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## **Who wants to be the next James Bond or Anna Chapman? Exploring the correlates of a willingness to enter the Centro Nacional de Inteligencia (CNI) among Spanish university students**

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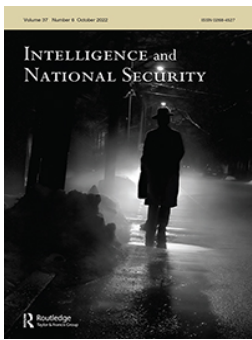
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# Who Wants to Be the Next James Bond or Anna Chapman? Exploring the Correlates of a Willingness to Enter the Centro Nacional de Inteligencia (CNI) Among Spanish University Students

Antonio M. Díaz-Fernández  and Cristina Del-Real 

## ABSTRACT

The intelligence services compete with other public and private bodies to recruit the best candidates. Therefore, they must design specific recruitment policies to attract the young talent they need. However, the variables associated with the desire to work for these agencies among young people is still unknown. In this study, we explore these variables based on a survey administered to 2,888 young university students in Spain. The results reveal that social science students and those with greater satisfaction with democracy and trust in political institutions are more willing to work for the Spanish National Intelligence Centre.

## 1. Introduction

There is a pithy sort of saying in the intelligence services that no one decides to work for the intelligence services, as the intelligence services have already decided that they want you to work for them. It summarises a non-transparent recruitment process that invariably leads to the same question: what exactly is the profile of a potential spy? Moreover, who wants to be a spy? Unfortunately, the information we possess on the recruitment processes of the Spanish intelligence agencies is minimal – particularly if we compare it with the detailed one available about the rest of the Spanish public sector. Only some basic information is available, i.e., men-women ratio, age, and military/police/civilian background, which can only succinctly be obtained thanks to public statements and the information on the intelligence service's website.

Spain's first democratic intelligence service was the *Centro Superior de Información de la Defensa* (henceforth, CESID) [Higher Centre for Defence Intelligence]. In contrast to the former intelligence service – the *Servicio Central de Documentación* or Central Documentation Service – which was totally composed of military and police personnel,<sup>1</sup> the CESID's recruitment policy aimed to increase the number of civilians and women in the service as a way of contributing to the democratisation process of the intelligence apparatus. These new spies had a different profile from the previous ones. They had university degrees and were fluent in foreign languages. However, in practice, this phase was characterised by the recruitment of family members or civilians from military family's environments in an attempt by the CESID to work only with trusted persons.<sup>2</sup> The efforts to ensure a certain 'pedigree' ultimately functioned as a Spanish version of the 'old-boys network' in the United Kingdom and as a sort of security clearance to avoid infiltration from foreign agencies. But this (unwritten) policy degenerated into recruitment processes with highly inbred dynamics. Since then, accusations of nepotism and inbred behaviour, favouring relatives of CESID personnel, judges, diplomats, and other high-ranking state officials, have been frequent in the Spanish media.

Between 2001 and 2005, the Spanish intelligence service – renamed in 2002 as *Centro Nacional de Inteligencia* (henceforth, CNI) [National Intelligence Centre]– undertook a massive recruitment campaign to meet the growing threats posed by international terrorism as well as cyber threats. As a result, the number of CNI staff increased from around 2000 to 3500 members.<sup>3</sup> Part of this increase was due to the creation of the *Centro Criptológico Nacional* (CCN) [National Cryptology Centre] within the CNI, responsible for the cybersecurity of the State Administration technology systems. CCN recruitment policies have always been more transparent. They specifically target technology experts (e.g., computer scientists, mathematicians, and engineers). However, CNI recruitment, staff composition, and characteristics remain behind a curtain of fog.

The ‘baby boomer’ generation – representing the majority of those recruited at the beginning of the 1980s when democracy began to be consolidated in Spain – will retire within the next ten years. Therefore, the CNI will soon have to start a new and extensive recruitment process targeting those who are currently in university classrooms or who have only recently left them. These potential future Spanish spies belong to Generation Z, born – roughly – between 1996 and 2012. This cohort’s composition and characteristics are relevant to our research because Generation Z has different values, interests and political opinions from the previous two generations: Generation X and Generation Y, also known as *millennials*.<sup>4</sup>

The literature on the recruitment of human resources for the Public Sector has for a long time now demanded recruitment strategies designed for specific target groups rather than selection based on general qualifications as the principal eligibility criterion.<sup>5</sup> In 2019, the CNI participated, for the first time, in a job fair – *Forempleo* – organised by the Universidad Carlos III (Madrid). CNI sought to raise knowledge about the service among university students, which is generally low across the entire Spanish population.<sup>6</sup> The need for these strategies is even more significant for the CNI because this little-known agency needs technological skills and personnel proficient in various languages, which are also extensively demanded by private companies – which usually offer better working conditions and salaries than the CNI. Therefore, the CNI must deploy recruitment strategies that target the most motivated individuals within its areas of interest. For such strategies to be efficient – and considering that the CNI competes with more attractive employers such as technology companies – they should be based on a deep knowledge of the profiles of those most likely to be willing to join the intelligence service.

The willingness of university students to work in an intelligence service has rarely been explored in the academic literature.<sup>7</sup> The same is true of closely related topics such as the factors that explain a personal willingness to act as an informant or double agent.<sup>8</sup> This gap in the literature is perhaps due to the inherent difficulties in obtaining information on such a core element of the intelligence agencies as its personnel, and to the particular characteristics of intelligence services in a democratic state, which make it impossible to compare with other public bodies. For example, they have no direct end-users outside the circles of policy- and decision-makers, and some of their work has no counterpart within the rest of the public sector (i.e., operational agents).<sup>9</sup> Moreover, moving to the societal dimension, their secretive nature makes it almost impossible to visualise a realistic external image, as family members very rarely declare that they work there, their premises and facilities are hardly identifiable, and their media image is highly distorted in films. Thus, the most basic concrete aspects of a job that usually attract potential candidates to work for any organisation – salary, job function, working conditions, benefits, etc.–<sup>10</sup> are unknown to the broader public in the case of the intelligence services.

