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Public knowledge of both the mission and the powers of the National Intelligence Centre (CNI) is studied in this paper through a survey of 2888 students from 30 universities in Spain. The results confirmed that university students were unaware of the CNI's mission and powers and that their vision of the CNI was of a Law Enforcement Agency with mainly counter-terrorism functions. Their knowledge differed according to their sociodemographic background and political variables. Both the implications for further scientific debate and the policies of intelligence agencies toward openness are discussed.

Disclosure statement

The authors has nothing to declare.

1. Introduction

Throughout the pervasive and long-lasting Cold War, intelligence agencies emerged as clandestine organizations employed by states to gain international leverage and to counter foreign influence at a domestic level. In the aftermath to the 9/11 terrorist attacks on the USA, the intelligence agencies were asked to go beyond their classic strategic-oriented approach, a scenario in which they were to adopt new roles to support multinational counter-terrorism efforts, so as to shape a 'globalized world of domestic security'.[1] The disclosures of the former National Security Agency contractor Edward Snowden and public disclosures on the existence of large-scale surveillance programs –such as PRISM and UPSTREAM in the United States– caught public attention in many societies.[2] The widespread debate on intelligence powers, which took place in various democratic countries revealed the reluctance of contemporary Western society to accept blanket secrecy measures as a condition imposed by the State under generic clauses on national security.[3] However, the gap between public interest in the accountability of these agencies, open knowledge of their activities and what is really known about them is still immense.

In this paper, the above-mentioned gap in the research literature concerning public knowledge of the intelligence services within democratic states is studied. Whereas public perceptions of the police[4] and the military[5] have been extensively studied, research on public perceptions of the intelligence services is scarce. Previous studies on this subject have focused on specific issues, such as public opinion on the use of intelligence in support of military operations abroad,[6] the relationship between the consumption of spy TV shows and support for the intelligence services[7], trust in the intelligence agencies following terrorist attacks[8], the impact of Snowden's leaks on public perceptions of the National Security Agency[9], and the results of transparency policies implemented by intelligence agencies.[10] Our survey was administered to university students to inquire into their knowledge of the only

intelligence agency in Spain, the *Centro Nacional de Inteligencia* (henceforth, CNI), its mission and its powers. In doing so, we aim to respond to the need to expand intelligence studies beyond the anglosphere[11] and to explore public knowledge of the intelligence agencies among a socio-demographic group of special interest for intelligence agencies: university students.[12]

The openness strategy initiated by the CNI in 2003 under the label '*Cultura de Inteligencia'* was designed for the general public and specific stakeholders, one of which is Academia, both teachers and students. Indeed, the CNI has shown increasing interest in the Higher Education sector. Over the past two decades, it has promoted different research seminars, activities and publications[13] and has identified Academia as an appreciated niche market for the recruitment of new members.[14] The students of today and their thoughts and perceptions can provide valuable hints to understand the thoughts and the beliefs of tomorrow's qualified professionals, opinion formers, and policymakers. Understanding university students' opinions and knowledge of the CNI is immensely relevant, as these students will form the country's future *intelligentsia* and its future professionals, playing an essential role in shaping public perceptions of the intelligence services.[15] Gaining deeper knowledge of what they know and how they perceive the intelligence services may be very helpful when fine-tuning forthcoming strategies.[16]

The paper has the following structure. In Section 2, the concept of public knowledge of the intelligence services will be applied to the Spanish scenario. In Section 3, the objectives and the methodology of this research will be presented and discussed. The results, organised in accordance with the objectives, will be reviewed in Section 4. Finally, a discussion and a summary of the implications of our findings will be provided in Section 5.

2. Public knowledge of the role of the CNI

Public knowledge has been defined as being a 'vital prerequisite for mobilizing and sustaining broad societal interests and support for national security policies in democracies'.[17] However, such terms as opinion, perception, and knowledge are usually intertwined in previous research. Those terms indistinctively combine questions relating to knowledge of the intelligence agencies and their organisation, support for their activities, validation of their work and opinions on their performance. We believe that there is a need for a clear definition of *public knowledge*, when referring to the activities and the role of the intelligence services, to provide clarity and concise results when trying to measure what people think of intelligence services. The term *public knowledge* in this study refers to accurate information that has been cognitively registered on matters concerning the competence of the intelligence agencies and their legally attributed powers. The same term is found in previous studies on political knowledge[18] as well as the limited empirical research conducted to date on public perceptions of the intelligence services.[19]

Previous research on public perceptions of the intelligence services has mainly been conducted in the United States. Declassified material shows that, since the 1960s, private organisations have been contracted to conduct research with the general public into their attitudes toward and knowledge of CIA activities.[20] The conclusions of all those studies pointed to a generalized lack of knowledge on such questions as the name of the Director of National Intelligence, the meaning of *metadata*, and whether the National Security Agency (NSA) is in charge of capturing and interrogating terrorists.[21] It has been noted that United States citizens hold insufficient knowledge of the intelligence community and its work, even though it receives widespread support from the general public in the United States. This trend is seen to intensify in younger generations.[22] At the same time, intelligence agencies in other countries have also conducted different studies–albeit more limited in scope and number–on the way that the public perceive them, either directly, in Canada,[23] or by delegating this task

to other institutions in countries like Romania,[24] Kosovo,[25] and New Zealand.[26] Nevertheless, the scientific impact of such studies is very limited: when the intelligence agencies conduct them, their results are not published, and when performed by other institutions, scarce attention to socio-demographic, and socio-political factors has limited their external validity.

The new Millennium saw essential changes introduced into the security panorama for the intelligence agencies that included proposals for models of enhanced communication and collaboration between intelligence services, scholars, and civil society.[27] As well as the processes initiated in different intelligence services to move towards greater openness, Spain has had to deal with the obscurantism of its authoritarian past and the lack of transparency surrounding everything related to the State security. The public knew very little about the *Centro Superior de Información de la Defensa* (Higher Centre for Defence Information, CESID), launched in 1977, the predecessor of the CNI, established in 2002. In the 1990s, after a scandal concerning the illegal surveillance of several public figures had been unveiled by the newspaper *El Mundo*, the first research on public perceptions of the CESID was conducted. In 1995, studies showed that 42% of participants were unaware of the acronym CESID, and only 10% knew its exact meaning;[28] however, the study explored public perceptions toward the Spanish government in the light of the scandal and never specifically addressed a study of its intelligence agency. Quite recently, Díez Nicolás,[29] using data from 2010 and 2011, showed that around 30-40% of the population claimed to know what the CNI acronym stood for. Since that study, the authors have found no other published figures on public perceptions of the Spanish intelligence services.

