring future research identified.

Method

Identification of Publications

To identify studies relevant to the objective of this study, we searched for publications up to December 31, 2024, in the following four bibliographic databases: PsycInfo, MEDLINE, PSICODOC,

1 "Síndrome del Norte" [Northern syndrome] is a localized Spanish term for the PTSD, complex PTSD, depression and other medical disorders suffered by security forces deployed in northern Spain during ETA's terrorist campaign.

and ÍnDICEs-CSIC. In PsycInfo, searches were conducted using the following terms and syntax in the "article title" or "article abstract" fields: *(TI ((PTSD OR "post-traumatic stress" OR "posttraumatic stress" OR "acute stress disorder")) OR AB ((PTSD OR "post-traumatic stress" OR "posttraumatic stress" OR "acute stress disorder"))))*, combined (*AND*) with the word *"Spain"* in the author's affiliation field. In MEDLINE, searches were conducted using the same terms and syntax in the article title or abstract fields, but combined (*AND*) with the word *"Spain"* in the author affiliation or country of publication fields using the following syntax: *(AF (Spain) OR CY (Spain))*.

Since PSICODOC indexes scientific output from Spain, as well as from Portugal and Latin America, and therefore the information in the article title and abstract fields is in Spanish and English (as well as, in some cases, Portuguese), the search in this bibliographic database was conducted using the following terms and syntax in those fields: *AB (PTSD OR "post-traumatic stress" OR "posttraumatic stress" OR "acute stress disorder" OR TEPT OR "estrés postraumático" OR "estrés post-traumático" OR "trastorno de estrés agudo" OR "trastorno por estrés agudo") OR TI (PTSD OR "post-traumatic stress" OR "posttraumatic stress" OR "acute stress disorder" OR TEPT OR "estrés postraumático" OR "estrés post-traumático" OR "trastorno de estrés agudo" OR "trastorno por estrés agudo")*. Since PSICODOC does not have a specific field for authors' affiliations or the country of publication, the selection of studies conducted by Spanish researchers was carried out during the subsequent screening phase based on a review of the basic bibliographic information of the studies or during the final selection phase based on a review of the full text of the studies.

ÍnDICEs-CSIC is the search platform for accessing the contents of the following three CSIC bibliographic databases, which include Spanish scientific journals from 1971 to 2022: ICYT (Índice Español de Ciencia y Tecnología [Spanish Index of Science and Technology]), IME (Índice Médico Español) [Spanish Medical Index]), and ISOC (Índice Español de Humanidades y Ciencias Sociales [Spanish Index of Humanities and Social Sciences]). Given its characteristics, searches in ÍnDICEs-CSIC were conducted in the subject field by combining the terms "post-traumatic syndrome" and "terrorism," which are used on this platform to categorize all works related to PTSD or terrorism, respectively. Similar to the approach taken with PSICODOC, since ÍnDICEs-CSIC does not have a specific field for author affiliation, the selection of works by Spanish researchers was carried out during the subsequent screening phase—based on a review of the works' basic bibliographic information—or during the final selection phase, based on a review of the full text of the studies.

The searches identified 2,157 studies included in the bibliographic databases; after excluding duplicate publications and adding 14 studies identified through the references cited by some of those initial studies, a total of 1,622 studies were obtained. Figure 1 summarizes the process of searching for, screening, and selecting Spanish scientific studies on terrorism and PTSD, using the flowchart proposed by the PRISMA group (Moher et al., 2009).

Screening of Publications

In accordance with the objectives of this study and based on a review of their titles, basic bibliographic data, and abstracts, the 1,622 publications initially identified were screened to determine whether they met the following inclusion criteria: 1) the publication reports on a study of any kind—theoretical or empirical—on terrorism and PTSD, and 2) the study was conducted by at least one Spanish author or an author who was affiliated with a Spanish institution or organization at the time the study was conducted.

Therefore, we excluded publications reporting on studies conducted on other types of traumatic situations or on traumatic situations in general or of a very diverse nature (912 publications), studies that generally analyzed aspects related to PTSD such as its etiology, risk factors, consequences, assessment, prevention, or treatment, but without specifically focusing on the field of terrorism (293 publications), studies on other topics (219 publications), studies whose authors were all non-Spanish or did not belong to a Spanish institution or organization at the time the study was conducted (68 publications), and studies conducted using animal models of PTSD (31 publications). Following these exclusions, the sample of publications was reduced to 99.

