

**INTELLIGENCE, SECURITY
AND INTERDISCIPLINARITY**

A SYSTEMATISED REVIEW OF THE RESEARCH DESIGNS AND METHODS FOR STUDYING CITIZENS' PERCEPTIONS OF NATIONAL SECURITY ISSUES*

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Abstract:

This work aims at reviewing the research designs and methods used to date to investigate citizens' perceptions of issues related to national security. The advantages and limitations of such designs and methods are highlighted and, where appropriate, indications for further research are suggested. This review considers research from different disciplines. It aims at providing a structured systematisation of the current knowledge and, most importantly, methodological approaches used to investigate the topic.

Keywords: *citizens, perceptions, national security, intelligence, methods.*

Introduction

What we observe is not nature itself, but nature exposed to our method of questioning (Heisenberg, 1958). With this famous sentence, Heisenberg highlighted a crucial aspect of science that transcends quantum mechanics, of which he was a pioneer: research does not lead us to the truth of things. Instead, we acquire a glimpse of reality based on

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the instruments through which we decide to carry out research. For at least three reasons, the investigation of a topic cannot be divorced from the tools used to facilitate the investigation (Aromataris & Pearson, 2014). One, the choice of tools dictates the type of data available for investigation (e.g., qualitative or quantitative) and consequently the type of data generated. Two, the limitations of the instruments restrict the investigative horizon of the subject examined. Three, the methods and techniques unveil the philosophical positions adopted by the researchers. Indeed, this explains why a topic is studied from a certain angle and not others and why a particular research method is used (Hart, 2018). For all these reasons, the need for a rigorous review of research designs and methods is necessary.

The primary aim of this review, first of its kind, is to systematise the current sparse knowledge on citizens' perceptions of security issues. Indeed, the empirical works carried out so far have utilised a wide range of methods and techniques that reflect the wide heterogeneity of research topics and theoretical approaches. In a relatively new discipline like security science, it is essential to define a clear pattern of research aims, theoretical foundation and modalities of enquiry. In doing so, the main points of strength and limitations proper of each research design, method, and technique are pointed out in this research. Since, as highlighted later, most of our knowledge on this topic is based on one specific type of research method, pointing out its drawbacks makes it easier for researchers to treat the results and interpretations cautiously. Consequently, another important objective of this review is to stimulate a greater integration of disciplines, research designs and methods to – at least partially – overcome the limitations affecting the current body of work on the topic.

Theories in security studies are diverse and specifically relate to the discipline within which the investigation is carried out. For example, the investigation of security issues in international relations often relates to classical theories such as constructivism (Huysmans, 2002), liberalism (Williams, 2001), and realism (Booth, 1991). Nevertheless, as security studies are an interdisciplinary conglomerate (Walt, 1991), it is not infrequent for works in the security studies' literature to adopt or attempt to confute theoretical positions traditionally attributed to other

disciplinary fields. For example, several classical theories have been adapted to information security, such as grounded theory (Glaser, Strauss, & Strutzel, 1968) and social cognitive theory (Bandura, 1989).

Current knowledge of security studies is based mostly on the results of academic studies from the application of the two main types of research methodologies, that is, quantitative and qualitative. As mentioned, the type of investigation conducted is not merely a choice of what data are collected but reveals the epistemological position of the researcher, how the data should be analysed and how results are interpreted. If not chosen simply based on convenience, the method selected reflects the way the topic is conceived by the researcher and highlights which aspects are considered more relevant. In the context of the present research, if some scholars decided to carry out interviews with the survivors of a terrorist attack, we may infer that they want to give weight to the narrative dimension of the individual experiences. That is, the researchers value the verbal component more than other dimensions and are interested in giving voice to the participants in the study without imposing constraints that inevitably affect other methods of investigation. As an alternative, if some researchers decide to administer questionnaires to a sample of respondents who could have been involved in a terrorist attack, then we may infer that they value the quantity of data more than specific details of individual experiences. Quantitative approaches imply that researchers wish to codify participants' responses to more readily compare data with other studies. These are but two examples of how the type of available knowledge on a given topic may convey not just raw information but insights into how the research was conducted, what the researchers were looking for and which aspects of participants' responses were deemed more relevant.

In the context of the perception of security issues, there is another point to take not account. Precisely because security studies do not occur in a vacuum, the social and political context surrounding a study should be given particular attention. This appreciation of context is motivated by at least two reasons. First, security issues are perceived differently in various parts of the world (Karaosmanoğlu, 2000). Moreover, diverse traditions and social norms mean that people perceive the same issues in different ways. Although generalisability is one of the most important

aspects of both quantitative and qualitative research (Noble & Smith, 2015), it is not always possible to use the same paradigm in different contexts. In fact, as presented later in this review, several comparative studies have permitted analysis of differences in the way security issues are perceived in various regions and countries. The second reason is that security studies might touch upon sensitive information or investigate topics of relevance for national security. Regarding this motivation to appreciate context, a political endorsement, for example, via research funding, may be a crucial factor influencing this type of research.

The review proces

Within this framework, an accurate review of the modalities through which this topic has been so far investigated is necessary. This article presents a review of research designs and methods used in the last 20 years to investigate citizens' perceptions of national security issues. Bryman's classical view of research design and methods are employed to accomplish the review (Bryman, 2016). In particular, a research design is conceptualised as the framework within which data are collected and analysed. Other distinguished authors categorised the existing literature based on research designs (e.g., Creswell, 1994; Spector, 1981). However, Bryman's work provided an additional layer of detail, by clearly distinguishing research designs, strategies and methods. This structured framework allowed a more precise categorisation of the current body of work on perceptions of national security issues.

Bryman presented five main types of research design: experimental, cross-sectional, longitudinal, comparative and case study designs. In the present work, only the first four types are considered. Indeed, even if some papers reviewed for this work were specific country studies, the authors did not present them as case studies but rather stressed the characteristics of either longitudinal (e.g., Metcalfe, Powdthavee, & Dolan, 2011; Silver, Holmun, & McIntosh, 2002) or experimental research (e.g., Halperin, Porat, & Wohl, 2013). These studies are accordingly presented as longitudinal or experimental research in this review. Furthermore, Bryman views a research method as simply a technique used to collect data, for example, questionnaires,

interviews, and more. Research methods are similarly represented in this review (Bryman, 2016).

In his work, Bryman also introduced the dimension of research strategy. With this term, he referred to a general orientation to the conduct of social research, within which the distinction quantitative and qualitative is made. In sum, Bryman discussed quantitative and qualitative research strategy. However, Bryman's distinction is not employed as a yardstick to organise the current review but is rather referred to where relevant. For example, qualitative studies have not been conducted to investigate citizens' perceptions of security issues using an experimental design. The quantitative or qualitative distinction is presented only in the parts of the review where both quantitative and qualitative research methods have been used.

Several criteria have been used to select the studies presented in the current review. First, papers had to be published from the year 2000 onwards. This choice aligns with the recent developments in the literature of security studies, according to which the emergence of a consistent number of studies on citizens' perceptions of national security issues started at the beginning of the 21st century. Second, studies included in the review had to be the first to analyse a specific topic through empirical research, with a specific research method. Third, studies selected for the review must be influential (published in high impact factor journals) or have had enough impact to stimulate further consistent research using a similar research method.