In 2003, the CNI launched the '*Cultura de Inteligencia*' initiative to promote public knowledge of its functions and its role in a democratic state.[30] The use of the term intelligence culture is nevertheless questionable: intelligence scholars tend to use it in the

context of a broader notion of strategic culture, to define the set of established beliefs and behaviours within intelligence agencies that define their functional *modus operandi*.[31] Although Spanish intelligence scholars appear to have accepted the term intelligence culture that was used by the CNI,[32] we will adhere to the concept of public knowledge in this paper. This concept provides greater clarity when defining what people know about the missions and the powers of intelligence agencies and their operational frameworks. This predisposition of intelligence agencies to open up to society is consistent with social learning theory, which assumes that those exposed to social, cognitive and psychological influences are more likely to support the institutions of a political community.[33] An awareness of the knowledge of citizens on the Spanish intelligence services and how they are perceived is therefore an essential aspect for developing effective openness strategies within the CNI. For the conceptualization of the CNI's mission and powers, we will draw on previous research into this intelligence agency[34] as well as the concept of police powers developed in criminological studies.[35] As far as we are aware, this study is the first systematic exploration of public knowledge of the mission and the legal powers of the CNI.

3. Methodology

Based on our concept of public knowledge of the intelligence services, we aim to determine to what extent university students are aware of the missions assigned to the CNI and its legally permitted powers. We followed three steps to fulfil our research objective. First, we analysed the knowledge of students through the overall scores of their knowledge of both the mission and the powers of the CNI. Second, we explored the different scores of students, in accordance with socio-demographic and political variables. Finally, we explored the responses of students, when determining the image that they held of the CNI mission and its powers and to identify potential bias and misconceptions. In fulfilment of our research objective, we conducted an extensive survey of undergraduate university students in Spain.

The size of our sample and its representativeness by gender, regions, and branch of knowledge provided a solid basis for filling the current empirical gap and developing further studies, focusing on the opinions of the Spanish population in general.

3.1 Sample

The study sample comprised 2888 students, born between 1990 and 2000, from 30 public Universities in Spain corresponding to 51 different subjects and 101 groups. It consisted of 1213 males (42%) and 1652 females (57%) aged between 19 and 28 years, with a mean age of 20.9 years. Table 1 shows the demographic characteristics of the participants and their percentile representativeness of the population of university students within Spain.

[Table 1 near here]

3.2 Data collection

Data collection took place between October 2018 and May 2019. Our research team contacted, either by telephone or by email, different colleagues from several Spanish universities with whom they had cooperated over the past few years to build up the size of the sample. After this initial contact, we discussed the project with them and inquired into their willingness to administer the questionnaire to their groups. This initial network of acquaintances facilitated the identification of colleagues from other universities who were also approached to participate in the research. When this technique was not successful in reaching a specific university or branch of knowledge, the team contacted the deans of specific schools to ask for their collaboration. The questionnaires were sent by courier to our collaborators at the different Universities. Each collaborator (course convenor) was free to decide the best time for its administration to each group. According to the information provided by the collaborators, the mean completion time was 23 minutes, ranging from 14 to 28 minutes.

The researchers did not consider requesting authorization or informed consent from the participants for the following reasons. First, all participants were over the age of 18, their participation was on a voluntary basis; five collaborators reported that a few students chose not to participate. Second, no sensitive questions were asked, and those related to political ideology or religion were the same as those included in the Spanish Centre for Sociological Research (CIS) surveys, the public institution in charge of public opinion studies in Spain. Third, students were not asked to write anything down and therefore were not identifiable either by name or handwriting. Fourth, the questionnaires neither included questions nor information on university, school, degree or course; information that was only available to the researchers and the collaborator. In case of accidental loss of the questionnaires, any third party could only ascertain that the questionnaires belonged to a specific university, making deductive disclosure and/or identification of any particular group of students quite impossible.

3.3 Measures and data analysis

Data for this study were obtained from a questionnaire specifically designed by the researchers for this project and previously pre-tested on four different groups at the University of Cadiz. Measuring the *public knowledge* that people may have on an intelligence agency is a problematic endeavour, in so far as secrecy plays an essential role in the operation of such agencies, profoundly limiting information on their activities. Therefore, when we assess the public's knowledge of the intelligence services, we might refer to information that is cognitively registered on the matters concerning the competence of intelligence agencies and their legally attributed powers. In Spain, the legal framework that regulates the CNI comprises two laws: *Ley 11/2002, de 6 de mayo, reguladora del Centro Nacional de*

Inteligencia (henceforth, the CNI Act), and *Ley Orgánica 2/2002, de 6 de mayo, reguladora del control judicial previo del Centro Nacional de Inteligencia* (henceforth, the Preliminary Judicial Review Act). The CNI Act determines the mission and activities of the CNI. The Preliminary Judicial Review Act regulates the mechanism whereby the CNI is authorized to conduct operations that may affect fundamental rights. Only actions that affect the rights of inviolability of the home and the secrecy of communications —if conducted within Spanish territory— are subjected to this authorization process. The CNI has no legal empowerment to enforce imprisonment or to take another person's life; nor can the CNI use its powers to arrest people, although a special police unit attached to the CNI may do so with judicial consent.

Our first step was to evaluate the knowledge among students of the mission and the powers of the CNI. First, we measured student knowledge of the *CNI mission statement* with the question: 'Based on your knowledge of the CNI, which of the following do you believe are included in the mission of the CNI?', that was followed by a list of six activities, all of which were included in the CNI Act of the year 2002: (M1) fighting against terrorism, (M2) fighting against organised crime, (M3) protecting communication networks from cyberattacks, (M4) advising the government on national policy, (M5) advising the government on foreign policy, and (M6) protecting Spain's economic and industrial interests. We asked participants to say whether they believed each mission was part of the CNI mission followed by three possible answers: 'No' (-1), 'Don't know' (0), or 'Yes' (1), following the recommendations of Mondak[36] for coding the responses, as we understand that ignorance is the middle ground between knowledge and misconception in political knowledge – which will be explored in the third step of our analyses. Since all the response options were indeed CNI missions included in the CNI Act of 2002, we considered that those students who responded 'yes' to these aspects of the CNI mission had a more accurate knowledge of the

agency. Secondly, we measured the knowledge of *CNI's powers*. We defined powers as those needed to fulfil the service's mission, some of which implied violations of the fundamental rights of an individual and had therefore to be legally permissible and sanctioned by a judicial authority. We measured knowledge of CNI's powers through the following question: 'Based on your knowledge of the CNI, to perform its activities, the CNI can be authorized to…', followed by a list of nine potential powers that could be granted to it. Only three out of the nine powers from the list were in the Preliminary Judicial Review Act: (P1) Break into private property in Spain, (P2) Intercept the private communications of Spanish citizens; (P3) Intercept the communications of foreign citizens–the answers to which were coded as 'No' (-1), 'Don't know' (0), and 'Yes' (1). The remaining six powers –which are unlawful because under no circumstances is it permitted by Spanish legislation– were: (P4) to break into a property in a foreign country; (P5) to break Spanish law; (P6) to torture Spanish citizens to obtain information; (P7) to torture foreign citizens to obtain information; (P8) to kill people in Spain; and (P9) to kill people in foreign countries. As an affirmative response to these powers would imply less knowledge, they were coded in inverse order to the last three powers: 'No' (1), 'Don't know' (0), and 'Yes' (-1).