Eligibility of Publications

Of the 99 publications resulting from the screening phase, the full texts were obtained, and, based on a review of these texts, the publications were re-evaluated for compliance with the inclusion criteria. In this phase, 12 publications were excluded because they reported on studies conducted on other types of traumatic situations or on traumatic situations in general or of a very diverse nature. An additional study was excluded that generally analyzed aspects related to PTSD but did not focus specifically on the field of terrorism. Furthermore, two studies were excluded for addressing other topics, and three for being conducted by authors from other countries. After these exclusions, the final sample consisted of 81 publications, which are marked with an asterisk in the references section.

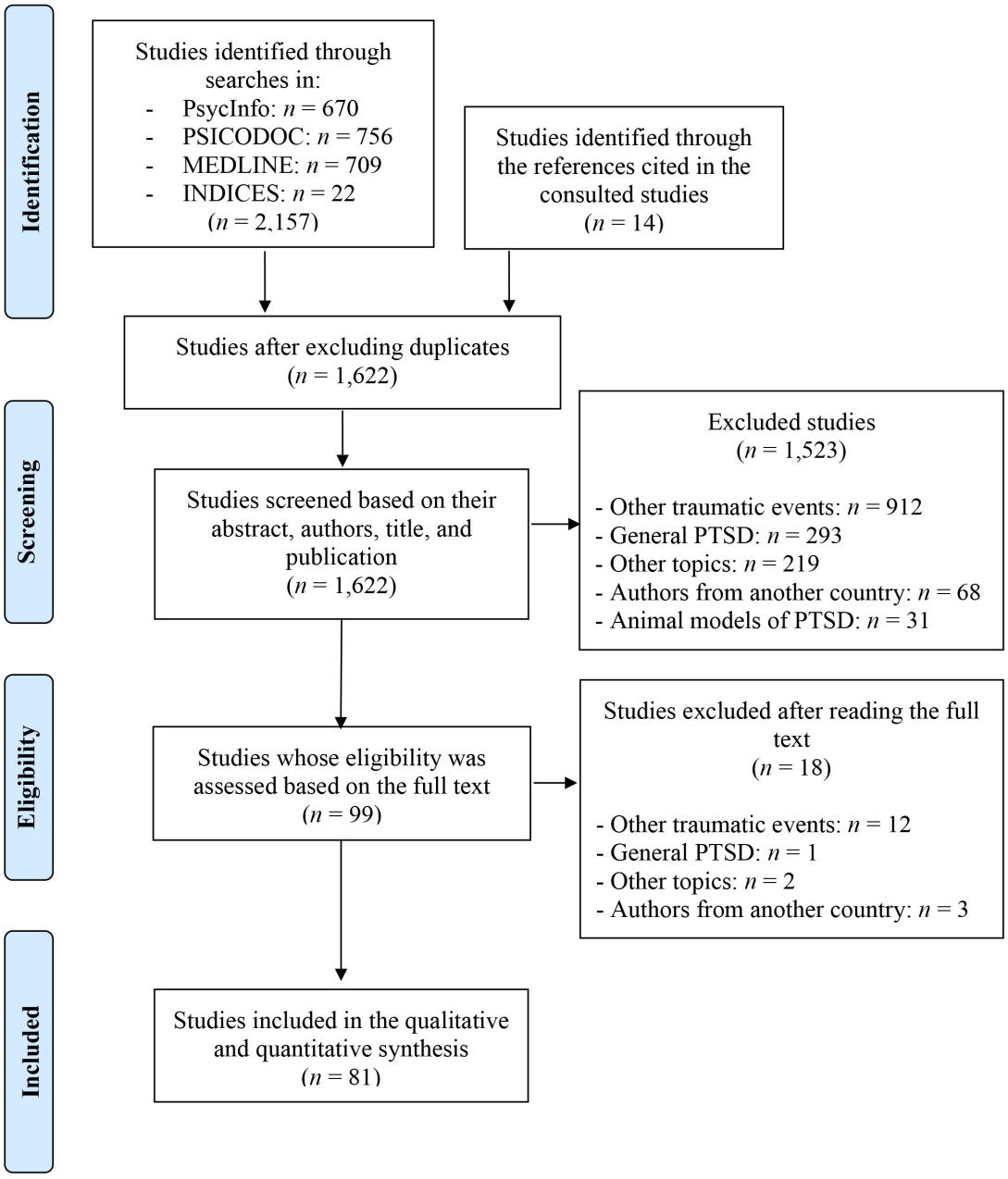
Results

Evolution of the Spanish Scientific Literature on Terrorism and PTSD

Figure 2 presents, based on the year of publication of the 81 studies analyzed in this study, the evolution of the Spanish scientific literature on terrorism and PTSD from 1980—the year of publication of the DSM-III, in which the definition and diagnosis of PTSD were first introduced—through 2024.

As can be seen in this figure, the number of published studies increased considerably after 2003; whereas eight studies were published during the 14-year period from 1980 to 2003, a total of 50 studies were published in the subsequent 14 years (2004-2017). In 2024 alone, 12 studies were published—more than in any other year and more than all those published between 1980 and 2003 combined. Moreover, during the 2004-2024 period, two prominent periods can be observed: one more pronounced between 2004 and 2008, during which an average of 7.6 studies were published