In order to find potential studies to include in this review, three main databases were searched: PsycNet, ScienceDirect and Google Scholar. The terms and phrases of interest were searched among those works that fulfilled the criteria mentioned above. The search was restricted to peer-reviewed empirical works written in English. A similar modality to search for studies to review was adopted by other studies (e.g., Sawka, McCormack, Nettel-Aguirre, Hawe, & Doyle-Baker, 2013). Table 1 presents the final list of studies reviewed, categorised by research design, methods and thematic areas.

Following these methodological choices, this article presents a review of existing studies investigating citizens' perceptions of security issues. This review is organised in accordance with the above-mentioned

classifications of four research designs. In particular, each research design is analysed in relation to the main thematic areas explored and research methods used to collect data.

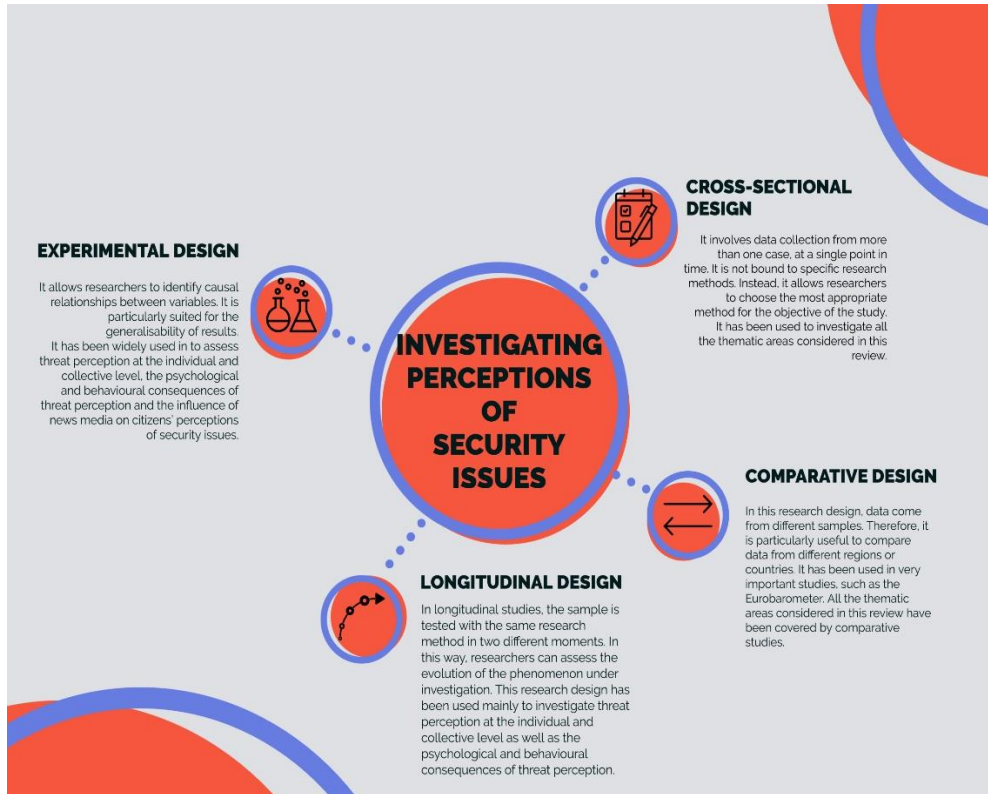


Figure 1: *Infographic of research designs:* This figure shows the main characteristics of the research designs that have been used in the existing literature to investigate citizens' perceptions of security issues.

Table 1: Reviewed studies. This table shows the final list of studies considered in this review.

	AREA 1 - Threat perception at the personal and collective level	AREA 2 - Psychological and behavioural antecedents and consequences of threat perception	AREA 3 - Attitudes towards security services and security systems	AREA 4 - Influence of the way through which security issues are presented (news media and political rhetoric)
Experimental design	<ul style="list-style-type: none"> • Questionnaire: - Lerner, Gonzalez, Small, & Fischhoff, 2003 - Fischhoff, Gonzalez, Lerner, & Small, 2005 - Rousseau & Garcia-Retamero, 2007 - Reffen Tagas, Federico, & Halperin, 2011 - Garcia-Retamero, Müller, & Rousseau, 2012 - Halperin et al., 2013 - Seate & Mastro, 2015 - Ferwerda, Flynn, & Horriuchi, 2017 - Clayton, Ferwerda, & Horriuchi, 2011 • Word memory task: - Zhu, Zhao, Ybarra, Stephan, & Yang, 2015 • Electromyography: - Davis & Stephan, 2011 - Davis, 2015 	<ul style="list-style-type: none"> • Structured interview: - Metcalfe, Powdthavee, & Dolan, 2011 • Questionnaire: - Gadrarian, 2010 - Huang, Rau, & Salvendy, 2010 - Chataud et al., 2011 - Huang, Patrick Rau, Salvendy, Gao, & Zhou, 2011 - Legewie, 2013 - Gomez & Villar, 2018 - Ardan & Webb, 2018 		<ul style="list-style-type: none"> • Questionnaire: - Gadrarian, 2010
Cross-sectional design	<ul style="list-style-type: none"> • Questionnaire: - Halperin, Bar-Tal, Nets-Zehngut, & Dvori, 2008 - Ridout, Grosse, & Appleton, 2008 • Structured interview: - Huddy, Feldman, Capelos, & Provost, 2002 - Davis, D. W., & Silver, 2004 - Meroz & McCauley, 2009 - Donahue, Eckel, & Wilson, 2014 	<ul style="list-style-type: none"> • Focus group: - Deiel, 2004 - Borel, 2008 • Qualitative interview: - Lee, Dallaire, & Lemyre, 2009 - Huang, Rau, & Salvendy, 2010 - Yong & Lemyre, 2019 • Semi-structured interview: - Adeboye & Brown, 2018 - Cohen-Louck, 2019 • Questionnaire: - Goodwin, Willson, & Stanley, 2005 - Brookmeyer, Henrich, Cohen, & Shahar, 2011 - Caponecchia, 2012 - Harbach, Fah, & Smith, 2014 - Huber, Van Boven, Park, & Pizzi, 2015 - Yong, Lemyre, Pissent, & Krewski, 2017 - Van Schaik et al., 2017 - Yong & Lemyre, 2019 • Structured interview: - Rubin et al., 2005 - Lee & Lemyre, 2009 - Lee, Lemyre, & Krewski, 2010 - Paranjothy et al., 2011 - Shechory Bitton & Laufer, 2017 - Cohen-Louck & Levy, 2020 • Time-series analysis: - Prager, Beeler Asay, Lee, & von Winterfeldt, 2011 	<ul style="list-style-type: none"> • Structured interview: - Davis, D. W., & Silver, 2004 • Questionnaire: - Sarquist, Mahy, & Morris, 2008 - de Waal, 2013 - Baril, Gerhold, & Wählich, 2014 - Degli Esposti & Santiago Gómez, 2015 - Iles et al., 2017 	<ul style="list-style-type: none"> • Structured interview: - Donahue, Eckel, & Wilson, 2014 • Content analysis: - De Castella & McGarity, 2011 - Watson, 2012 • Discourse analysis: - Trainen, 2017 • Generalized Structural Equation Modelling: - Rashid & Ohlsson, 2021
Longitudinal design	<ul style="list-style-type: none"> • Questionnaire: - Lerner, Gonzalez, Small, & Fischhoff, 2003 - Fischhoff, Gonzalez, Lerner, & Small, 2005 	<ul style="list-style-type: none"> • Questionnaire: - Kaakinen et al., 2021 • Structured interview: - Rubin et al., 2007 - Gelkopf, M., Solomon, Z., & Bleich, A., 2013 - Metcalfe, Powdthavee, & Dolan, 2011 		
Comparative design	<ul style="list-style-type: none"> • Structured interview: - Garcia-Retamero, Müller, & Rousseau, 2012 - Schmid & Muldoon, 2015 - Corretti, Elad-Strenger, Lavi, Guy, & Bar-Tal, 2017 - "Special Eurobarometer 464b Summary Europeans' attitudes towards security," 2017 - "Special Eurobarometer 499 Summary Europeans' attitudes towards cyber security," 2020 • Questionnaire: - Rousseau & Garcia-Retamero, 2007 - Garcia-Retamero, Müller, & Rousseau, 2012 	<ul style="list-style-type: none"> • Questionnaire: - Legewie, 2013 - Kaakinen et al., 2021 • Qualitative interview: - Seger Guttman, Gilboa, & Partrouche-Sebban, 2021 	<ul style="list-style-type: none"> • Structured interview: - "Special Eurobarometer 464b Summary Europeans' attitudes towards security," 2017 • Questionnaire: - Nissen, Hansen, Nielsen, Knardak, & Heir, 2019 	<ul style="list-style-type: none"> • Content analysis: - Nacos, Bloch-Ellon, & Shapiro, 2007