We applied the 'correction-for-guessing' formula proposed by Thurstone[37] and Holzinger,[38] which corrects any effect of random responses for both knowledge of CNI's missions and legal powers. The formula is as follows: $S = R - W / k - 1$, where S is the final score, R is the number of questions answered correctly, W the number of questions answered incorrectly, and k the number of choices. It is important to note here that blank responses were counted as 'non-responses' and therefore neither added nor subtracted in the final formula. Thus, a participant who answered three questions correctly and three questions incorrectly received a score of 0, and likewise a participant who answered 'Don't Know/No Answer' to all options.

The second step of our analysis entailed a comparison of student knowledge based on sociodemographic and political variables. We used the following socio-demographic and political variables for our analysis. Under the former, we included *gender* (0 = 'man', 1 = 'woman'); *nationality* (0 = 'foreigner', 1 = 'Spaniard'); *branch of knowledge* (1 = 'Applied Sciences'; 2 = 'Formal Sciences', 3 = 'Humanities'; 4 = 'Natural Sciences'; 5 = 'Social Sciences'); and *family in security professions* (0 = 'No', 1 = 'Yes'). Under the latter, socio-political variables were measured, based on the findings of previous research both in the Spanish and in the international context.[39] For *political ideology,* we used the commonly employed 10-point scale ranging from 'left-wing' (1) to 'right-wing' (10).[40] This scale was later re-coded into a 4-point scale from 'left' (1), to 'centre-left' (2), to 'centre-right' (3), to 'right' (4). For *Political interest,* we recoded a 10-point scale into a dual one to obtain the answer to the question on the extent to which the respondents were either interested (1) or uninterested (0) in politics. The basis for measuring this interest was the assumption that those citizens interested in politics are likely to be more politically knowledgeable.[41] Finally, previous research has found that satisfaction with democracy is closely related to people's evaluations of public institutions[42] and political knowledge.[43] In our study, we proposed that satisfaction with democracy might be related to students' interest in access to public information on CNI and, therefore, to their knowledge of its mission statement and powers. So, *performance satisfaction* measured whether a person agreed (1) or disagreed (0) with the idea that contemporary problems may be resolved through democracy and *satisfaction with democracy* captured whether the student was satisfied (1) or dissatisfied (0) with democracy in Spain.

We performed a parametric *t*-student test and an analysis of variance (ANOVA) test for statistically significant differences in the Mean (*M*) between the groups according to socio-demographic and political variables. A significance level was defined for all tests–*i.e.*,

p-value–of less than 0.05 as a statistically significant difference. We used the homogeneity test of variances or Levene's statistic to test whether the population variances were equal (homoscedastic) or differed from each other (heteroscedastic). As recommended in the literature, in those cases where the variances were heteroscedastic, Welch's ANOVA was applied, as this is a more robust test that reduces the probability of error in the result. All analyses were performed using the SPSS 27 statistical analysis package.

Finally, the third step of our analysis was to identify potential misconceptions in students' knowledge of CNI missions and powers. Firstly, we wished to understand whether the students perceived the CNI as a strategic analysis provider or as a counterterrorist force. Given that the CNI can perform either of these activities, the responses served to measure their perceptions of which of the two activities the CNI undertook most of all. To do so, the response options to the question presented in the second paragraph of this section –*i.e.*, 'Based on your knowledge of the CNI, which of the following do you believe are included in the mission of the CNI?'– included three activities related to law enforcement agencies, and three activities related exclusively to intelligence agencies. Secondly, we wished to assess the students' ideas of the extent to which the CNI encroached upon civil life. To do so, we created a new discrete variable with the number of powers attributed to the CNI by the students and the degree to which it could limit civil liberties and rights. First, we aggregated the number of powers attributed to the CNI by the students, ranging from a minimum of zero powers (*i.e.*, they considered that the CNI had none of the listed powers) to a maximum of nine powers (*i.e.*, number of participants who responded 'yes' to all the powers that were listed). Ten categories (from 'zero' to 'nine' powers) composed the new discrete variable according to the number of powers attributed to the CNI by the participants. Second, we labelled the powers as 'extreme' and 'non-extreme'. We defined 'non-extreme powers' as those that would violate constitutional rights such as privacy or the right to the inviolability

of the home (P1-P5). In contrast, 'extreme powers' were those that would violate people's physical integrity, including in this category four out of the nine powers under analysis (P6-P9).

4. Results

4.1 Students' knowledge of the CNI, its mission and its powers

Figures 1 and 2 show the histograms with the scores for the CNI's mission and its powers, respectively. Knowledge of its mission scored on a range from -6, if the participant answered all options incorrectly, to +6 if they correctly answered all the response options. In the same way, the range of powers varied from -9 to +9, depending on the participant's correct and incorrect answers. The results showed that most of the participants knew little or nothing of the CNI's mission. As illustrated in Figure 1, 68.4% (n = 1974) of the students scored below the minimum passing score and only 7.3% (n = 211) answered all the options correctly. The median that divides the upper half from the lower half of a distribution is located at 2 (Figure 1), which reinforces the conclusion that a majority were not very aware of the mission of the CNI. As can be noted, a high number of participants scored 0, which is because the zero includes both those participants whose errors invalidated their correct answers (23.6%, n = 681) and those participants who answered 'DK/NA' to all options (8.4%, n = 243).

[Figure 1 near here]

We obtained a similar result when examining participants' knowledge of the powers that the CNI can be authorized to use. It is worth recalling that of the nine powers included in this study, only three of them were included in CNI Act –*i.e.*, breaking into homes in Spain and intercepting the communications of both Spanish and foreign citizens when on Spanish soil–. Figure 2 shows how only 89 students (3.1%) correctly answered all the options –*i.e.*, they correctly identified which powers can be authorized to the CNI and which cannot–.

58.1% (n = 1555) of the participants scored below the minimum pass score. In this case, we obtained a higher non-response rate than in the questions on the CNI's mission with 14.1% of the participants answering 'DK/NA' to all the listed powers. We can, therefore, conclude that most students showed a lack of knowledge of the mission and the powers legally attributed to the CNI by both the CNI Act and the Preliminary Judicial Review Act.