per year, and another less noticeable between 2018 and 2022, during which an average of 4 studies were published per year, while the annual average for the entire 2004-2024 period was 3.5 studies, and the annual average for this period excluding the two prominent periods was 1.2 studies.

Figure 1
Flowchart of the Search and Selection Process for Spanish Studies on Terrorism and PTSD



Attacks, Types of Studies, and Topics Analyzed in the Spanish Scientific Literature on Terrorism and PTSD

Table 1 presents a summarized content analysis of the 81 Spanish publications found on terrorism and PTSD in terms of the terrorist attacks examined, the types of studies conducted, and the subject areas addressed.

The vast majority of the published works focused on the March 11 attacks (41.5%) or on various attacks carried out in Spain that, although mostly attributable to ETA, could also include the March 11 attacks or attacks carried out by other terrorist groups (43.2%). In contrast, only a few studies focused exclusively on ETA attacks (6.1%) or on attacks committed abroad, particularly the September 11 attacks or those carried out in Israel (6.1%).

Most publications inform on empirical studies (59.6%), with reviews—whether narrative (16.8%) or systematic (9%)—being the second most common type of study in Spanish scientific publications on terrorism and PTSD. At least 11 studies present theoretical analyses of various aspects of PTSD in the context of terrorism, such as analyses of the role of the social and historical context and the importance of psychosocial trauma (e.g., Blanco et al., 2006; Moreno Martín, 2004), the selection or implementation of different

Figure 2
Number of Studies Published by Spanish Researchers on Terrorism and PTSD in MEDLINE, ÍnDICEs, Psicodoc, and PsycInfo