Experimental design

Introduction: Experimental design is one of the main research methods used in academic research. Some characteristics of experimental design make it particularly useful for explaining causal relationships among social phenomena. First, this research design involves the manipulation of so-called independent variables, resulting in effects on the dependent variables that are being tested and measured in the study. Through this analysis, causal relationships can be effectively assessed. In the context of the perception of security issues, causality is particularly important when, for example, trying to demonstrate a link between the way a security issue is perceived and its consequences on future behaviour.

Another characteristic crucially important to make the experimental design the privileged design for generalisability of results is the random assignment of participants to different experimental conditions. In that way, the researcher would be confident enough to ascribe the differences found in the experimental conditions to the manipulation of the independent variables. For this to be the case, researchers need to be absolutely sure to avoid the influence of factors other than the independent variables. This aspect is particularly important for the analysis of the perception of security issues. For example, if the objective of a study were to investigate the effects of different types of security threats on citizens' emotional responses, some respondents in the experimental sample might be more likely to feel sad, angry or worried due to their personality characteristics.

Questionnaires are the most frequently used method to collect data in experimental studies on perceptions of security issues. Surveys have the advantage of producing larger data sets and permitting the comparison of results across different studies using the same data collection method. However, the method reduces the spectrum of dimensions of the phenomena examined to the verbal component only. This constraint could constitute a serious limitation when analysing emotional reactions to security threats because, as some researchers have highlighted (Cacioppo, Berntson, Larsen, & Ito, 2000), the analysis of only the verbal component of emotions fails to capture other informative dimensions, such as somatic responses. This issue and other

attributes of experimental design in the context of the perception of security issues are presented in the following section.

Thematic areas: The experimental design has been used in many influential works to investigate cognitive and emotional processes. Following this stream of research, the experimental research design has been frequently used to investigate the perception of security threats at the individual and collective level. Experimental design has also been utilised to examine the psychological and behavioural antecedents and consequences of the perception of security threats. Within these two thematic areas, the main theoretical concepts explored can be identified as the correlates of intergroup threats, psychological conditions following national security incidents and behavioural changes in responses to national security issues. For example, a seminal study conducted by Rousseau and Garcia-Retamero (Rousseau & Garcia-Retamero, 2007) investigated the roles of a sense of power and intergroup conflicts in the perception of threats and their implications for public policy in the United States and Spain.

Other studies explored intergroup conflict by focusing on the importance of the similarity in cultural and political values between groups (e.g., Garcia-Retamero, Müller, & Rousseau, 2012). In particular, studies have examined anger (Reifen Tagar, Federico, & Halperin, 2011), mortality salience, intended as people's awareness of the unavoidability of their own death in times of war (Chatard et al., 2011), and angst (Halperin et al., 2013) in modulating individual and collective consequences of intergroup conflicts. A pioneering study conducted by Zhu and colleagues (Zhu, Zhao, Ybarra, Stephan, & Yang, 2015) explored the cognitive outcomes of intergroup threats using a word memory task, which was a rather unusual method to investigate the perception of security issues.

Another stream of research measured specific emotional responses to security threats. This is the case in a ground-breaking study conducted by Lerner and colleagues (Lerner, Gonzalez, Small, & Fischhoff, 2003). In this study the authors investigated the effects of two particular emotions, fear and anger, on the perceived risk of terrorism. This study is particularly relevant for the present research because – to

the best of my knowledge – it was the first to employ an experimental design examining the same emotions involved in the perception of a security issue that are the subject of the experimental part of this research. Other work has explored the emotional components of security threats, such as the role of emotions in intergroup behaviour (Seate & Mastro, 2015), the role of fear in the public perception of terrorism (Avdan & Webb, 2018), and analysis of the cognitive and emotional consequences of terrorism (Fischhoff, Gonzalez, Lerner, & Small, 2005). It is worth mentioning the work conducted by Davis and Stephan (Davis & Stephan, 2011), which was extended in 2015 (Davis, 2015). These studies represent an innovative attempt to assess the somatic correlates of emotions elicited by the perception of security threat at the individual and collective level.

Immigration is an issue that has frequently been found to be related to the perception of security threats, with consequences at the individual and collective level. Different aspects of this phenomenon have been investigated, such as the influence of previous personal experience (Clayton, Ferwerda, & Horiuchi, 2021), opposition to refugee resettlement (Ferwerda, Flynn, & Horiuchi, 2017) and the emotions induced by news coverage on immigration (Seate & Mastro, 2015).

Experimental design has also been used in pioneering work carried out by Huang and colleagues to study another relevant issue: the effects of perception of cybersecurity issues on future behaviour (Huang, Rau, & Salvendy, 2010). This topic has been further explored by other work which analysed – among others – dimensions such as the role of knowledge, controllability and awareness (Huang, Patrick Rau, Salvendy, Gao, & Zhou, 2011) and the use of cognitive heuristics in the context of cyber threats (Gomez & Villar, 2018).