[Figure 2 near here]

4.2 Socio-demographic and political differences

The results of the *t*-student and ANOVA tests are displayed in Table 2 –for the sociodemographic variables– and Table 3 –for the political variables–. Regarding the socio-demographic variables, the analysis by gender showed that both men and women scored similarly on knowledge of both CNI's mission and its powers (*p*-values for both tests were > 0.05) (Table 3). Along the same lines, no statistical differences were found by nationality or having a family member in the security sector (police or Armed Forces). The lack of significance may be due to the low number of foreign students in the sample. ANOVA tests showed statistically significant differences for the knowledge of CNI's powers by the participants' branch of knowledge and academic year. Specifically, *post hoc* comparisons using the t-test with the Bonferroni correction showed that students studying the Social Sciences scored higher on knowledge of CNI powers than those from Formal Sciences (*p*-value = 0.011). This result is consistent, because many of the Social Science participants came from strongly Law-oriented undergraduate degrees (Law, Criminology and Political Science) and were therefore more likely to be familiar with Spanish legislation than Formal Science students. The differences in participants' knowledge were less consistent by academic year, with second-year students having a better understanding of the legal powers of the CNI, particularly when compared to first-year students (*p*-value = 0.005).

[Table 2 near here]

Moving onto the differences according to socio-political variables, the results indicated that participants who self-identified as right-wing had significantly more knowledge of the CNI's mission. Post-hoc comparison confirmed that these differences were significant when compared with participants who self-identified as left-wing (p-value = 0.038), centre-left (p-value = 0.017) and centre-right (p-value = 0.024). However, we found no such difference in the knowledge of the powers according to political self-identification. As seen above, political interest is a variable that may be related to greater political knowledge. In Table 4, the score of those participants interested in politics is higher for knowledges of both the mission and the powers of the CNI. In the latter case, the differences in knowledge between participants interested and not interested in politics were statistically significant. Finally, we found statistically significant differences in knowledge of the CNI according to the two variables used to measure satisfaction with democracy. In the first group, those satisfied with democracy's performance in Spain were more knowledgeable of the CNI's mission than those who were dissatisfied. And, in the second, those who were satisfied with democracy were better informed of the powers of the CNI than those who were dissatisfied.

[Table 3 near here]

4.3 Bias or misconceptions of students' knowledge

Figure 4 provides details on the distribution of responses for each of the six missions analysed in this study and included in the CNI Act. The first three are law enforcement-oriented activities and the remaining three are related with strategic intelligence. The results showed that participants mostly associated the CNI with those activities categorized as 'law enforcement' oriented. On the contrary, participants scarcely associated the CNI with strategic intelligence activities. Specifically, most of the participants perceived that the main

objective of the CNI was 'fighting against terrorism' (83.1%, $n = 2399$), whereas the function least attributed to the CNI was 'defending Spain's economic and industrial interests' (18.7%, $n = 540$). The results therefore indicated that participants primarily perceived the CNI as a law enforcement-oriented agency specialised in counterterrorist activities and serious crime.

[Figure 3 near here]

Finally, we wished to check participants' misconceptions regarding the legal powers of the CNI. As shown in Table 4, participants responded that the CNI was legally authorized to wield powers defined as non-extreme to a greater extent than those defined as extreme. In particular, the majority of participants (65.4%) responded that the CNI can be authorized to intercept the communications of Spanish citizens, followed by the power to intercept the communications of foreign citizens (60.2%). As we saw in the methodology section, both powers are legal powers of the CNI subject to judicial authorization. However, although valuable, this table only provides a partial picture of participants' responses. A contingency table was used to determine whether participants who believed that the CNI was authorized to act upon a large number of powers also believed that these powers were among those that most violated citizens' rights and freedoms, Table 5 shows a contingency table between the total number of powers that participants attributed to the CNI (Min. = 0, M = 3.2, Mdn = 3, Max. = 9) and the number, within that total number of powers, that corresponded to extreme powers (Min. = 0, M = 0.6, Mdn = 0, Max. = 4). Thus, for example, 74.5% of the participants who responded that the CNI could be authorized to carry out seven powers answered that two of these were severe (out of a total of four possible); in other words, 74.5% of the participants who selected seven powers chose five non-extreme and two extreme powers. We found that this same trend was repeated in all the columns (except for the eighth and ninth total powers, with a very small n), so the results in Table 5 led us to conclude that participants perceived

that the CNI can be authorized to use a limited number of powers that are almost always defined as non-extreme.

[Tables 4 and 5 near here]

5. Discussion and conclusion

The increasing presence and public visibility of intelligence agencies in liberal democratic societies require an analysis of public knowledge of their missions and their powers. We believe that understanding citizens' knowledge of these agencies should be the first step toward enhancing the public debate on the role of the intelligence services within our democracies and improving their transparency and accountability toward the general public. However, researchers[44] have not studied public perceptions and knowledge of intelligence agencies in depth, possibly due to insufficient data and the difficulties of measuring the impact on citizens of an actor that remains hidden, shrouded in mystery and all-too-easily associated with the stereotypes of Bond-style movies and spy novels. In this study, we have presented the results of a survey of 2888 university students in Spain on public knowledge of the mission and powers of the CNI, the Spanish intelligence agency. Our findings represent a novelty in a field of study mostly dominated by research on the intelligence process and the intelligence cycle;[45] the implications for intelligence studies and the policies of openness of intelligence agencies are discussed below.

First, our results indicated that the general knowledge of the CNI's mission among university students in Spain was very low. This result is hardly surprising as Spanish intelligence activities have traditionally been hidden from public scrutiny, reminiscent of the authoritarian period.[46] Only after the 9/11 terrorist attack on the World Trade Center –and particularly the 3/11 Madrid train bombings–was the activity of the intelligence services to become more widely known to the general public in Spain. Consistent with that context, we

also found that university students portrayed the CNI as a law enforcement-oriented agency, active within Spain, with the mission of fighting against terrorism and other forms of serious crime.

Second, concerning those powers attributed to the CNI for fulfilling its missions, the results of this study have revealed that university students also failed to differentiate between the legally accepted powers granted to the CNI in the CNI Act and the Preliminary Judicial Review Act of 2002 and those powers that it was not allowed to use. Despite failing to draw that distinction, students never expressed a belief that the CNI could use extreme powers such as torturing or killing fellow citizens. We find this result coherent with our study sample which is drawn from universities in Spain, an advanced and fully democratic country where students may be expected to possess a sufficient level of understanding of the rule of law and what is and what is not acceptable behavior for a public agency. It is therefore unlikely that the public image of any Spanish institution, however unknown and opaque it may be, might be so distorted that they could believe it was authorized to indulge in torture and killing. For this reason, future studies should explore citizens' perceptions in contexts with more intensive racial tensions than the Spanish one, to test whether perceptions of the legal powers of the intelligence services differ.