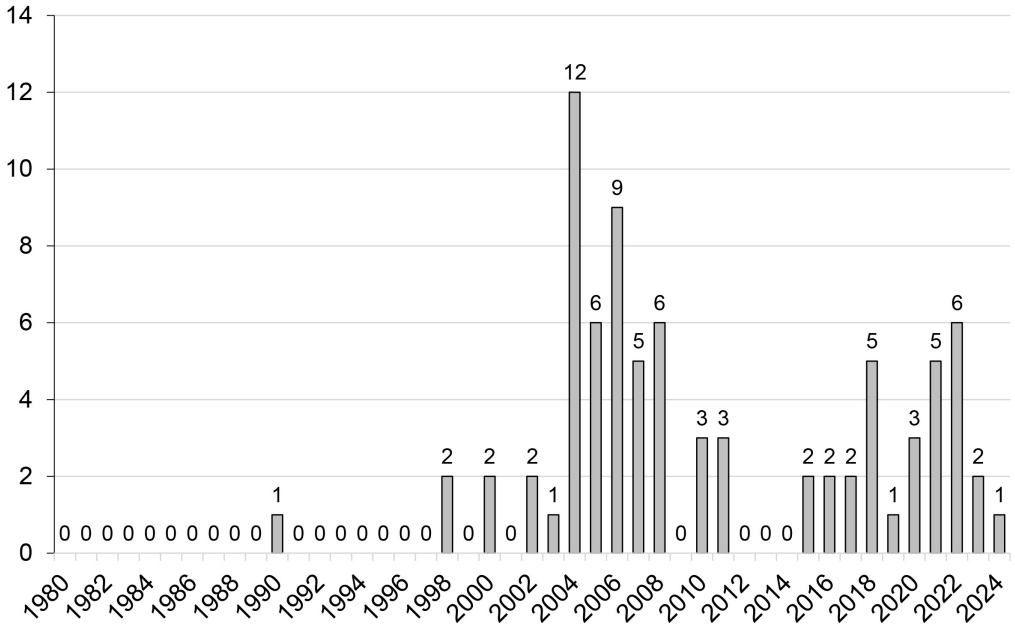


Table 1
Content Analysis of Spanish Studies on Terrorism and PTSD

Content	No. of studies	% of total
Terrorist attack		
March 11 attacks	34	41.5
ETA attacks in Spain	5	6.1
Other attacks or miscellaneous attacks in Spain	38	43.2
Attacks abroad (e.g., 9/11, Israel)	5	6.1
Type of study		
Empirical	53	59.6
Narrative review	15	16.8
Systematic review	8	9.0
Theoretical analysis	11	12.4
Narrative description	2	2.2
Subject areas		
Prevalence of PTSD	43	25.6
Psychological treatment of PTSD	21	12.5
Pharmacological treatment of PTSD	11	6.5
Factors contributing to PTSD	43	25.6
Psychopathology associated with PTSD	35	20.8
Constructs related to PTSD	4	2.4
Assessment of PTSD or related constructs (including psychometric analysis)	8	4.8
Criticisms of PTSD	3	1.8

Note. Some works focus on multiple attacks, include several types of studies, or address different subject areas; therefore, the percentage presented is calculated based on the total number of attacks, studies, or subject areas identified in the content analysis, rather than the total number of works retrieved from the literature search (N = 81).

therapeutic approaches (e.g., Echeburúa et al., 2004), the application of PTSD in the educational setting (Ramírez Cabañas, 2004), the distinction between PTSD and Northern syndrome (Sanz & García-Vera, 2022a), and the role of violence resulting from terrorist persecution and secondary victimization (Sanz & García-Vera, 2022b).

As for the subject areas of the published studies, the four most frequently addressed are: (1) the prevalence of PTSD (25.6%), among both direct victims and the relatives of those killed or injured in the attacks, first responders, and the general population in the affected area (e.g., Arnaiz Illescas et al., 2020; Conejo-Galindo et al., 2008; Echeburúa et al., 1998; Fraguas et al., 2006; Gabriel et al., 2007; García-Vera et al., 2016, 2021; Matt & Vázquez, 2008; Miguel-Tobal et al., 2004a, 2004b, 2006a, 2006b; Muñoz et al., 2004; Rey Bruguera & Hillers Rodríguez, 2005, 2006); (2) factors related to PTSD in the context of terrorism (25.6%), such as the degree of exposure to the attack (e.g., González-Ordi et al., 2004; Miguel-Tobal et al., 2004b, 2006a, 2006b; García-Vera et al., 2021), proximity to the attack (e.g., Cano Vindel et al., 2004), the type of attack (e.g., Soriano et al., 2020), injuries or physical sequelae (e.g., Conejo-Galindo et al., 2008; Ferrando et al., 2011), the violence of terrorist persecution and secondary victimization (e.g., Sanz & García-Vera, 2022b), posttraumatic cognitions (e.g., Bajo et al., 2018), dysfunctional attitudes (e.g., Fausor et al., 2022b, 2023; Liébana et al., 2022; Navarro et al., 2022), chronic thought suppression (e.g., Vázquez et al., 2008), or the political and social context (e.g., Blanco et al., 2006; Moreno Martín, 2004); (3) psychopathology associated with PTSD in this context (20.8%), such as depressive disorders (e.g., Fausor et al., 2023; Matt & Vázquez, 2008; Miguel-Tobal et al., 2006a, 2006b), anxiety disorders (e.g., Vázquez et al., 2008; Miguel-Tobal et al., 2004a, 2004b, 2006a, 2006b), or complicated or prolonged grief (e.g., Jiménez-Prensa et al., 2023; Sanz et al., 2020; Soriano et al., 2024), and (4) the treatment of PTSD in direct or indirect victims of terrorism (19%), with psychological treatment being more widely researched (12.5%; e.g., Echeburúa et al., 2004; Echeburúa Odriozola & de Corral Gargallo, 2005; Escudero et al., 2018; García-Vera et al., 2015; Gesteira et al., 2018; Moreno et al., 2019) than pharmacological treatment (6.5%; e.g., Echeburúa et al., 2004; García-Vera et al., 2021; Pastrana Jiménez et al., 2007; Sánchez