This study contributes to filling this gap by providing an empirical examination of university students’ willingness to work for the intelligence services. Specifically, this paper aims to determine which variables are most associated with the willingness of Spanish undergraduates to work for the Spanish intelligence service, CNI. The article is organised as follows: [Section 2](#) discusses the variables that are most associated with a willingness to work for the public sector, along with the presentation of the hypotheses. In [Section 3](#), the data and their treatment are explained. In [Section 4](#), the results are detailed, and, in [Section 5](#), the conclusions are presented, as well as the limitations of this study and other lines of research that might stem from it.

## 2. Related literature and hypotheses

Although we identified no studies on the willingness of young people in any country to work for the intelligence service, there are various studies in which the willingness of younger members of the public, especially graduates, to work for the public sector, in general, and for military and police agencies, in particular, have been explored. These studies have helped us to draw up our hypotheses on the willingness of Spanish university students to apply to work for the CNI.

Firstly, previous research has found that students with educational backgrounds related to public administration expressed greater willingness to work in the public sector.<sup>11</sup> Within this line of research, it has been found that students of 'politics' (i.e., public administration, public policy, and politics) expressed greater willingness to join government organisations (state, federal, and local).<sup>12</sup> Pure science students would typically be more inclined to prefer government employers who focused on environmental issues. In contrast, law, humanities, and behavioural science students would be more inclined to prefer a government employer who focuses on 'other public goods', and business students might likewise be the stereotypical prospective employees for the private sector.<sup>13</sup> Therefore, our first hypothesis can be expressed as follows:

**Hypothesis 1:** *Social Science students will express greater willingness to work for the CNI than students from non-Social Science disciplines.*

Second, personal positioning towards politics may also be associated with a willingness to work for the CNI. Within the political positioning of the undergraduate, we explore two dimensions: opinion towards the government as an institution and political ideology. Some studies have shown that younger students generally tend to hold more negative perceptions towards the government and politics, which may influence their decision-making when applying for a public sector job. Within the extremely limited knowledge that we have so far on this Generation, we have identified investigations that show that, for example, Spanish centennials who show a lower perception of the Government – defined as the political institution – and its bureaucratic apparatus<sup>14</sup> are more attracted by entrepreneurship than by accessing public jobs.<sup>15</sup> Therefore, we expect that positive opinions towards the government will be associated with willingness to work for the CNI.<sup>16</sup> Similarly, political ideology is associated with a willingness to work for the government. For example, studies have reported strong associations between conservative ideology and willingness to work for the public sector.<sup>17</sup> Other studies, however, have found that left-of-centre political ideology is positively associated with public service motivation, although these findings are obtained from a sample of postgraduates who already accessed the public sector.<sup>18</sup> While we cannot determine if this association also influences the individual's decision-making processes, having contradictory results justifies our caution with our hypothesis on the influence of political ideology. Therefore, our second hypotheses are:

**Hypothesis 2a:** *Students holding negative points of view towards the institution of the Government are less likely to express a willingness to work for the CNI.*

**Hypothesis 2b:** *Political ideology is associated with the students' willingness to work for the CNI.*

When incomplete information exists on the employer and when the individuals are still looking for their first job – as in our case – the Theory of Symbolic Attraction shows that organisations attract job seekers with symbolic images (i.e., organisational personality) that helps them to portray a certain type of social identity.<sup>19</sup> Intelligence services are these sorts of organisations. Therefore, public knowledge about an organisation, its reputation, and image, can influence people's willingness to work for it, as stated in the study by Cable and Turban.<sup>20</sup> While we do

not attempt to replicate their investigation in our work, we explore the explanatory capacity of those three dimensions analysed in Cable and Turban's work. The more knowledge a job applicant has of an organisation, the higher that person's willingness to apply for a job there.<sup>21</sup> Linked to that knowledge are the reputation and the image of that organisation. Although there may be limited research on knowledge as a necessary precursor of employer reputation and image, there is greater knowledge on the positive relationship between organisational reputation and its attractiveness for potential job applicants.<sup>22</sup> The third dimension is image. Some studies have explored the impact of spy films and movies on the public perceptions of the intelligence services' image<sup>23</sup> when their ordinary and real work is far from the image portrayed. Therefore, our third hypothesis is:

**Hypothesis 3:** *Knowledge of the missions and powers of the CNI, higher perceptions of its reputation, and perceptions of intelligence work closer to movie images will be associated with a willingness to work for the CNI.*

Finally, confidence may also affect people's decisions. Confidence is defined by the level of trust that members of the public place in an institution.<sup>24</sup> However, the topic of public confidence in intelligence agencies is scarcely explored. Therefore, and partially inspired by studies on police forces,<sup>25</sup> we identified the following dimensions for our study: perceived lawfulness, i.e., the institutions act within the law<sup>26</sup> and the rights and liberties of individual members of the public are not violated<sup>27</sup>; trust in the effectiveness of CNI, i.e., it performs its duties well and in an effective manner<sup>28</sup>; and, perceived neutrality, which is based on the belief that the values and prejudices of the CNI should not interfere with its decision-making process. It is therefore a way of assessing the extent to which an institution is perceived to take objective decisions.<sup>29</sup> Our fourth and last hypothesis:

**Hypothesis 4:** *Higher confidence in the CNI will be associated with a willingness to work for the CNI.*

### 3. Data and methods

#### 3.1. Data

Data from an opinion survey on civil liberties and security was used to test our four hypotheses. The study participants were selected following a probabilistic sampling method stratified by Autonomous Community and academic discipline, using the proportionate allocation strategy. The University Degrees were divided into five academic disciplines –i.e., Applied Sciences, Formal Sciences, Humanities, Natural Sciences, and Social Sciences – following the classification of the *Secretaría General de Universidades*, the Spanish government department responsible for universities.<sup>30</sup> All sampling errors were below 10 per cent in each Autonomous Community, except for the Balearic Islands (10.7 per cent), La Rioja (11.5 per cent), Murcia (11 per cent), and Navarra (11.2 per cent). Equally, sampling errors by academic discipline were below 10 per cent except for Formal Sciences (10.4 per cent). Once the groups had been selected, the questionnaires were sent by courier to our collaborators at the different universities. The average completion time was 24 minutes (*Min.* = 14; *Max.* = 28). The surveys were administered to 101 groups of students following 51 different bachelor's degree courses at 30 Spanish public universities between October 2018 and May 2019.