A notable issue seldom investigated through the use of experimental design is the influence of the media on citizens' perceptions of security issues. For example, some authors have investigated the role of emotionally powerful news on modulating the audience's perception of threats related to terrorism (Gadarian, 2010). Other studies following Gadarian's work used experimental protocols to investigate the influence of news on the support of anti-Muslim policies (Matthes, Schmuck, & von Sikorski, 2019) and the way images portraying

terrorism influence the public's political attitudes and appraisal of a terrorist event (Iyer, Webster, Hornsey, & Vanman, 2014).

The topics just presented are those most frequently investigated using an experimental design in the context of the perception of security issues. In the next section, the methods used to collect data are presented.

Research methods: An important aspect influencing methodological choices pertains to the set of advantages a particular method offers compared to others. Therefore, it is unsurprising to find that most experimental studies on the perception of security issues have used questionnaires to collect data. Indeed, this research method brings a series of benefits that cannot be ignored. First, questionnaires can be rapidly administered, which may be vital when investigating security issues. For example, if researchers are interested in assessing psychological reactions to a terrorist attack, they might not want to lose part of the information in the immediate aftermath of the event. Consequently, the administration of questionnaires may prove to be useful for this purpose.

Given the specific research procedure generally used in experimental studies, with data collection following the administration of experimental stimuli, structured interviews are seldom used. More frequently, questions have been administered in the form of self-completion questionnaires. This method has a considerable advantage over other types of data collection methods, which is commonly referred to as the "convenience of respondents". Survey respondents can choose the speed at which they answer questions and usually can jump between questions, not following a fixed order. Typically, respondents can take a break from completing the questionnaire, before returning to it later. This aspect is important to consider when studying how people perceive security issues, given the sensitivity of the topic.

By way of example, a study conducted by Rousseau and Garcia-Retamero examined the perception of intergroup threats by studying the effects of elements such as a shared identity and similarity to the outgroup on threat perceptions (2012). Questions were presented in a self-completion, multi-part questionnaire. The effects of perceptions of

intergroup threats have been investigated through self-completion questionnaires by several other researchers (e.g., Halperin et al., 2013; Reifen Tagar, Federico, & Halperin, 2011). This research method has also been widely used to investigate emotions related to threat perception. In Lerner et al., participants received the questionnaire via e-mail and were asked to respond to questions on their emotional experiences of terrorism, as well as policy preferences on the matter of national security (2003). Other studies employing this method investigated specific aspects of the perception of security threats by asking questions on the discrepancy between perceived and actual security threats (e.g., Huang, Patrick Rau, Salvendy, Gao, & Zhou, 2011), dread as a response to cyber-threats (Gomez & Villar, 2018) or the perception of different terrorist organisations (Avdan & Webb, 2018).

The advantages mentioned earlier highlight the usefulness of questionnaires as instruments to collect data; however, the presence of some disadvantages suggests that results should be interpreted with caution. These disadvantages are presented in this section and affect all the data collection methods across all types of research designs which involve respondents expressing their views, subjective experiences, attitudes and behaviours. For this reason, they are not repeated in the presentation of each research design considered in this research.

One of the main problems affecting questionnaires is the so-called social desirability bias (van de Mortel, 2008), according to which respondents tend to answer in a way they perceive to be in line with the researchers' views and beliefs. This issue is significant when investigating perceptions of security issues, such as political preferences following a major national security incident. In this case, some respondents might not want to reveal support for extreme parties. Another issue, in part related to social desirability bias, is the so-called intrusiveness bias (Choi & Pak, 2005). Respondents might feel reluctant to supply sensitive personal information. For example, participants in studies exploring psychological consequences of terrorism might be unwilling to report psychological symptoms elicited by a security incident, such as anxiety or sleep deprivation.

These examples demonstrate only some of the advantages and issues affecting self-completion questionnaires and structured

interviews. Another crucial characteristic of the instruments is that they are necessarily dependent on explicit and subjective experiences reported by participants. However, when investigating psychological processes, dimensions exist that cannot be assessed with this type of method. Therefore, experimental tasks have been designed to tap into implicit memory. In particular, according to the automatic vigilance approach, which is one of the main theories on the automatic allocation of attentional resources, a threatening stimulus is evaluated by an automatic attentional process without the person being aware of it (Pratto & John, 1991). In line with this approach, this automatic attentional process suggests a link between automatic vigilance and a series of other constructs, such as social judgement and – importantly for the present review – memory processes. In particular, it is expected that the recollection of threat-related stimuli is more effective than neutral information.

Another approach to explain automatic vigilance processes involved in threat perception relates to the adaptive memory hypothesis, according to which the human memory system evolved in a way that information relevant for survival is remembered more vividly (Nairne, Thompson, & Pandeirada, 2007). In the case of threatening situations, this would imply that individuals who have experienced threats would better remember threat-related information. One such task that has been used to assess the effect of perceived security threats is the word memory task (Zhu et al., 2015), which consists of three phases: encoding, filler and recognition. In the first phase, the participants were presented with 40 words (20 threat-related words and 20 neutral words), one at a time, which appeared at the centre of a computer screen. After the encoding phase, they were asked to complete a mathematical task for three minutes. Afterwards, they completed the recognition phase, in which they had to indicate, among the words previously shown and a new set of 40 new words (20 threat-related words and 20 neutral words), which ones they had seen before. This task came after reading articles chosen with the objective of inducing realistic intergroup threats. Although this method is highly effective for studying the effects of security threats on cognitive processes such as memory, as the authors pointed out, it has been rarely used. The scarcity of this method is

probably due to the relative complexity of the research design compared to other types of studies.

A major aspect regarding research on the perceptions of security issues concerns the relationship between decisions, emotions and their physiological correlates. Indeed, the behavioural and decisional changes originating from perception of security issues could be greatly affected by underlying emotional states and emotional elaboration of the situation. These emotional dimensions have an important non-verbal, physiological dimension which has been rarely considered in the academic literature on this topic. Nevertheless, some seminal theories on decision-making processes and emotions included an analysis of these aspects. For example, according to the somatic marker hypothesis, “marker” signals characterise the responses to particular stimuli (Damasio, 1996). This process may occur consciously or non-consciously. This activity takes the form of physiological activity, such as an increased heart rate, electrodermal activity or muscular activity. These physiological states are associated with particular conditions and influence the decision-making processes. This theory rejects the idea that behaviour is exclusively the result of either conditioning or cognition.

Another important stream of research highlighted the importance of emotions as both influencing the decision-making processes and also biasing judgements (Loewenstein & Lerner, 2003). The authors highlighted that behaviour cannot be treated simply as the outcome of cognition, since emotions play an important role as well. Moreover, according to the authors, no simple dichotomy of good and bad influences of emotions can be drawn. Starting from these theoretical contributions, it is possible to state that the analysis of the effects of specific emotions – and not generalised emotional activation – and their physiological correlates may provide insightful information for the study of perceptions of security issues. In this regard, an element that is highly informative of psychological processes – especially affective processes – but is often overlooked consists of the somatic-physiological dimension. As mentioned earlier, limiting the investigation of emotions to the analysis of what is said or written by participants might result in an incomplete understanding of the phenomenon being investigated. This is

particularly relevant when assessing the emotional experience related to the perception of security issues.