González, 2000). Other topics, such as the assessment of PTSD or related constructs (4.8%), including the psychometric analysis of the instruments used for such assessment (e.g., Cobos Redondo et al., 2021; Echeburúa et al., 2002; Navarro et al., 2022; Reguera et al., 2021), constructs related to PTSD that are not risk factors or potential explanatory factors for PTSD (2.4%), such as posttraumatic growth (e.g., Fausor et al., 2022a; Liébana et al., 2022), or critical analysis of the very concept of PTSD in the context of terrorism (1.8%; Blanco et al., 2006; Vázquez, 2005; Vera Poseck, 2006), are topics that have been addressed much less frequently in the Spanish scientific publications identified in this review.

Spanish Research Groups on Terrorism and PTSD

Table 2 presents the most productive Spanish research groups on terrorism and PTSD based on the studies identified in this review, taking into account the publication of at least three studies. Notable among these is the research group at the Complutense University of Madrid (UCM) led by Professors García-Vera and Sanz, co-authors of more than thirty publications. Although they published their first works in the wake of the March 11 attacks (García-Vera & Romero Colino, 2004; García-Vera et al., 2008), the majority of their work has been published after 2011, the year in which they launched a collaborative research project with the Asociación Víctimas del Terrorismo (AVT; Association of Victims of Terrorism) and with funding from various grants from the Ministry of Science and Innovation, using samples of participants composed of AVT members and, therefore, victims of various terrorist attacks in Spain. Further behind in terms of the number of publications are two other groups at the UCM: the one led by Professors Miguel-Tobal and Cano-Vindel, and the one led by Professor Vázquez, which are more focused on PTSD related to the March 11 attacks, and the group led by Professor Echeburúa, from the University of the Basque Country (UPV/EHU), which focuses more on PTSD related to ETA attacks. The remaining three most productive research groups listed in Table 2 have focused their work almost exclusively on the March 11 attacks.

Discussion

To the best of our knowledge, this study constitutes the first systematic review focused on the Spanish scientific literature on terrorism and PTSD, enabling us to analyze its evolution over time, its main thematic and methodological characteristics, as well as the most active research groups. The results reveal that Spanish research output experienced a very notable increase following the March 11 attacks, a pattern that mirrors—albeit with its own particularities—the trend documented internationally following the September 11 attacks and other similar large-scale attacks, including those in Madrid examined here (Hernández-Martínez et al., 2026; García-Vera et al., 2016). This finding suggests that in psychology and other scientific disciplines and fields, massive traumatic events act as powerful drivers of research activity, mobilizing scientific resources and fostering the creation of specific lines of study (Phillips, 2023).

Growth and Temporal Patterns of the Spanish Scientific Literature

The sharp increase in publications beginning in 2004 suggests an immediate catalytic effect of the March 11 attacks, with a particularly notable peak between 2004 and 2008. This trend is similar to that observed in the international literature, where the volume of publications on PTSD increased six-, ten-, or fifteenfold in the years immediately following 9/11, between 2002 and 2008 (Hernández-Martínez et al., 2026). However, unlike the international scientific literature following 9/11—which, after reaching its peak in productivity in 2006, declined and stabilized in subsequent years at a level five or six times higher than that prior to 9/11 (Hernández-Martínez et al., 2026)—the Spanish scientific literature appears to show a second, less intense but sustained increase between 2018 and 2022. This pattern could be explained by the consolidation of long-term research projects based on samples of victims from multiple attacks, as well as by the development of stable institutional collaborations, especially between universities and victims' associations (e.g., between the UCM research group led by García-Vera, and Sanz and the AVT, or between other university research groups and the associations of victims of the March 11 attacks). Furthermore, while the 9/11 attacks were a relatively isolated event in the U.S., the coexistence in Spain of a mass attack such as March 11 alongside a prolonged historical context of ETA terrorism may have helped sustain the research agenda beyond the acute impact related to the March 11 attacks in 2004 (Sanz & García-Vera, 2022b).