The survey was completed by 2888 Spanish university students, however, only 2616 answered the specific question of their willingness to work for the CNI. The participants were born between 1990 and 2000 (*M* = 20.9, *SD* = 1.9). Males and females comprised 43 per cent (*n* = 1126) and 56.2 per cent

**Table 1.** Descriptive statistics for sociodemographic variables based on willingness to work for the CNI (n = 2,616).

		No (n = 1361)		Yes (n = 1255)		Total	
		n	%	n	%	n	%
Sex							
	Male	557	49.5	569	50.5	1126	100
	Female	769	54.1	674	45.9	1470	100
Academic discipline							
	Applied Sciences	313	55.5	251	44.5	564	100
	Formal Sciences	8	44.4	10	55.6	18	100
	Humanities	167	72	65	28	232	100
	Natural Sciences	59	59	41	41	100	100
	Social Sciences	814	47.8	888	52.2	1702	100
Relatives in security professions							
	Yes	144	45.4	173	54.6	317	100
	No	1155	53.3	1012	46.7	2167	100

(n = 1470) of the sample. This ratio between men and women corresponded to the proportion of the total university population (i.e., 45.1 per cent males and 54.9 per cent females).<sup>31</sup> The demographic characteristics of the sample can be found in Table 1.

### 3.2. Measures

The dependent variable of this study was willingness to work for the CNI, measured using the responses to the question: 'Assuming you had the necessary qualifications, would you like to work in the CNI?' Response options ranged from 1 ('not at all') to 4 ('most certainly'). We created a binary variable for the analysis, coded as 0 when participants selected 'not at all' and 'probably not' and coded as 1 when they selected the options 'probably yes' and 'most certainly'.

Our independent variables were educational background, political opinions, knowledge, and confidence in the CNI. First, we included five *academic disciplines* (1 = 'Applied Sciences', 2 = 'Formal Sciences', 3 = 'Humanities', 4 = 'Natural Sciences', and 5 = 'Social Sciences') to measure educational background.

Second, our study included three variables for describing political opinions. We measured *political ideology* with the question: 'When talking about politics, the expressions left-wing and right-wing are commonly used. Please position yourself, on a scale from 1 to 10 where 1 is on the 'left' and 10 is on the 'right'. To measure *satisfaction with democracy* in Spain, participants were asked to express their degree of agreement or disagreement on a 4-point Likert scale with the statement: 'I am very satisfied with the functioning of democracy in Spain', where 1 = 'strongly disagree', 2 = 'disagree', 3 = 'agree', and 4 = 'strongly agree'. Finally, respondents were asked to estimate the extent of their *trust* in the following political institutions: the judiciary, political parties, the Government, the Parliament, the Monarchy, and the Ombudsman. Their answers ranged from 'no confidence' (1) to 'total confidence' (4). We then performed an Exploratory Factor Analysis (EFA) to obtain an indexed score for general trust in political institutions. Principal component factor analysis with varimax rotation yielded three factors that explained 46.87 per cent, (factor 1), 15.50 per cent (factor 2), and 12.93 per cent (factor 3), respectively, which we used to calculate the index score for trust in political institutions (see Appendix).

Third, three dimensions of *public knowledge* in the CNI were measured<sup>32</sup>: knowledge of its missions and powers, reputation, and image. 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 CNI Preliminary Judicial Review Act). The CNI Act states the mission and the activities of the CNI, while the Preliminary Judicial Review Act regulates the authorisation mechanism for the CNI to conduct operations that might contravene

fundamental rights. We followed the same measures and coding as previous research on public knowledge of the intelligence agencies when measuring both knowledge of the CNI mission statement and their legally attributed powers (i.e., Del-Real & Díaz-Fernández, 2021). The reputation of the CNI was measured through the responses of the participants to the following questions: Would you say that the CNI is considered to be ... (1) outside the world's top 20; (2) in the world's top 20; (3) the world's top 15 (4) the world's top 10; or (5) the world's top five?. Finally, the image of the CNI was used in the following question: 'In general terms, how similar do you think the work of an intelligence service is to the way it is depicted in the movies?', where 1 = 'Not at all similar', 2 = 'Somewhat similar', 3 = 'Quite similar', and 4 = 'Totally similar'.