Third, we found more significative differences in the participants' knowledge of the intelligence services missions according to socio-political variables than with the socio-demographic ones, something that was expected considering the homogeneity of the sample. We saw that those students from Social Sciences (our sample includes among others Law, Criminology, and Political Science students) possessed better knowledge of the powers of the CNI than students of other branches of knowledge. As we already mentioned in Section 4.2, it may be because Social Science students are more familiar with the Spanish legislation than

students from other branches of knowledge. Regarding the absence of statistically significant differences in the knowledge on the CNI between Spanish citizens, foreigners, and Spanish nationals, this result may be due to the low number of non-Spaniards in our sample (n = 101) and the homogeneity of the sample. Future studies should include samples of foreign populations from other social and cultural backgrounds to explore these differences.

Fourth, the lack of robust conclusions according to socio-demographic variables may be due to the homogeneity of the sample which did not allow us to delve into socio-demographic differences that we would expect to find in investigations with samples representative of the total Spanish population. However, socio-political variables seem to be more discriminant. Considering the results according to socio-political variables, political ideology appeared to play a fundamental role in the students' knowledge of the mission and the powers of the CNI. Participants from extreme ideological positions –both right-wing and left-wing– showed greater knowledge of the mission of the CNI. This result is in line with other studies that have described how citizens with extreme political ideologies engage in political information-seeking tasks to a greater extent than those of moderate positions.[47] We consistently found that students interested in politics had greater knowledge of the CNI than those who were not interested. Similarly, students who were satisfied with democratic performance and with the democracy in Spain, in general, showed greater knowledge of the CNI, in line with other studies on the relationship between satisfaction with democracy and political knowledge.[48] Beyond the difficulty of extrapolating some of the results to a larger sample of citizens in Spain or in other countries, considering the lack of previous investigations, these results provide an important understanding of public perceptions of the intelligence services.

Although in recent years the Spanish intelligence community has devoted efforts and resources to disseminate the so called '*Cultura de inteligencia*' project towards different stakeholders, in our opinion, there are still educational resources to be explored. From a practical point of view, our findings have shown the need for policymakers and the agencies themselves to reflect on whether the intelligence services' public image truly depicts the reality of their work and how they and their job are perceived by the general public. The fact that the intelligence missions and powers of the CNI are widely unknown by university students should encourage a revision of the CNI's intelligence culture project, so that the organization can transmit a more accurate picture of the role of the Spanish intelligence services in our democracy. Firstly, it would be recommendable for the CNI to follow the example of other intelligence agencies, such as the CIA, MI6, and CSIS[49], and become more active in social media. Social media can help intelligence agencies to build a friendlier, closer, and more realistic image of their role in democratic societies and among younger generations.[50]

Secondly, the production of different audiovisual products explaining intelligence agencies' missions and powers to wider audiences beyond their traditional stakeholders may be another way of countering misconceptions about them and reaching other target populations, *i.e*., schoolchildren.[51] For example, we suggest that the possibilities offered by technology can be used by academics–considered strategic stakeholders for the intelligence agencies[52]–to inform university students about their missions, legal powers, history, and organizational structures, among others. In this sense, education's gamification is positioning itself as an increasingly useful area for education on security affairs and public institutions.[53]

Finally, it would be naïve to leave the society's education on intelligence agencies solely in the hands of the intelligence agencies themselves, so other social, cultural,

academic, and political stakeholders must be engaged. This move is crucial as a research

agenda committed to improving public knowledge on democratic institutions is highly

relevant in a context where intelligence agencies are expected to play an increasingly

prominent role in the effort to anticipate and adapt to new technologies and economic and

health crises. We can expect the rubric 'post-Covid-19 crises' to replace 'post 9/11 terrorist

attacks' in future scientific studies analysing societal change. The impact of Covid-19 on

intelligence agencies will not be far behind. We are already seeing how the role of the

National Cryptologic Centre –the CNI's cybersecurity centre– is increasing in importance as a

consequence of the rise of cybercrime,[54] an already proven result of the ongoing Covid-19

crisis.[55] The assumption of new roles must be accompanied by an open debate on public

knowledge, opinion, trust and legitimacy in the intelligence agencies. We therefore hope that

this contribution will serve as inspiration for future studies in this vast and as yet unexplored

research area of public knowledge of intelligence agencies.

Notes

[1] Aldrich and Kasuku, 'Escaping from American Intelligence'.
[2] Lyon, *Surveillance after Snowden*.
[3] Bruce, Beaghley, and Jameson, *Secrecy in U.S. National Security*; Horn, 'Logics of Political Secrecy'.
[4] For example, see Bradford, Jackson, and Stanko, 'Contact and Confidence'; Bradford *et al*., 'Can Diversity Promote Trust?'; Gerber and Jackson, 'Justifying Violence'; Jackson *et al*., 'Why Do People Comply with the Law?'; Thomas and Hyman, 'Perceptions of Crime, Fear of Victimization, and Public Perceptions of Police Performance'.
[5] For example, see Berndtsson, Dandeker, and Ydén, 'Swedish and British Public Opinion of the Armed Forces after a Decade of War'; Burk, 'The Decline of Mass Armed Forces and Compulsory Military Service'; Coticchia and De Simone, 'The War That Wasn't There?'; Leal, 'American Public Opinion toward the Military'.
[6] Davies and Johns, 'British Public Confidence in MI6 and Government Use of Intelligence'.
[7] Zegart, '"Spytainment"'.
[8] Davis and Silver, 'Civil Liberties vs. Security'.
[9] Zegart, 'Real Spies, Fake Spies, NSA, and More'.
[10] Slick and Busby, 'Glasnost for US Intelligence: Will Transparency Lead to Increased Public Trust?'
[11] Aldrich and Kasuku, 'Escaping from American Intelligence'; Van Puyvelde and Curtis, '"Standing on the Shoulders of Giants"'.
[12] Arcos, 'Academics as Strategic Stakeholders of Intelligence Organizations'.
[13] Goodman, 'Studying and Teaching about Intelligence: The Approach in the United Kingdom'; Velasco, Arcos, and Navarro, 'La Cultura de Inteligencia en España: Una exigencia estratégica en desarrollo'.
[14] Martínez, *The recruitment of staff in the National Intelligence Center (CNI)*.
[15] Bakir, *Intelligence Elites and Public Accountability*.

[16] Arcos, 'Academics as Strategic Stakeholders of Intelligence Organizations'; Arcos and Antón, 'Reservas de Inteligencia'.

[17] Rudner, 'Intelligence Studies in Higher Education', 125.

[18] Delli Carpini and Keeter, *What Americans Know about Politics and Why It Matters*.