Predominant Themes in the Spanish Scientific Literature

The results of this review show that empirical studies constitute the majority (59.6%) of publications in the Spanish scientific literature on terrorism and PTSD, with a predominance of studies

Table 2
The Most Productive Spanish Research Groups in the Field of Terrorism and PTSD

Principal investigator	Research center	No. of published studies		
		Other attacks	March 11 attacks	Total
María Paz García-Vera and Jesús Sanz	Complutense University of Madrid	29	2	31
Juan José Miguel-Tobal and Antonio Cano-Vindel	Complutense University of Madrid	0	7	7
Carmelo Vázquez	Complutense University of Madrid	1	4	5
Enrique Echeburúa	University of the Basque Country	4	1	5
Mayelín Rey Bruguera and Rosalía Hillers Rodríguez	Móstoles and San Blas Mental Health Centers	0	4	4
Enrique Sainz-Cortón, Laura Ferrando, and Rafael Gabriel*	Gregorio Marañón and La Paz University Hospitals and the University of Alcalá	0	4	4
Amalio Blanco	Autonomous University of Madrid	1	2	3

*Note. *Based on the co-authors who appeared most frequently in the group's publications.*

focused on the prevalence of PTSD, risk or explanatory factors, associated psychopathology, and treatments for PTSD. This emphasis is consistent with the priorities established internationally following terrorist attacks, especially after the 9/11 attacks, since the initial epidemiological assessment of PTSD and associated psychological disorders, the identification of predictors for all these disorders, and the design and validation of therapeutic strategies are fundamental to guiding mental health policies and allocating care resources (Neria et al., 2006).

The focus on risk factors such as the degree of exposure, proximity to the attack, the violence of terrorist persecution, or secondary victimization reflects the importance that the international scientific literature had previously attributed to similar factors, since greater exposure to trauma and a higher level of life stress following the event are variables that have solid empirical support as risk factors for PTSD (Brewin et al., 2000). A similar point can be made regarding the attention paid by the Spanish scientific literature to factors related to the social context of the attacks, since, for example, a lack of social support is precisely another risk factor strongly associated with PTSD in the international scientific literature (Brewin et al., 2000). However, the attention paid to the political and historical context in studies such as those by Blanco et al. (2006) and Moreno Martín (2004) is particularly distinctive in the Spanish scientific literature compared to the Anglophone research related to the 9/11 attacks; instead, it aligns with the scientific literature on state terrorism and political violence in Latin American countries such as Argentina, Chile, and El Salvador (Becker, 1995; Martín-Baró, 2003).

The focus of the Spanish scientific literature on posttraumatic cognitions or dysfunctional attitudes as risk factors or explanatory factors for PTSD reflects an integration with contemporary cognitive models of PTSD (e.g., Ehlers & Clark, 2000), indicating that this literature has also aligned itself with robust international theoretical frameworks on PTSD.

Furthermore, the analysis of comorbid psychopathology—including depressive disorders, anxiety disorders, and complicated grief—represents another area of interest in the Spanish scientific literature on terrorism and PTSD, and this emphasis aligns with the strong global evidence that PTSD rarely occurs in isolation but rather forms part of a complex web of symptoms and psychological disorders that require an integrated understanding. For example, in Spain, 59.5% of adults with PTSD also had another mental disorder in the past year, with the most likely disorders being, in this order, major depressive disorder, generalized anxiety disorder, agoraphobia, or panic disorder (Autonell et al., 2007), while the results of epidemiological studies conducted in the U.S. indicate that approximately 40% of adults with PTSD also have a concurrent substance use disorder (Korte et al., 2020).