As shown earlier, some authors have investigated emotions through self-completion questionnaires (e.g., Garcia-Retamero et al., 2012; Halperin et al., 2013; Reifen Tagar et al., 2011). Seminal work conducted by Davis and Stephan enriched this stream of research through the analysis of somatic correlates of emotions elicited by threat perception (2011). The authors presented participants with videotape footage of the 9/11 terrorist attacks and instructed them that while watching the videos they were to think about how they personally felt or how Americans felt during the attacks. Concurrently, through the use of electromyographic recording they registered the activity of two facial muscles: the frontalis muscle – activity of which is generally associated with fear; and the corrugator muscle – activity of which is associated with anger. These two emotions are generally associated with threat perception at the individual and collective level respectively. A similar research procedure that also examined physiological correlates of perception of security threats was used in a later study by Davis (Davis, 2015).

Notably, no study was identified covering perceptions of security issues that used a qualitative research strategy for data collection within an experimental design. This is in line with Bryman's assertion that qualitative studies are scarcely used in experimental research (2016).

A final consideration is due before moving to the presentation of other research designs. Although influential researchers have highlighted the importance of studying psychophysiological correlates of emotions for a better understanding of emotional processes (e.g., Cacioppo et al., 2000), in few cases have these dimensions been studied in research on the perception of security issues. It is worth noting that more research is needed to understand implicit and somatic correlates of the perception of threats to security, as it might provide additional information or even suggest that researchers reinterpret results of previous studies on the topic.

Cross-sectional design

Introduction: In addition to experimental design, one of the most frequently used research designs to study the perceptions of security issues has been cross-sectional design which refers to research that analyses data of variables collected at one given point in time. This method is often referred to as a survey design, though this custom is imprecise. Indeed, the term “cross-sectional design” comprises research designs employing a variety of research methods, such as content analysis, interviews, focus groups, questionnaires, and more, while the term “survey design” generally refers to research conducted principally through the self-completion of questionnaires and structured interviews (Bryman, 2016).

In fact, cross-sectional design does not impose constraints on the research methods used to collect data, but has specific characteristics that make it one of the most effective ways to gather information to study perceptions of security issues. First, more than one case is needed. This poses the biggest difference between cross-sectional and case-study designs where the focus of the research is one case, whether a single person, social group, or other. This distinction is particularly important when studying perception of security issues since, in most cases, researchers are interested in assessing the reactions of large groups or even citizens of different countries. Therefore, the investigation of responses from only one person or even one community might not be highly informative for the purposes of the research.

Another important aspect of cross-sectional design is that data collection takes place at a single point in time. This element makes this type of research design different from others, such as longitudinal design or even experimental design, when data are collected in different moments. This is particularly important when researchers need data in a brief period, for example, following a natural disaster because they intend to study the psychological consequences in the immediate aftermath of the event.

In addition to these characteristics, cross-sectional design’s advantages of not being bound to quantitative or qualitative research methods nor to specific research procedures allows researchers to adapt it to the purpose of their study.

Thematic areas: In this section, the main thematic areas investigated through cross-sectional design are reviewed. Two of the main thematic areas investigated in numerous papers include attitudes towards security systems (e.g., Bartl, Gerhold, & Wählisch, 2014; de Waal, 2013; Degli Esposti & Santiago Gómez, 2015) and the influence of media and political rhetoric on the perception of security issues. One of the underlying reasons for the popularity of the method is that this research design, as mentioned earlier, does not limit the research methods to use or procedures to be conducted. Therefore, some theoretical concepts that are difficult to assess with other research designs can be effectively assessed through a cross-sectional study.

It was unsurprising to find that one of the main topics investigated through cross-sectional design in the current literature on the perception of security issues is terrorism. It is not unexpected because most studies on the perception of security issues emerged after the major terrorist attacks in the early years of the 21st century. However, it is worth noting that the current literature has explored several aspects associated with the perception of terrorism. For example, an influential work conducted by Huddy and colleagues (Huddy, Feldman, Capelos, & Provost, 2002) explored the perception of terrorism at the personal and national level. The study represents one of the first works to disentangle the perception of security threats at different levels, paving the way for subsequent research on the topic. By way of example, Maoz and McCauley (Maoz & McCauley, 2009) investigated the effects of perceptions of individual and collective fear on the intentions of Jewish Israelis to support or oppose a compromise with Palestinians.

Another important study on the perception of terrorism was conducted by Lee and colleagues (2009), who not only explored the individual characteristics affecting threat perception but also investigated the health risks posed by terrorism. The authors chose to conduct qualitative interviews, which allowed for the exploration of in-depth, subjective experiences. Following this stream of research, other studies explored subjective experiences of terrorism and behavioural changes (Borell, 2008), the effects on social life and the importance of risk communication (Caponecchia, 2012; Yong, Lemyre, Pinsent, & Krewski, 2017), the effects of violence exposure and adolescent

behaviour (Brookmeyer, Henrich, Cohen, & Shahar, 2011), clinical conditions such as PTSD following major security incidents (Shechory Bitton & Laufer, 2017) and changes in travel intentions following perceptions of threats to national security (Prager, Beeler Asay, Lee, & von Winterfeldt, 2011). The large number of this type of studies indicates that this research design is particularly suitable for investigating this topic.

Another recurring and relevant topic analysed through cross-sectional design has been the perception of issues related to cybersecurity. For instance, Van Schaik and colleagues (2017) studied how different cybersecurity-related hazards are perceived and the possible precautionary security practices. Similarly, Harbach and colleagues (2014) explored risk awareness of specific cybersecurity threats and users' awareness of potential risks. Other researchers were interested in exploring the psychological consequences of being involved in natural disasters. For instance, Huber and colleagues (2015) conducted a study where they considered emotional responses to natural calamities, among other factors. Similarly, Paranjothy and colleagues (2011) investigated the impact of floods on mental health.

The study of issues such as cybersecurity and natural tragedies confirms the validity of the new conception of national security introduced by the Copenhagen School of security studies, according to which a set of different sectors is included in the analysis and not exclusively related to military security, unlike the old tradition of security studies. Another important aspect to note is that several studies have investigated the role of fear and anger in the perception of issues related to security. This testifies to the importance of studying these two specific emotions. By way of example, Huber and colleagues (2015) investigated the effects of anger as a response to security issues and the processes of political polarisation. In another interesting study, researchers studied the effects of fear and anger in political rhetoric about terrorism (de Castella & McGarty, 2011). This stream of research on the role of political rhetoric on the perception of security issues has been enriched by other works aimed to explore, among other themes, the symbolic meaning of terrorism targets conveyed by journalism (Watson, 2012), the news coverage of revelations of intelligence-related issues

(Tiainen, 2017) and the media coverage of terror-related feelings (Rashid & Olofsson, 2021). Overall, a great number of topics have been covered by studies using a cross-sectional design. This large assortment of thematic concepts reflects the large number of research methods used to collect data, which are presented in the next section.