[19] Slick, Busby, and Burns, 'Public Attitudes on US Intelligence: Annual Poll Reflects Bipartisan Confidence Despite Presidential Antagonism'; Slick and Busby, 'Glasnost for US Intelligence: Will Transparency Lead to Increased Public Trust?'; Zegart, 'Real Spies, Fake Spies, NSA, and More'; Zegart, '"Spytainment"'; Díaz-Fernández and Del-Real-Castrillo, 'Spies and security'.

[20] The Gallup Organization, Inc., 'The Public's Knowledge of the Central Intelligence Agency'; The Gallup Organization, Inc., 'The Public's Knowledge of the Central Intelligence Agency: Survey II'.

[21] Zegart, 'Real Spies, Fake Spies, NSA, and More'.

[22] Slick and Busby, 'Glasnost for US Intelligence: Will Transparency Lead to Increased Public Trust?'

[23] Boutilier, 'How Do You Feel about … Spies?'

[24] Institutul Român pentru Evaluare și Strategie, 'Elemente de Percepție Publică a Serviciului Român de Informații'.

[25] Peci *et al.*, 'The Kosovo Security Sector Observer'.

[26] Curia Market Research, 'Security Issues Poll'.

[27] Lahneman, 'The Future of Intelligence Analysis: Volume I, Final Report'; Arcos, 'Academics as Strategic Stakeholders of Intelligence Organizations'; Díaz-Fernández, 'De Secretos a Discretos: La Política de Apertura de Los Servicios de Inteligencia Occidentales'; Dumitru, 'Building an Intelligence Culture From Within'.

[28] Díez Nicolás, 'Informe ASEP Sobre la Opinión Pública de los Españoles'.

[29] Díez Nicolás, 'La Imagen de los Servicios de Inteligencia en la Sociedad'.

[30] Centro Nacional de Inteligencia, 'Cultura de Inteligencia'; García Sanz, 'Introducción'; Sainz Cortés, 'Presentación'.

[31] Aldrich and Kasuku, 'Escaping from American Intelligence'; Duyvesteyn, 'Intelligence and Strategic Culture'; Estevens and Rodrigues, 'Democracy and Intelligence Culture in Portugal (1974-2019)'; Shapira, 'Israeli National Intelligence Culture and the Response to COVID-19'; Stout, 'World War I and the Birth of American Intelligence Culture'; Torrijos Rivera, *El orden internacional perfecto*.

[32] Velasco, Arcos, and Navarro, 'La Cultura de Inteligencia En España: Una Exigencia Estratégica En Desarrollo'.

[33] McClosky and Zaller, *The American Ethos: Public Attitudes toward Capitalism and Democracy*.

[34] See Díaz-Fernández, *Los Servicios de Inteligencia Españoles*.

[35] See Delsol and Shiner, *Stop and Search*; Sanders and Young, 'Police Powers'.

[36] 'Reconsidering the Measurement of Political Knowledge'.

[37] 'A Scoring Method for Mental Tests'.

[38] 'On Scoring Multiple Response Tests.'

[39] For example, see Inglehart and Klingemann, 'Party Identification, Ideological Preference and the Left-Right Dimension among Western Mass Publics'; Linz, 'Presidential or Parliamentary Democracy: Does It Make a Difference?'; Easton, *A System Analysis of Political Life*; Norris, 'Institutional Explanations for Political Support'.

[40] For a discussion see Kroh, 'Measuring Left-Right Political Orientation'.

[41] Neundorf, Smets, and García-Albacete, 'Homemade Citizens'.

[42] Klingemann, 'Mapping Political Support in the 1990s: A Global Analysis'; Norris, 'Institutional Explanations for Political Support'.

[43] Karp, Banducci, and Bowler, 'To Know It Is to Love It?'

[44] Díaz-Fernández, 'De Secretos a Discretos: La Política de apertura de los Servicios de Inteligencia Occidentales'; Hribar, Podbregar, and Rosi, 'A Model of Citizens' Trust in Intelligence Services'.

[45] Van Puyvelde and Curtis, '"Standing on the Shoulders of Giants"'.

[46] Díez Nicolás, 'La Imagen de Los Servicios de Inteligencia En La Sociedad'.

[47] For example, see Sidanius, 'Political Interest, Political Information Search, and Ideological Homogeneity as a Function of Sociopolitical Ideology'.

[48] For example, see Karp, Banducci, and Bowler, 'To Know It Is to Love It?'; Klingemann, 'Mapping Political Support in the 1990s: A Global Analysis'; Norris, 'Institutional Explanations for Political Support'.

[49] See Landon-Murray, 'Social Media and U.S. Intelligence Agencies: Just Trending or a Real Tool to Engage and Educate?'

[50] For a critical review of the use of social media by the CIA, see Crilley and Pears, "No, We Don't Know Where Tupac Is".

[51] For an example of the development of an animated video, see Díaz-Fernández and Del-Real-Castrillo, 'The Animated Video as a Tool for Political Socialization on the Intelligence Services'; and for its effects on knowledge of intelligence agencies, see Díaz-Fernández and Del-Real-Castrillo, 'Spies and security'.

[52] For a review of this opinion, see Arcos, 'Academics as Strategic Stakeholders of Intelligence Organizations'.

[53] For example, Rodrigues *et al.*, 'A Gamification Framework for Getting Residents Closer to Public Institutions'; Yonemura *et al.*, 'Practical Security Education on Operational Technology Using Gamification Method'.

[54] For a review of the National Cryptologic Center, see Arcos, 'Securing the Kingdom's Cyberspace: Cybersecurity and Cyber Intelligence in Spain'.

[55] For the general effects of the Covid-19 pandemic on cybercrime see INTERPOL, 'Ciberdelincuencia: Efectos de la Covid-19'; and for an analysis of the UK context, see Buil-Gil *et al.*, 'Cybercrime and Shifts in Opportunities during COVID-19: A Preliminary Analysis in the UK'. No data on cybercrime in Spain is currently available.

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Tables

Table 1. Descriptive demographics of participants ($N = 2888$) and comparative percentages with university population.

	n	Sample (%)	University population (%)[i]
Gender			
Male	1213	42	45.1
Female	1652	57	54.9
Nationality			
Spanish	2711	93.9	96
Foreigners	101	3.5	4
Naturalized	68	2.4	NA
Branch of knowledge			
Applied Sciences	252	8.7	16.8
Formal Sciences	84	2.9	7.3
Humanities	507	17.6	19.2
Natural Sciences	260	9.0	11.2
Social Sciences	1785	61.8	45.5
Academic year			
First	1038	35.9	-
Second	973	33.7	-
Third	628	21.7	-
Fourth	249	8.6	-
Family in security professions			
No	2389	82.7	-
Yes	343	11.9	-
Ideology			
Left	635	22	-
Centre-left	1452	50.3	-
Centre-right	647	22.4	-
Right	112	3.9	-
Political interest			
Uninterested	1161	40.2	-
Interested	1720	59.6	-
Performance satisfaction			
Disagree	1335	46.2	-
Agree	1525	52.8	-
Democracy satisfaction			
Dissatisfied	2187	75.7	-
Satisfied	677	23.4	-

[i] *Source*: Spanish Education Ministry, academic year 2018/19.