Furthermore, the availability of recent studies on complicated or prolonged grief, PTSD, and terrorism is particularly relevant given the formal recognition of the diagnosis of prolonged grief disorder in both the ICD-11 (World Health Organization, 2018/2024) and the DSM-5-TR (American Psychiatric Association, 2022), which positions Spanish research within contemporary clinical debates.

Contributions in the Field of Treatment

The reviewed Spanish scientific literature demonstrates a notable contribution to the development and evaluation of psychological treatments for PTSD in victims of terrorism, with a clear predominance of trauma-focused cognitive-behavioral therapies (TF-CBT) (e.g., Gesteira et al., 2018; Moreno et al., 2019). This pattern is consistent with the most prestigious international clinical guidelines (e.g., American Psychological Association, 2017; National Institute for Health and Care Excellence, 2018), which unanimously identify TF-CBT as the first-line treatment for PTSD (García-Vera et al., 2024).

The lower representation of studies on pharmacological treatments in the Spanish scientific literature on terrorism and PTSD is also consistent with the international trend that prioritizes psychological interventions as the preferred treatment for PTSD. Specifically, the aforementioned clinical guidelines recommend that psychotropic medications (e.g., fluoxetine, paroxetine, sertraline, and venlafaxine) should not be offered as first-line treatment for PTSD, as they are less effective than psychological treatments (American Psychological Association, 2017; National Institute for Health and Care Excellence, 2018; García-Vera et al., 2024).

Underdeveloped Areas: Challenges and Opportunities

This review identifies several under-explored areas that should be prioritized for future research. First, studies on the psychometrics and assessment of PTSD account for a small percentage of the research, even though the accurate measurement of trauma is a fundamental pillar of research and clinical practice. Second, research on posttraumatic growth remains scarce, despite the growing relevance of this construct in the international literature (Tedeschi et al., 2018). Third, the limited number of theoretical and critical analysis studies suggests the need to promote perspectives that integrate the social, historical, and political dimensions of trauma, as proposed by international approaches based on collective and interpersonal trauma (Maercker & Hecker, 2016).

Finally, it is important to note that the PTSD construct does not encompass all dimensions of the harm that terrorist attacks can cause to individuals and societies. Therefore, it would be desirable for future Spanish research on the impact of terrorism to use, in addition to the PTSD construct, other constructs that reflect, for example, social harm, harm to systems of primary protection and support, or moral harm.

Research Groups: Consolidation and Specialization

The analysis shows that Spanish research output is highly concentrated in a few research groups, with three groups from the UCM and one from the UPV/EHU being particularly prominent. The group led by García-Vera and Sanz stands out both for the volume and the thematic diversity of its work, and its collaboration with the AVT has made it possible to generate knowledge, assessment tools, and treatment techniques of great applied value. Other groups, such as those led by Miguel-Tobal and Cano-Vindel, as well as by Vázquez, have made fundamental contributions to the study of the specific impact of the March 11 attacks, while the group led by Echeburúa has focused more on ETA terrorism, offering distinct and complementary perspectives.

Although this concentration has facilitated greater thematic coherence and continuity in research and has enabled the generation of solid, applied knowledge, it also highlights the need to encourage

the participation of more institutions and multidisciplinary teams—especially international institutions and researchers—in order to expand and strengthen the research capacity of Spanish psychology.

General Conclusions

Overall, the results of this systematic review show that the Spanish scientific literature on terrorism and PTSD experienced a massive expansion following the March 11 attacks in 2004 and has continued to develop steadily and grow since that year, in line with international trends and focused on areas such as the prevalence of PTSD, risk factors or explanatory factors, associated psychopathology, and treatments for PTSD, while also incorporating unique contributions derived from the Spanish historical context and dominant trends in Spanish psychology (e.g., the study of sustained terrorism—carried out by ETA—and secondary victimization; interest in the social, political, and historical context). The strengths identified—such as the abundance of empirical studies, the focus on cognitive and social variables, and the presence of established groups capable of sustaining long-term research agendas—represent a solid foundation for scientific progress. However, the gaps identified in areas such as psychometric assessment, posttraumatic growth, and integrative theoretical frameworks underscore the need for a broader, more diversified, and international future agenda that will allow for the continued strengthening of this line of research in Spain.

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Conflict of Interest

The author declares that there are no conflicts of interest in the conduct of this work.

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