Research methods: The significant number of topics covered by studies adopting a cross-sectional design are reflected by the large set of research methods used to collect data. By analysing existing research using this type of design, a pattern similar to that previously presented for experimental design emerged: the majority of the studies used surveys in the form of self-completion questionnaires or structured interviews. The advantages of this type of method have been presented above, but what is interesting to note is that these advantages hold for the investigation of diverse topics. For example, Goodwin and colleagues administered a self-completion questionnaire to investigate variables such as values, normative influences, and more (Goodwin, Willson, & Stanley, 2005). Other researchers used self-completion questionnaires to collect data for their study, even if the modality through which they have were administered varied. For instance, some scholars decided to use a “paper-and-pencil” questionnaire (e.g., Brookmeyer, Henrich, Cohen, & Shahar, 2011), while others chose to administer the survey online (e.g., Caponecchia, 2012; Harbach, Fahl, & Smith, 2014). An interesting modality of questionnaire administration was chosen by Huber and colleagues (Huber et al., 2015), who decided to let participants complete responses by providing them with laptop computers while they were wearing noise-cancelling headphones.

Another way to administer questionnaires is through structured interviews. For instance, in the study conducted by Huddy and colleagues (2002), questions were administered by the means of telephone interviews. Intriguingly, the main novelty brought by this study, the differentiation of perceived security threats at the personal and national level, was assessed by two sets of questions, all starting with “How worried are you ...?” or “How concerned are you ...?” Therefore, it was implied that fear was the main emotion underlying the perception of both types of threat, while subsequent research demonstrated that anger

also plays a crucial role in this context (Lerner et al., 2003). Other researchers used telephone interviews as the method to collect data for their studies (e.g., Donahue, Eckel, & Wilson, 2014; B. D. Silver & Davis, 2004; Yong, Lemyre, Pinsent, & Krewski, 2017). In particular, Maoz and McCauley used telephone interviews to investigate, among other factors, Israelis' beliefs toward Palestinians, attitudes towards a binational Jewish-Arab state and attitudes toward a compromise solution for the Israeli-Palestinian conflict (2009). Curiously, this conflict was the object of investigation in other studies but conducted with other research methods. For example, as previously mentioned, Dekel conducted focus groups with Israeli mothers to investigate the difficulties of motherhood in a time of terror (Dekel, 2004). The choice of this research method was appropriate to study the subjective experiences and psychological symptoms related to terrorism. In fact, other researchers have explored the psychological conditions caused by living in times or terror. For example, Shecory Bitton and Laufer studied the development of post-traumatic stress disorder (PTSD) and post-traumatic growth (PTG) (2017). Overall, it seems that the investigation of subjective experiences related to the emergence of psychological conditions has been more frequently studied through qualitative research.

Notably, an alternative method to examine views of factors influencing the perception of security issues is news coverage of security issues and political rhetoric on the topic. For example, De Castella and McGarty conducted an interesting study on the use of emotional content in political rhetoric about terrorism (2011). In particular, they aimed at investigating the possible emotional manipulation of political stakeholders when addressing citizens on the matter of national security. Interestingly, the authors paid particular attention to the effect of fear and anger politicians tried to elicit in the audience. De Castella and McGarty chose to conduct a content analysis of a selection of messages addressed to the nation on the topic of terrorism between September 11, 2001 and May 1, 2003. Other researchers investigated the role of journalism in modulating citizens' perception of issues related to national security. This is the case in Watson (Watson, 2012), who analysed messages on the topic sent to the BBC using qualitative media analysis. Another unusual method of investigating the perception of

terrorism involves the use of generalised structural equation modelling. Rashid and Olofsson used this method to analyse the relationship between citizens' worry about terrorism and actual terrorist attacks in Western Europe in the period 2002–2016 (2021). Lastly, an innovative method to explore behavioural changes following major attacks was used by Prager and colleagues, who conducted a multivariate time-series analysis of travel intentions of Londoners following the July 2005 bombings (Prager et al., 2011).

Overall, it is possible to state that the cross-sectional design can be modelled around the needs of each researcher to best explore the topics under investigation. For this reason, a large set of research methods can be found by reviewing the current literature in this area and, in some instances, more than one method, whether qualitative or quantitative, has been used in the context of a single research project (Yong & Lemyre, 2019).

Longitudinal design

Introduction: Longitudinal design is a particularly interesting type of research, which can be considered as an extension of cross-sectional design with a crucial difference: data are collected more than once. In particular, in its classical form, the longitudinal design provides that the same sample is tested with the same research method in two different moments. This would allow researchers to assess the evolution of the phenomenon under investigation.

An interesting characteristic of longitudinal design, compared to cross-sectional design, is that it is better at disentangling the direction of causal inference. Indeed, assuming the presence of a certain independent variable at time 1 ($t1$) of the data collection process, the researcher can be more confident in assuming its effect on the data collected at time 2 ($t2$) (Bryman, 2016).

Along with advantages, there are limitations that make longitudinal design not as common as other types of research design in the literature of perception of security issues. In addition to the length of the entire data collection process and the resources needed to carry out, a serious problem is represented by the churn rate. Indeed, in all the studies presented here, the sample at $t2$ or $t3$ has always been smaller

than $t1$. This may be caused by a series of reasons, among which voluntary withdrawal from the study is the most plausible. This aspect is particularly relevant when analysing perceptions of security issues and, in particular, their psychological and behavioural correlates. Indeed, people may be not entirely comfortable sharing the evolution of their mental well-being in relation to a traumatic event they had experienced. This would lead, as shown in a later section, to samples in $t2$ equal – in some cases – to half of the number of participants in $t1$. These and other methodological aspects of longitudinal design are addressed in the following sections.

Thematic areas: The longitudinal design has been adopted mainly to explore the antecedents and consequences of security issues. This is because the characteristics of longitudinal design make it particularly effective in investigating the evolution of consequences of security issues over time. Interestingly, no study in the existing literature that fulfils the criteria set for the present review used this design to investigate citizens' attitudes towards security services and security systems and the influences of the news media and political rhetoric on citizens' perceptions of security issues. This occurrence is indicative of the relatively scarce use of this research design, compared to others, in the literature of security studies. Future research might address this shortcoming, considering the fact that this design would provide useful information for the investigation of these thematic areas.

Another thematic area that has not been extensively investigated with longitudinal studies is threat perceptions at the individual and collective level. In fact, only two studies which have been already presented as experimental studies are considered here, given the particular research procedure adopted. These two studies are highly influential in the literature of perception of security issues. The first one, conducted by Lerner and colleagues (2003), was aimed at analysing two particular emotions, fear and anger, on the perceived risk of terrorism. According to the authors, these two emotions not only originated from but also elicited cognitive appraisals, with direct consequences on risk estimates and behavioural changes. The authors collected data from the participants at two different moments in time. In particular, the

respondents were informed of the possibility to complete the study on two dates: September 10, 2001 and November 10, 2001. The second study, conducted by the same authors, aimed at comparing the data collected at t2 of the first study with new data, collected one year later, in November-December 2002 (Fischhoff et al., 2005). The aim was the same: assessing the influence of fear and anger as antecedents and consequences of cognitive appraisals in relation to perception of terrorism.

Although these two examples constitute an exceptional case of usage of the experimental and longitudinal design to study emotions involved in threat perception, most of the existing longitudinal studies, as mentioned earlier, had the intent to investigate the psychological and behavioural antecedents and consequences of security issues. For example, in an important work conducted by Rubin and colleagues, the authors wanted to assess the medium-term psychological impact of the 2005 London bombings on the population, in terms of level of substantial stress and changes in travel intentions (2007). This study took the form of a 7-month longitudinal study.