Table 2. Means (*M*), Standard Deviations (*SD*), and statistical hypothesis test results for public knowledge of the CNI by sociodemographic variables.

	CNI mission[a]			CNI powers[b]		
	M	*SD*	Test results	*M*	*SD*	Test results
Gender			$t_{2435.9} = 0.46$, *p*-value = 0.65			$t_{2863} = -1.44$, *p*-value = 0.15
Male	1.68	2.22		3.26	3.09	
Female	1.64	1.99		3.43	2.87	
Nationality			$F_{2, 2877} = 2.56$, *p*-value = 0.08			$F_{2, 2877} = 1.12$, *p*-value = 0.33
Spaniard	1.68	2.08		3.36	2.97	
Foreigners	1.39	2.15		2.92	3.10	
Naturalized	1.21	2.13		3.26	2.82	
Branch of knowledge			$F_{4, 414.6} = 0.63$, *p*-value = 0.64			$F_{4, 2883} = 4.49$, *p*-value = 0.001
Applied Sciences	1.76	2.26		3.04	3.16	
Formal Sciences	1.58	2.25		2.86	2.96	
Humanities	1.54	1.77		3.01	2.84	
Natural Sciences	1.72	2.14		3.23	2.89	
Social Sciences	1.63	2.07		3.52	2.93	
Academic year			$F_{3, 2884} = 1.30$, *p*-value = 0.27			$F_{3, 947.5} = 4.16$, *p*-value = 0.006
First	1.55	2.05		3.13	2.90	
Second	1.69	2.08		3.58	2.93	
Third	1.72	2.13		3.41	3.01	
Fourth	1.75	2.13		3.18	3.19	
Family security professional			$t_{2730} = -0.3$, *p*-value = 0.98			$t_{2730} = -0.06$, *p*-value = 0.96
Yes	1.66	1.99		3.35	3.01	
No	1.66	2.11		3.33	2.97	

Note: For the reporting of statistical test results we followed the basic format of $t_{\text{degrees of freedom}}$ = the t statistic, *p*-value = p value, in the case of the *t*-student test, and the format of $F_{\text{degrees of freedom}}$ = the F statistic, *p*-value = p value. [a] Min. = -6; Max. = 6. [b] Min. = -9; Max. = 9.

Table 3. Means (*M*), Standard Deviations (*SD*), and statistical hypothesis test results for public knowledge of the CNI by political variables.

	CNI mission[a]			CNI powers[b]		
	M	*SD*	Test results	*M*	*SD*	Test results
Political ideology			$F_{3, 2842} = 3.05$, *p*-value = 0.03			$F_{3, 473.6} = 1.64$, *p*-value = 0.18
Left	1.65	2.09		3.14	2.99	
Centre-left	1.62	2.03		3.44	2.89	
Centre-right	1.62	2.14		3.39	2.98	
Right	2.23	2.28		3.14	3.48	
Political interest			$t_{2879} = -0.92$, *p*-value = 0.36			$t_{2879} = -3.94$, *p*-value < 0.001
Interested	1.68	2.07		3.53	2.96	
Uninterested	1.61	2.11		3.08	2.97	
Performance satisfaction			$t_{2858} = -2.35$, *p*-value = 0.02			$t_{2746.3} = -1.8$, *p*-value = 0.07
Agree	1.74	2.06		3.44	2.87	
Disagree	1.56	2.12		3.24	3.08	
Democracy satisfaction			$t_{2862} = -1.59$, *p*-value = 0.11			$t_{2862} = -2.49$, *p*-value = 0.013
Satisfied	1.77	2.13		3.60	2.99	
Dissatisfied	1.62	2.07		3.28	2.96	

Note: For the reporting of statistical test results we followed the basic format of $t_{degrees\ of\ freedom}$ = the t statistic, *p*-value = p value, in the case of the *t*-student test, and the format of $F_{degrees\ of\ freedom}$ = the F statistic, *p*-value = p value. [a] Min. = -6; Max. = 6. [b] Min. = -9; Max. = 9.

Table 4. Distribution of the response percentage of participants by type of powers ($N = 2888$).

Powers	Yes	No	DK/NA
Non-extreme			
Break into private properties in Spain	46.5	25.2	28.3
Break into property in foreign countries	25.7	40.8	33.6
Intercept communications of Spanish citizens	65.4	11.1	23.5
Intercept communications of foreign citizens	60.2	14.6	25.2
Contravene Spanish law	33.7	39.9	26.5
Extreme			
Torture Spanish citizens to obtain information	8.1	64.5	27.4
Torture foreign citizens to obtain information	8.6	63.0	28.4
Kill people in Spain	15.9	53.8	30.4
Kill people in foreign countries	12.3	55.9	31.9

Table 5. Number and percentage of participants per total number of powers and number of extreme and non-extreme powers they perceive the CNI can exert (*N* = 2482).