The fourth independent variable was confidence in the CNI. This variable was measured using an 18-item scale. The list of 18-items was examined through EFA, to obtain the factors behind public confidence in the CNI and to check the validity of the items. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.823, confirming the adequacy of the sampling. Bartlett's test of sphericity was significant ( $\chi^2(153) = 17837.37, p < .001$ ), indicating that our data is likely to be suitable for factor analysis. The communalities were all above 0.4 (see Table 2), confirming that each item shared some common variance with other items. The factor loading matrix for the final solution is presented in Table 2. Factor scores for each of the four components were obtained using the regression method. Finally, internal consistency for each of the factors was examined using Cronbach's alpha. We obtained four factors of public confidence. Factor 1, conceptualised as 'procedural unlawfulness' explained 22.66 per cent of the variance, and grouped together all the items that described CNI behaviour as unlawful in relation to the rights of citizens and their privacy ( $\alpha = 0.79$ ). This factor was measured negatively. Factor 2, called 'perception of effectiveness in policing missions' – 20.36 per cent of the variance – described the extent to which the CNI was perceived as effective at combating threats ( $\alpha = 0.82$ ). Factor 3 – 11.27 per cent of the variance – described the extent to which the CNI was perceived as effective at providing assessments for policymakers. It was therefore conceptualised as 'perception of effectiveness in CNI intelligence missions' ( $\alpha = 0.85$ ). Finally, Factor 4 – 6.17 per cent of the variance – described the extent to which the activities of the CNI were perceived to be influenced by interests outside the public interest. This factor was conceptualised as

**Table 2.** Factor loadings and communalities based on Principal Component Analysis (PCA) with direct oblimin Kaiser normalisation rotation for 18 items (N = 2616), 'The CNI ...'.

	Components				Communalities
	1	2	3	4	
Compiles private and public confidential data	.776				.641
Monitors activity of social media	.769				.625
Conducts telephone tapping without court orders	.691				.626
Violates individual rights and liberties	.559				.575
Enters private homes without court orders	.535				.445
Is effective at fighting against organised crime		.719			.625
Is effective at fighting against terrorism		.769			.663
Is effective at protecting communication networks from cyber-attacks (hacking)		.606			.503
Knows the risks and threats which the States confronts		.724			.618
Works for the interests of the community		.672			.560
Works to combat threats against the State		.764			.678
Is effective at advising the government on national policy			.918		.837
Is effective at advising the government on international policy			.897		.820
Is effective at defending the economic and industrial interests of Spain			.793		.624
Has its own objectives not set by the Government				.691	.461
Hides behind secrecy so as not to provide explanations of its work				.608	.570
Jumps procedures when security is at risk				.600	.545
Completes missions attentive to the interests of the political party in government and not the State				.546	.465

Rotation converged in 20 iterations. Factor loadings <0.4 are suppressed. Percentage of variance explained by each factor: Factor 1 = 22.66 per cent, Factor 2 = 20.36 per cent, Factor 3 = 11.27 per cent, Factor 4 = 6.17 per cent. Total percentage of variance explained = 60.45 per cent, KMO = .823.



'perceived non-neutrality' ( $\alpha = 0.69$ ) and was measured negatively. We therefore expected to find a positive relationship between the willingness to work for the CNI and factors 2 and 3, and a negative relationship with factors 1 and 4.

Additionally, we collected socio-demographic characteristics – gender, college year, and relatives in security professions – which we used as the control variables.

### 3.3. Analytical strategy

Binary logistic regression models were used to test our hypotheses. The results of the binary regression models are presented using the standardised coefficient and each respective Odds Ratio (OR). The OR represented the multiplicative effect of a unit increase of the study variable on the odds of students willing to work for the CNI. We estimated five binary logistic regression models, one for each group of variables and a final one with all variables: education (model 1), political (model 2), public knowledge (model 3), public confidence (model 4), and combined (model 5). Examination of the variance inflation factors indicated no multicollinearity problems in the models (VIF <2), suggesting that none of the other variables influenced our inputs. We then checked for statistically significant differences between the proportions of students who either would or would not work for the CNI according to the undergraduate degree, so as to further explore the academic background of the students who expressed greater willingness to work for the CNI. To do so, we performed the chi-square test of independence and then the z-test for proportions using the Bonferroni correction to adjust the  $p$ -values. All analyses were performed with SPSS 27.

## 4. Results

In this section, the hypotheses are tested using four different models (models 1–4) and a final model on willingness to work for the CNI (model 5). Model 5 reproduces some of the results already mentioned in models 1 to 4.

### 4.1. Willingness to work for the CNI by academic background (Hypothesis 1)

We estimated a binary logistic regression using Social Sciences as the reference category to test our first hypothesis. If we are to validate our first hypothesis, we should obtain  $OR < 1$  for all academic disciplines. Model 1 in Table 3 shows that if students are studying a bachelor's degree in Social Sciences, they will have a greater likelihood of being willing to work for the CNI than students from Humanities ( $OR = 0.35, p > 0.001$ ) or Natural Sciences ( $OR = 0.53, p > 0.001$ ). However, no statistically significant results were obtained regarding Applied Sciences ( $p = 0.643$ ) and Formal Sciences ( $p = 0.065$ ).

We examined the percentage of students willing to work for the CNI according to the bachelor's programme, in order to explore the university degrees whose students had expressed greater willingness to work for the CNI. The initial 51 programmes available in our dataset were then recoded into 19 broader categories to simplify the interpretation of the results. For instance, different Engineering programmes were all labelled under the general term 'Engineering'. The chi-square test of independence showed that our dependent variable was significantly associated with the university programme,  $X^2(18, N = 2616) = 197.66, p < 0.001$ . The results with the percentage of students who would work for the CNI by bachelor's programme is shown in Figure 1. The line across the graph represents the average percentage of students who would like to work for the CNI (i.e., 48 per cent). As can be observed, students from International Relations (81.4 per cent) and Criminology (76.2 per cent) were the most willing to work for the CNI from all the social science students. Business, Philosophy and Law students were also above the mean percentage.