Another case of longitudinal research investigating this thematic area consists of the seminal work conducted by Silver and colleagues (2002). This work is particularly relevant because it was the first pure longitudinal study investigating the mental health effects of terrorism, as well as the influence of previous exposure to traumatic events and the coping strategies that the people affected put in place. Other studies aimed at exploring specific psychological conditions, such as PTSD, in responses to terrorism (Gelkopf, Solomon, & Bleich, 2013) and fear of terrorism in the light of some of the most recent terrorist attacks that took place in Europe (Kaakinen et al., 2021).

Overall, it is fair to state that the longitudinal design has been effectively used to investigate mostly mental-health states affected by exposure to national security issues, as well as the influence of previous experience, coping strategies and behavioural changes. Although this type of research design could provide additional information to the existing literature on other thematic areas, it has been only seldom used to explore them. The next section will deal in more detail with the methodological aspects of the above-mentioned research.

Research methods: Differently from the cross-sectional design, the set of research methods used in the selected longitudinal studies in this review is not large. In fact, only two types of research methods have been utilised in these studies: self-completion questionnaire and structured interviews. If structured interviews are considered only questionnaires administered by an interviewer, we can reduce the number of research methods to only one. It is worth mentioning that no qualitative method has been used in this selection of studies. This is line with what Bryman stated, that is longitudinal design is in general exclusively associated with quantitative research (2016).

Among the studies that used self-completion questionnaires, special mention is due to the work of Silver and colleagues (Silver et al., 2002). They used a web-based data collection method which, at the time when the study was conducted, represented a relatively new instrument. The authors pointed out that this method, compared to face-to-face and telephone interviews, had a greater accuracy in reporting sensitive topics and a better anonymity. The variables assessed through this web-based method were, among others, demographic characteristics, mental health status and prior exposure to stressful events. Interesting to note is the fact that, although the authors paid participants \$5 for participation in the second and third data collection, the sample at t_2 was less than half of the sample at t_1 . At t_3 the sample was less than a third than the sample at t_1 .

The same problem affected another study conducted through self-completion questionnaires (Kaakinen et al., 2021). In this research, the sample of participants in the second data collection equalled less than a third of the participants at t_1 . In this case, another source of concern comes from the fact that data were collected from different countries and the churn rate varied greatly from one country to another. The questionnaire, which was administered online, aimed at assessing two main factors: exposure to online hate and fear of terrorism on a multipoint scale. The questionnaire was designed in English and then translated into French, Spanish, Finnish, and Norwegian, considering that it was administered in France, Spain, Finland, Norway and the United States.

Even the research conducted by Fischhoff and colleagues used a self-completion questionnaire (2005). In this case, it comprises questions on the perceived probability of terror-related risks, as well as self-reported emotions, on a multi-point scale. The sample at t_2 was, even in this case, considerably lower than the sample when data were collected for the first time (532 vs. 973). The authors stated that there could be the possibility that the two samples differed in some way.

Other researchers chose to administer the questions via structured interviews. For example, Rubin and colleagues conducted two sets of telephone interviews to investigate the impact of the 2005 London bombings on the level of stress experienced by Londoners (2007). In this case, the sample at t_2 was around half the sample at t_1 . Similarly, Gelkopf and colleagues conducted telephone interviews in their study, aimed at assessing the evolution of psychological responses to terrorism in the Jewish adult population via multi-point scales. For this study, the authors asked participants if they were willing to be contacted again for the second data collection. Data from 153 people were analysed at t_1 and t_2 .

An aspect particularly important in longitudinal design is the interval between the different moments of data collection. The choice of a particular time interval could be indicative of the scope of a study. For example, a long-time interval – as in the case of the study conducted by Gelkopf and colleagues – indicates the intent to study long-term effects of a given phenomenon (2013). Similarly, Kaakinen and colleagues chose a long-time interval between t_1 and t_2 to explore fear of terrorism through their longitudinal study (2021). In other cases, the interval was shorter with only a few months separating the different data collection exercises (e.g., Rubin et al., 2007; Silver et al., 2002). In these cases, the aim was to investigate the medium-term, rather than long-term, effects of national security incidents.

Overall, it is possible to state that, although the methods to collect data in longitudinal studies do not differ from cross-sectional studies, the former has specific properties due in large part to the fact that the data collection takes place in different moments in time. Therefore, aspects such as the difference in sample sizes and the time between these moments play a crucial role in the interpretation of the results.

Comparative design

Introduction: The comparative design is another type of research design, along with the longitudinal, which can be considered a cross-sectional design in which the data collection takes place in different moments, instead of once. Differing from longitudinal design, data are not collected from the sample in separate moments. In fact, data are usually collected at the same moment from two different samples. For this reason, a comparative study can be considered as two or more cross-sectional studies conducted concurrently (Bryman, 2016).

Thanks to this special characteristic, data collection from different samples, this research design can be used to accomplish one of the most challenging objectives in the literature of security studies: comparing results from different regions, countries or social groups. One of the most common types of comparative design takes the form of cross-national research. This trend is confirmed even in the literature of perceptions of security issues, in which many works aimed at studying the topic in different nations (e.g., Kaakinen et al., 2021; Legewie, 2013). Interestingly, some works which have been previously presented as experimental, cross-sectional or longitudinal design were conducted in different countries. For this reason, they are considered in this section regarding the comparisons made possible among countries. The fact that these studies were conducted in different countries, sometimes in several different countries (Legewie, 2013), indicates the interest of researchers in this sector to find similarities and differences in the way citizens perceive issues related to national security. The importance of this aspect is remarked by the fact that, probably even more than in longitudinal studies, the amount of economic and professional resources required to conduct such types of research are considerably high. Indeed, it is no coincidence that what is possibly the most famous example of comparative study, the Eurobarometer, has been financed by none other than the European Commission.

As highlighted for the longitudinal studies, a source of limitation could be represented by the differences of the samples chosen to conduct the study. Sometimes the sample sizes of a single comparative study differ greatly. This problem is only seldom addressed in detail and the interpretation of results might suffer from this problem. Despite some

drawbacks, the comparative design represents an effective way to compare perceptions of security issues in different contexts.

Thematic areas: The comparative design, along with the cross-sectional, is the only type of research design in which the studies selected covered all the four thematic areas considered for this review. Although the number of comparative studies is substantially lower than cross-sectional, and even experimental studies, the wide range of topics investigated proves the potential of this research design to investigate perceptions of security issues.