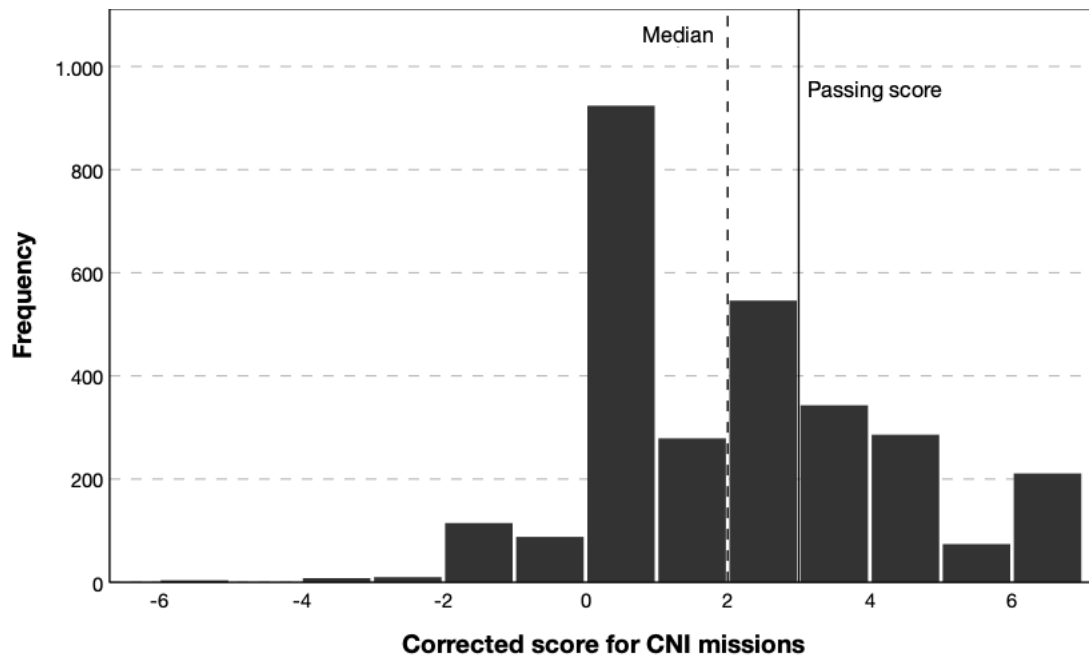| Extreme	Total																		
	0		1		2		3		4		5		6		7		8		9	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
0	339	100	119	90.2	482	94	378	87.9	339	73.9	212	67.7	-	-	-	-	-	-	-	-
1	-	-	13	9.8	18	3.5	39	9.1	59	12.9	43	13.7	12	11.5	-	-	-	-	-	-
2	-	-	-	-	13	2.5	13	3	58	12.6	50	16	72	69.2	73	74.5	-	-	-	-
3	-	-	-	-	-	-	0	0	3	0.7	7	2.2	15	14.4	15	15.3	6	26.1	-	-
4	-	-	-	-	-	-	-	-	0	0	1	0.3	5	4.8	10	10.2	17	73.9	71	100
Total	339	100	132	100	513	100	430	100	459	100	313	100	104	100	98	100	23	100	71	100

Figures

Figure 1. Histogram of the corrected scores for knowledge of the CNI's mission among participants (N = 2645).
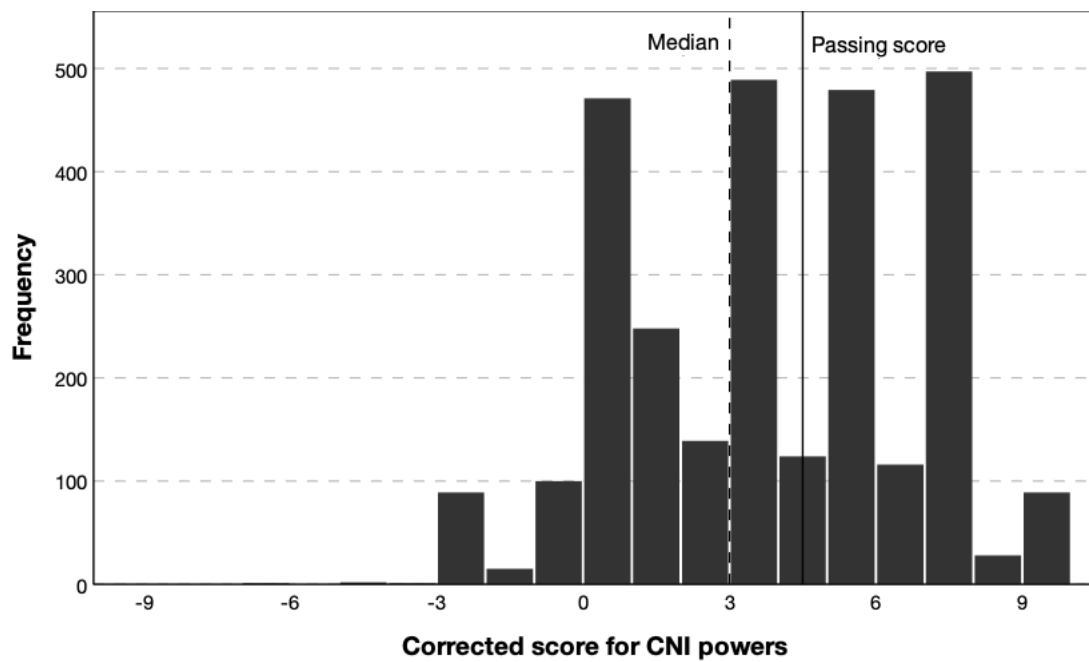

Figure 2. Histogram of the corrected scores for knowledge of the CNI's powers among participants (N = 2482).
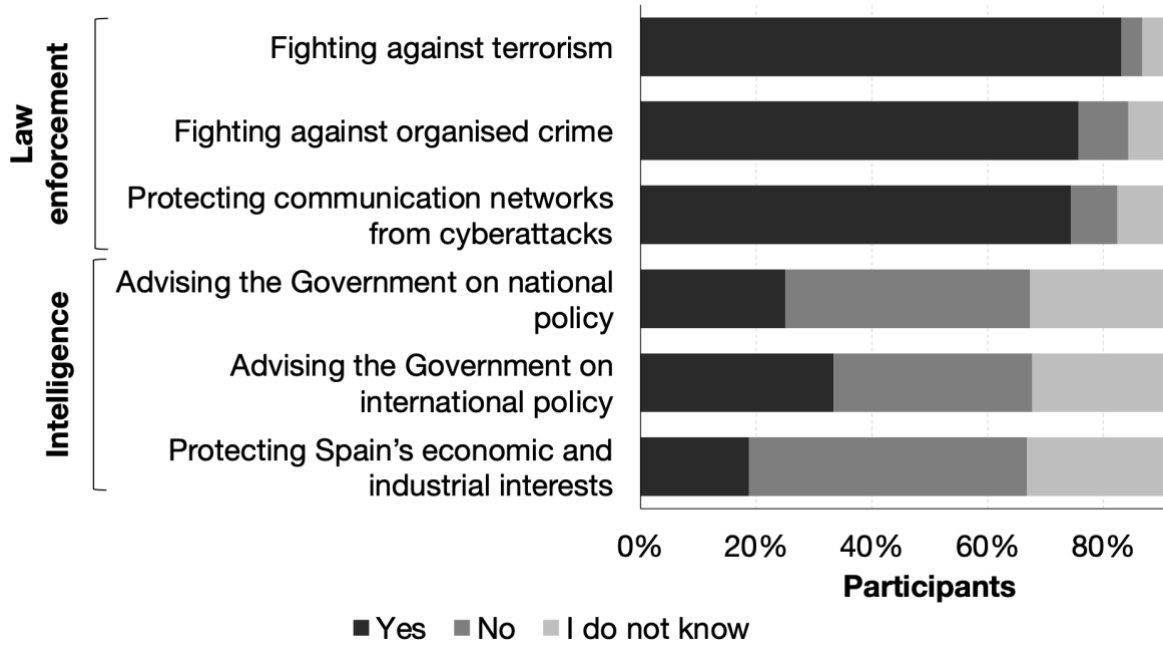
Figure 3. Distribution of responses by activities that form part of the CNI's mission (N = 2888).