We performed the z-test for proportions using the Bonferroni correction, in order to examine whether these differences in the proportions were statistically significant. Table 4 shows the results

**Table 3.** Binary logistic regression models predicting willingness to work for the CNI.

Variables	Model 1 (Education)	Model 2 (Political)	Model 3 (Knowledge)	Model 4 (Confidence)	Model 5 (Combined)
Education (ref. = Social Sciences)					
Applied Sciences	-0.06 (0.95)				0.05 (1.05)
Formal Sciences	-0.47 (0.63)				-0.18 (0.84)
Humanities	-1.06*** (0.35)				-0.85*** (0.43)
Natural Sciences	-0.63*** (0.53)				-0.69*** (0.49)
Political opinions					
Ideology		0.15*** (1.16)			0.09*** (1.09)
Democracy satisfaction		0.18** (1.19)			0.03 (1.03)
Trust in institutions		0.31** (1.36)			0.07 (1.07)
Knowledge					
Missions			0.09*** (1.10)		0.08*** (1.08)
Powers			0.01 (1.01)		-0.02 (0.98)
Reputation			0.37*** (1.44)		0.21*** (1.23)
Image			0.38*** (1.47)		0.28*** (1.32)
Confidence in CNI					
Procedural unlawfulness				-0.12** (0.89)	-0.07 (0.94)
Police effectiveness				0.59*** (1.81)	0.44*** (1.55)
Intelligence effectiveness				0.15** (1.16)	0.04 (1.04)
Non-neutrality				0.00 (1.00)	-0.00 (0.99)
Control variables					
Gender (ref. = male)	-0.17 (0.85)	-0.13 (0.87)	-0.22* (0.80)	-0.29** (0.75)	-0.20* (0.82)
College year	-0.15** (0.86)	-0.10* (0.90)	-0.12** (0.89)	-0.13** (0.88)	-0.17** (0.84)
Relatives (ref. = no)	0.35** (1.41)	0.23 (1.26)	0.27* (1.31)	0.21 (1.24)	0.19 (1.21)
Constant	0.44*** (1.55)	-1.44*** (0.24)	-1.85 (0.16)	0.31** (1.36)	-1.34*** (0.26)
Hosmer and Lemeshow test <sup>a</sup>	13.535	17.742*	6.008	10.539	10.429
Nagelkerke R <sup>2</sup>	0.043	0.077	0.101	0.125	0.193
n	2464	2376	2420	2319	2234

*N* = 2616 students from Spanish Universities. The table displays the standardised coefficient and odds ratio in brackets. \* $p < .05$ ; \*\* $p < .005$ ; \*\*\* $p < .001$ . <sup>a</sup>Hosmer – Lemeshow statistics indicate a good fit of the model if the significance value is higher than .05.

of the pairwise comparison of proportions for each bachelor's degree course. Percentages from the same column that did not have the same subscript were significantly different at  $p < 0.05$  in the bilateral test of equality of proportions. It means that, for example, the proportion of International Relations students willing to work for the CNI was significantly higher than the proportion of Law students. The table shows us that the proportion of International Relations and Criminology students who wanted to work for the CNI was significantly higher than for all other degrees, excluding Computer Science, Psychology, and Business students, for whom the proportions appeared not to differ ( $p < 0.05$ ). We also found that Computer Science students formed the third group of students who expressed greater willingness to work for the CNI, provided they met the necessary conditions (62.9 per cent). This proportion was significantly higher than the students of Political Science ( $p = 0.018$ ), Engineering ( $p = 0.015$ ), Medicine ( $p < 0.001$ ), Education ( $p < 0.001$ ), Translation ( $p = 0.007$ ), History ( $p = 0.004$ ), and Philology ( $p < 0.001$ ). The results of the binary logistic regression and the pairwise comparison of proportions partially validated Hypothesis 1, as while Social Science students appeared to be among the students more willing to work for the CNI, Computer Science students were also significantly likely to be interested in working for the intelligence agency.

#### 4.2. Willingness to work for the CNI by political variables (Hypotheses 2a and 2b)

In model 2 of Table 3, the three political variables are all positive and statistically significant. In line with Hypothesis 2a, the results indicated that students showing greater satisfaction with democracy in Spain ( $OR = 1.16$ ,  $p = 0.004$ ) and trust in political institutions ( $OR = 1.36$ ,  $p = 0.002$ ) were more likely to be willing to work for the CNI than students who were neither satisfied with democracy nor trusted political institutions. The results also offered evidence to support Hypothesis 2b, as the

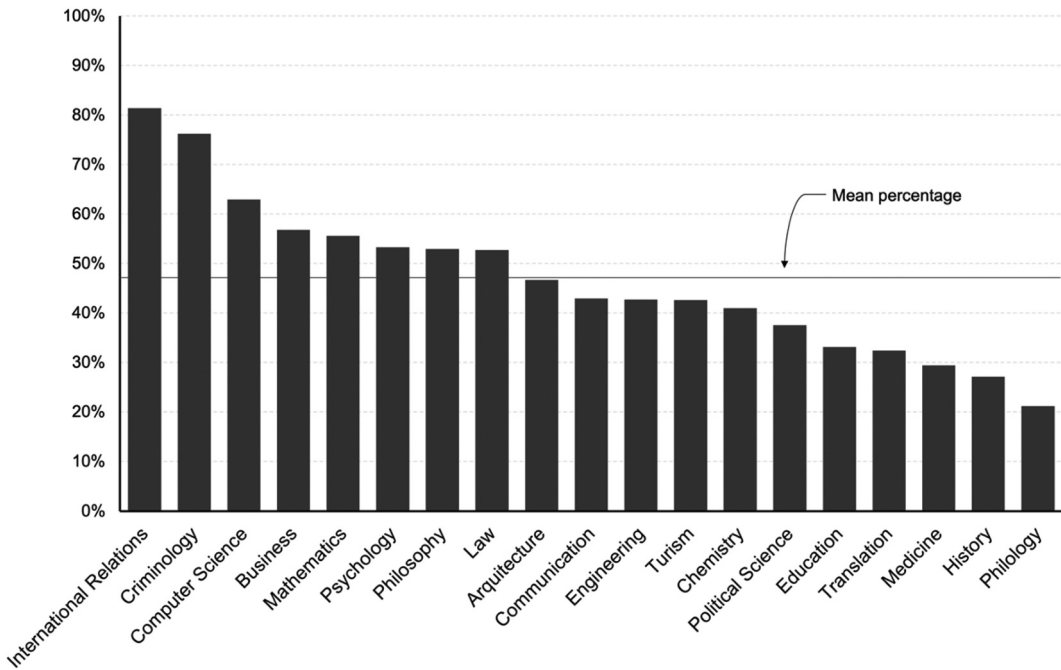


Figure 1. Percentage of students per university undergraduate degree who would be willing to work for the CNI.