One of the thematic areas most widely covered by comparative design is the perception of security threats at the personal and collective level. In particular, a work conducted by Schmid and Muldoon (2015) had the objective of investigating the effects of political conflict exposure on citizens' perceptions of security threats, as well as the influence of intergroup threats on psychological well-being. The authors carried out computer-assisted telephone interviews with a sample of Northern Ireland adults. The sub-samples consisted of Catholics and Protestants. The study represents a rather unusual type of comparative study as it did not involve different countries or regions, but religious groups. Another example of research aimed at investigating the role of intergroup conflict on perception of security issues is the work carried out by Canetti and colleagues (2017). The authors intended to analyse the factors which influence the support or opposition to a political compromise, as well as the effects of the exposure of political violence on the mental well-being. The novelty brought by this study does not reside in the topics analysed, which were assessed by other studies presented earlier in this review (e.g., Halperin, Bar-Tal, Nets-Zehngut, & Drori, 2008; Shechory Bitton & Laufer, 2017). The originality of this work consists in conducting the research with two samples, consisting of Jewish Israelis and Palestinians.

Two prime examples of comparative design used to study perceptions of security issues are the two Eurobarometers, which were designed to investigate European citizens' attitudes towards security (Special Eurobarometer 464b Summary Europeans' attitudes towards security, 2017) and towards cybersecurity (Special Eurobarometer 499

Summary Europeans' attitudes towards cyber security, 2020). Through these works, topics such as the perception of security threats within the EU and the awareness of the risks posed by cybercrime were assessed in different countries in what can be considered the greatest attempt, in security studies, to compare data collected from different territories and populations. In the above-mentioned versions of the Eurobarometer, the topics of security and cybersecurity were investigated considering citizens' perceptions of individual and national security. In addition, the Special Eurobarometer 464b (Special Eurobarometer 464b Summary Europeans' attitudes towards security, 2017) dedicated a specific section to European citizens' attitudes towards operations aimed at tackling security issues and the perception of cooperation among national and international law enforcement agencies. This topic has not been frequently investigated through empirical research. The same applies to the investigation of the effects of political rhetoric and news media on the modulation of citizens' perceptions of security issues. In this context, the seminal work conducted by Nacos and colleagues (2007) aimed at analysing, among other factors, the influence of media coverage on the perception of the work done by the US government to tackle terrorism. This research is particularly important for the literature of citizens' perceptions of security issues because it was one of the first empirical works to analyse this specific topic. In addition, the study used a research method not frequently utilised in security studies, that is, content analysis.

Another thematic area covered by comparative studies consists of the psychological and behavioural consequences of security issues. In this regard, once more, the psychological and behavioural effects of terrorism have frequently been at the centre of the investigation. For example, Seger Guttman and colleagues (2021) assessed, through semi-structured in-depth interviews, the psychological consequences and coping strategies in response to terrorism with participants in Israel and France. This study represents one of the rare cases in which the topic has been investigated by the means of qualitative research. Other researchers used structured interviews in short-term and potentially long-term effects of perception of security issues in the context of terrorism. This is the case of the research conducted by Legewie (2013),

who explicitly addressed one of the main problems affecting comparative research, namely sampling bias.

Research methods: The choice of research method in a comparative design dictates not only the type of data that will be later analysed but also the way these data will be compared. For this reason, as quantitative research permits a better comparison of data from different samples, the majority of comparative studies considered here were conducted as quantitative research. Nevertheless, there have been cases in which qualitative research was carried out. In these cases, the authors chose to explore the variables under investigation through an in-depth assessment of subjective experiences. This is the case of the study conducted by Seger Guttman and colleagues (2021). The authors provided details on how they chose the countries from which participants were selected. In particular, they referred to France and Israel as countries that had consistently faced the threat of terrorism. The authors highlighted the fact that the semi-structured, in-depth interviews were carried out by experienced interviewers, lasting an average of 45 minutes. The data were collected over a period of six months. This information reveals the significant amount of resources needed to conduct a qualitative and comparative study and may be indicative that this type of research is rare when considering literature on the analysis of perception of security issues.

Regarding quantitative research, the cross-national analysis of the perception of security issues was at the centre of the Special Eurobarometer 464b (2017). The sample, composed of 28,093 European citizens, was drawn from 28 Member States of the EU from various social categories. The study was conducted by means of a survey administered through a face-to-face interview at home and in the native language of the participants. Eurobarometer perhaps represents the most comprehensive work on this topic and, given the number of countries considered, the amount of data collected and the rigorousness through which the research procedure has been presented, can be considered a yardstick against which future comparative studies on the perception of security issues would be developed. Moreover, the range of topics investigated provided a thorough analysis of dimensions such as perceptions of overall security, perceptions of specific security issues

and perceptions of the operations undertaken by law enforcement authorities to combat security threats.

The Special Eurobarometer 464b Summary of Europeans' attitudes towards security was not the only version of the Eurobarometer concerning citizens' perceptions of security issues. Indeed, through the Special Eurobarometer 499, Europeans' perceptions of issues related to cybersecurity were also analysed (2020). In particular, the data collection was carried out in October 2019 by the data analytics firm Kantar. The sample consisted of 27,607 EU citizens from 28 EU member states. The participants came from different social and demographic categories. As it had happened in other versions of the Eurobarometer, the study was conducted through a survey administered through a face-to-face interview at home, in the native language of the participants. Among the topics analysed, it is worth mentioning the internet use by respondents, the participants' awareness and experience of cyber-crimes, the personal experience of cyber-crime and the perceptions of the responsibility of institutions to provide assistance related to cyber-crime. Overall, such a comprehensive investigation of citizens' perceptions of cybersecurity confirms the importance given by security studies to cyber-threats potentially undermining national security.

Regarding the research methods used to collect data in this selection of comparative studies, the work conducted by Nacos and colleagues is noteworthy (2007). In the study, the authors considered news media coverage of political statements made by the US government on the matter of terrorism and the messages or statements made by Osama Bin Laden or al Qaeda. The authors conducted a content analysis of early evening TV newscasts of ABC News, CBS News and NBC News. The authors examined segments containing the following terms: threat(s), alert(s), or warning(s) in the period October 1, 2001 – December 31, 2004. Moreover, they retrieved surveys and polls investigating citizens' perception of security threats and their level of approval for then US President George W. Bush's administration. Nacos and colleagues' study is significant because it represents the most detailed investigation of the relationship between citizens' attitudes towards the government and the news coverage of political and terror statements in the aftermath of major terrorist attacks.

In summary, the choice of research methods used to conduct comparative studies on perceptions of security issues reflected the topics under investigation and ranged from self-completion questionnaires to semi-structured in-depth interviews and content analysis. In the next few sections, as was done for the other types of research design, two more aspects of the studies considered in this review are presented.

Conclusions

This article was conceived as a review of the modalities through which past research has investigated citizens' perceptions of security issues. Particularly, it started with the presentation of the review process carried out to analyse the current literature on the topic. The central part of the article involved a review of existing studies investigating citizens' perceptions of security issues. For the sake of clarity, Bryman's categorisation of research designs has been employed to present these studies in a coherent manner (2016). Following this pattern, the principal experimental, cross-sectional, longitudinal, and comparative studies have been reviewed, considering the research methods used. The main advantages and limitations of research designs and methods were indicated. Overall, it emerged that a significant part of the current literature on the topic is formed by experimental and cross-sectional studies, with fewer longitudinal and comparative studies. Another remarkable outcome of this review is the finding that only a limited number of studies analysed dimensions other than verbal. Future research may address this limitation and provide further evidence to the study of citizens' perceptions of security issues.

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