Table 4. Results of the pairwise comparisons of proportions (N = 2616).

	Willing to work for the CNI	
	No	Yes
Architecture	53.3 per cent <sub>a,b,e,j</sub>	46.7 per cent <sub>a,b,e,j</sub>
Business	43.2 per cent <sub>e,g,h,i</sub>	56.8 per cent <sub>e,g,h,i</sub>
Chemistry	59.0 per cent <sub>a,e,i,j</sub>	41.0 per cent <sub>a,e,i,j</sub>
Communication	57.1 per cent <sub>a,d,e,i</sub>	42.9 per cent <sub>a,d,e,i</sub>
Computer Science	37.1 per cent <sub>b,i</sub>	62.9 per cent <sub>b,i</sub>
Criminology	23.8 per cent <sub>b</sub>	76.2 per cent <sub>b</sub>
Education	66.9 per cent <sub>a,j,k</sub>	33.1 per cent <sub>a,j,k</sub>
Engineering	57.3 per cent <sub>a,c,e</sub>	42.7 per cent <sub>a,c,e</sub>
History	72.9 per cent <sub>a,e,j</sub>	27.1 per cent <sub>a,e,j</sub>
International Relations	18.6 per cent <sub>b,g</sub>	81.4 per cent <sub>b,g</sub>
Law	47.3 per cent <sub>e,f,i</sub>	52.7 per cent <sub>e,f,i</sub>
Mathematics	44.4 per cent <sub>a,b,e,j</sub>	55.6 per cent <sub>a,b,e,j</sub>
Medicine	70.6 per cent <sub>a,j,k</sub>	29.4 per cent <sub>a,j,k</sub>
Philology	78.8 per cent <sub>j</sub>	21.2 per cent <sub>j</sub>
Philosophy	47.1 per cent <sub>a,b,e,j</sub>	52.9 per cent <sub>a,b,e,j</sub>
Political Science	62.5 per cent <sub>a,e,j</sub>	37.5 per cent <sub>a,e,j</sub>
Psychology	46.7 per cent <sub>b,c,d,e,k</sub>	53.3 per cent <sub>b,c,d,e,k</sub>
Translation	67.6 per cent <sub>a,e,j</sub>	32.4 per cent <sub>a,e,j</sub>
Tourism	57.4 per cent <sub>a,f,h,i,j,k</sub>	42.6 per cent <sub>a,f,h,i,j,k</sub>

Values in the same column that do not share the same subscript are significantly different at  $p < 0.05$  in the bilateral test of equality for proportions.

further the student is to the right of the political spectrum, the more likely they are to express interest in working for the CNI ( $OR = 1.16, p < 0.001$ ). Therefore, our results yielded support for both Hypotheses 2a and 2b.

### **4.3. Willingness to work for the CNI and public knowledge of the CNI (Hypothesis 3)**

Model 3 in Table 3 shows the results for the effect of the variables relating to public knowledge of the intelligence service on willingness to work for the CNI. Three of the four variables were statistically significant. According to these results, students with better knowledge of the CNI's missions were more willing to work for the CNI than students who were unaware of its existence ( $OR = 1.10, p < 0.001$ ). Reputation of the CNI operated in the same way as knowledge of the CNI, so those students who perceived that the CNI had a good reputation were more likely to work for the intelligence service ( $OR = 1.44, p < 0.001$ ). Finally, the odds of being willing to work for the CNI were 1.47 times higher when the student conjectured that the CNI's work was similar to what they had seen in the movies ( $p < 0.001$ ). This result suggests to us that both knowledge of the real missions and the idealised image of spying presented in films are both factors associated with the willingness of young people to work for the CNI. One of the reasons for this result can be found in the distribution of knowledge in CNI missions, which ranged from  $-6$  to  $+6$  and was skewed to the left, meaning that 68.4 per cent of students knew nothing of CNI missions and only 10.3 per cent of the sample showed a reasonable knowledge of the CNI's missions. Therefore, a low awareness of CNI missions may be affecting the result connected to the image. However, this result provides insufficient evidence, so Hypothesis 3 can neither be validated nor rejected.

### **4.4. Willingness to work for the CNI by public confidence in the CNI (Hypothesis 4)**

Model 4 in Table 3 shows that the variables measuring confidence in the CNI are also positively related to students' willingness to work in the Spanish intelligence service. Students who perceived that the CNI interferes with rights and freedoms were less likely to be willing to work for the CNI ( $OR = 0.89, p = 0.005$ ). On the contrary, both trust in the effectiveness of the CNI ( $OR = 1.81, p < 0.001$ ) and trust in the effectiveness of CNI assessments ( $OR = 1.16, p = 0.001$ ) increased the likelihood of a willingness to work for the CNI among those students. However, perceived non-neutrality was not found to be statistically significant in students' willingness to work for the CNI ( $p = 0.954$ ). These results partially supported Hypothesis 4.

### **4.5. Combined model**

Model 5 in Table 3 presents our final model on willingness to work for the CNI. Model 5 reproduces some of the results already mentioned in models 1–4. However, this model 5 combines in one logistic regression analysis all study variables, thus allowing us to interpret the results of each group in interaction with the other variables' groups. In this model, we can see that the highest  $OR$  corresponds to trust in CNI effectiveness ( $OR = 1.55, p < 0.001$ ), followed by image ( $OR = 1.32, p < 0.001$ ), and reputation ( $OR = 1.23, p < 0.001$ ). Overall, this result revealed that a willingness to work for the CNI was strongly associated with student opinions of the intelligence service. In the combined model, satisfaction with democracy and trust in institutions were no longer statistically significant variables, while ideology remained significant, but with a lower  $OR$  when compared to Model 2. Model 5 also revealed that some socio-demographic variables were affecting students' willingness to work for the CNI. The most significant variable was college year, which remained significant in all five models. According to this result, students from the early college years were more willing to work for the CNI than those who were closer to graduation ( $OR = 0.84, p = 0.001$ ). Besides, female students were less willing to work for the CNI than male students ( $OR = 0.82, p = 0.04$ ). A Nagelkerke  $R^2$  of 0.19 in the final model indicated a substantial increase in the explanatory power of model 5 compared to the Nagelkerke  $R^2$  of 0.04 obtained in model 1. Nagelkerke  $R^2$  not only increased in the final model, but also across all four models, each of which had a higher explanatory power than the previous one (Table 3). This result strengthens the observations outlined above on the greater explanatory power

of CNI perception-related variables when compared with academic background and political opinions.

## 5. Discussion and conclusions

The need to recruit Generation Z university students in the medium term to join the CNI underlines the importance of knowing what the explanatory variables are, in order to design better recruitment and retention strategies. Our research has confirmed, for an agency as specific as the intelligence services within the public sector, that university students from the legal, international relations, and criminological disciplines have a greater willingness to work for the CNI. Moreover, our research contributes to the literature on the willingness of Computer Science students to work for the CNI, probably motivated by the relevance of cyber threats, as well as the increasing role and publicity of the work of the National Cryptological Centre (CCN),<sup>33</sup> which is part of the CNI. These results partially confirmed H1.

As with other parts of the public sector, students who showed greater satisfaction with democracy and trust in political institutions were, according to the results of our research, more willing to work in the intelligence service, thus obtaining empirical evidence to support H2a. However, the weight of these variables declined when the combined model in favour of the CNI perception-related variables was analysed. In the same way, we found that political ideology is associated with students' willingness to work for the CNI, thus confirming H2b. Particularly, ideologically more conservative students showed a higher level of willingness to work for the CNI, as previous research has also found.<sup>34</sup>

From the three dimensions proposed by Cable and Turban,<sup>35</sup> that is, knowledge – in our case of the CNI's missions and powers – reputation, and image, it was the combined model that showed how these variables to a greater degree explained the willingness to join the CNI. It is consistent that those university students for whom the CNI has a greater reputation – they consider it among the best five in the world – showed a greater propensity to work for it. In turn, the positive relationship between those willing to work for the CNI and those who considered that working for the intelligence agencies would be similar to the dynamic and adventurous escapades from the movies was striking. These results partially supported H3 and they perhaps explain why students from junior college years were more willing to work for the CNI than more mature students closer to graduation. Our research has contributed to expanding the work of Cable and Turban and the Theory of Symbolic Attraction, in that it has provided data on the explanatory capacity of this set of variables to explain the willingness of an individual to work in an organisation as peculiar as an intelligence service. The weights of these variables in our regression models fully justify focusing recruitment campaigns on public awareness and improving the image of the CNI through information campaigns, television series, and social media.

Finally, the results have also confirmed H4, as trust in the CNI was found to increase the willingness of university students to work for this agency. Our results are consistent with studies on other security organisations<sup>36</sup> which have shown that individuals are willing to work for agencies that they consider to be both respectful of the law – in this case, without violating the rights and freedoms of the members of public – and professional when completing their job – in our case, effective at fighting certain threats and advising the government. The only variable that is not statistically significant is 'perceived non-neutrality', that is, how CNI performs its work, perhaps again, motivated by the – obvious – lack of direct contact with an intelligence agency, as well as knowledge on how they operate.

While the number of foreigners in our sample was proportional with their numbers among the Spanish university community,<sup>37</sup> it was still small; nonetheless, this could be a scientific limitation although not a practical one as the CNI – as well as other intelligence services around the world – is legally bound not to hire foreigners. The reasons why female students find it less attractive to join the Spanish intelligence service when most studies have shown that women prefer to work for the

government could also be examined in future studies; breaking down the job into its different tasks could potentially explain that rejection by women is justified on some specific – operational – tasks.<sup>38</sup>

CNI has very recently started to participate at university job fairs with its own stand; in case this strategy continues – or new ones emerge – investigations to measure the impact of this participation should be conducted. Further research is still needed on this target population and should also involve young professionals who left university some years ago and who would be willing to join the CNI at a later stage of their professional career. Finally, following the limited existing research studying the interactions between the three dimensions proposed by Cable and Turban,<sup>39</sup> the image that films and TV series project and its impact on willingness to join the intelligence services could contribute greater understanding – specifically, through the Theory of Symbolic Attraction.

In the same way that the attractiveness of the public sector can in some way be predicted,<sup>40</sup> the variables of our study and the use of other variables have contributed to knowledge that can underpin long-term strategies for recruiting new members to the intelligence services. There appear to be fewer candidates for some vacancies such as cyber-security, cyber-espionage, and for countering disinformation that the CNI will in the future have to fill and where fierce competition for talented graduates is spiralling between various sectors, so it is important to listen to the Generation Z workforce about their preferences for different sectors and organisations. As there is a positive relationship between the attractiveness of the employer and the willingness to apply for a job,<sup>41</sup> if CNI wants to attract these graduates to the service it must begin to design and to implement recruitment actions from the very earliest days at some university campuses – as well as to adapt the information provided on its websites and social media<sup>42</sup> – instead of passively awaiting the right applicants, perhaps in vain.

## Notes

1. San Martín, *Servicio Especial*.
2. Díaz-Fernández, *Los Servicios de Inteligencia Españoles*.
3. Information provided by the director of the CNI, Félix Sanz, during the conference given within the framework of the XXVIII International Seminar on Security and Defense Europe, organized by the Association of European Journalists, in Toledo on June 6, 2016.
4. Acheampong, "Reward Preferences of the Youngest Generation"; and Foa et al., "Youth and Satisfaction with Democracy".
5. Carrier et al., "Online Canadian Police Recruitment Videos"; Rigaux and Cunningham, "Enhancing Recruitment and Retention"; and Cho and Lewis, "Turnover Intention and Turnover Behavior."
6. Del-Real and Díaz-Fernández, "Public Knowledge of Intelligence Agencies among University Students in Spain"; and Díaz-Fernández and Del-Real, "The Animated Video as a Tool for Political Socialization on the Intelligence Services."
7. Smith, "Finding a Match"; and Lomas, "#ForgetJamesBond."
8. Podbregar, Hribar, and Ivanuša, "Intelligence and the Significance of a Secret Agent's Personality Traits"; Burkett, "An Alternative Framework for Agent Recruitment"; and Fowler and Birdsall, "Are the Best and Brightest Joining the Public Service?"
9. Antonsen and Jørgensen, "The 'Publicness' of Public Organizations."
10. Cable and Turban, "Establishing the Dimensions, Sources and Value of Job Seekers' Employer Knowledge during Recruitment"; and Ng, Gosset, and Winter, "Millennials and Public Service Renewal."
11. Ko and Jun, "A Comparative Analysis of Job Motivation and Career Preference of Asian Undergraduate Students"; Lievens, Hoye, and Schreurs, "Examining the Relationship between Employer Knowledge Dimensions and Organizational Attractiveness"; and Perry and Vandenabeele, "Behavioral Dynamics of Public Service Motivation."
12. Taylor, "Recruiting University Graduates for the Public Sector."
13. Ibid.
14. Ferrer, "Jóvenes, Participación y Actitudes Políticas En España"; Cerezo, "La Generación Z y La Información"; Espiritusanto, "Los Auténticos Nativos Digitales"; and Rubio and Álvaro, eds., "Jóvenes y Generación 2020."
15. Vilanova and Ortega, *Generación Z*.
16. Jäkel and Borshchevskiy, "Who Wants to Work in Bureaucracy?"
17. Rose, "Student Preferences for Federal, State, and Local Government Careers."
18. Ritz, Brewer, and Neumann, "Public Service Motivation."
19. Swider, Zimmerman, and Barrick, "Searching for the Right Fit."

20. Cable and Turban, "Establishing the Dimensions, Sources and Value of Job Seekers' Employer Knowledge during Recruitment."
21. Collins and Stevens, "The Relationship between Early Recruitment-Related Activities."
22. Highhouse, Thornbury, and Little, "Social-Identity Functions of Attraction to Organizations."
23. Blistène, "Ordinary Lives behind Extraordinary Occupations"; and Zegart, "Spytainment."
24. Tyler, *Why People Obey the Law*.
25. Davies and Johns, "British Public Confidence in MI6 and Government Use of Intelligence"; Gill and Phythian, *Intelligence in an Insecure World*; and Hribar, Podbregar, and Rosi, "A Model of Citizens' Trust in Intelligence Services."
26. Hough et al., "Procedural Justice, Trust, and Institutional Legitimacy"; and Jang, Joo, and Zhao, "Determinants of Public Confidence in Police."
27. Tyler, "Social Justice."
28. Tankebe, "Viewing Things Differently."
29. Tyler, "Social Justice."
30. Secretaría General de Universidades, "Datos y Cifras Del Sistema Universitario Español 2018–2019."
31. Secretaría General de Universidades, "Datos y Cifras Del Sistema Universitario Español 2019–2020."
32. See note 20 above.
33. Del-Real and Díaz Fernández, "Understanding the Plural Landscape of Cybersecurity Governance in Spain."
34. See note 17 above.
35. See note 20 above.
36. Cross and Fine, "Police-Related Social Media Exposure and Adolescents' Interest in Becoming a Police Officer"; Morrow, Vickovic, and Shjarback, "Motivation to Enter the Police Profession in the Post-Ferguson Era"; Sunshine and Tyler, "The Role of Procedural Justice and Legitimacy in Shaping Public Support for Policing"; and Wortley, Williams, and Walker, "Perceptions of Policing by Australian Senior Secondary Students."
37. Proportions are: in Spain (Spanish 87.1 per cent, foreigners 12.9 per cent); in the Spanish university community (Spanish 93.9 per cent, foreigners 3.5 per cent), and in our sample (Spanish 96 per cent, foreigners 4 per cent).
38. Winnæss, Damen, and Thomassen, "Understanding Learning Preferences and Career Aspirations of Norwegian Police Students."
39. See note 20 above
40. Ritz and Waldner, "Competing for Future Leaders."
41. Lemmink, Schuijff, and Streukens, "The Role of Corporate Image and Company Employment Image."
42. Carpentier, Van Hoye, and Weijters, "Attracting Applicants through the Organization's Social Media Page"; and Carrier et al., "Online Canadian Police Recruitment Videos."

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## Appendix

### Factor loadings and communalities based on Principal Component Analysis (PCA) with varimax rotation

	Components			Communalities
	1	2	3	
<i>To what extent do you trust in each of the following political institutions?</i>				
The political parties	.850			.729
The Government	.829			.748
The Parliament	.685			.680
The Monarchy		.873		.780
The Judicial power		.719		.635
Ombudsman			.948	.946

Rotation converged in 4 iterations. Factor loadings <0.4 are suppressed. Percentage of variance explained by each factor: Factor 1 = 46.87 per cent, Factor 2 = 15.50 per cent, Factor 3 = 12.93 per cent, Total percentage of variance explained = 75.29 per cent, KMO =.803.