

## ARE INTELLIGENCE AGENCIES OPENING UP? A PROPOSED RESEARCH AGENDA

ANDREW MACPHERSON, University of New Hampshire  
andrew.macpherson@unh.edu

JAMES RAMSAY, Macquarie University  
james.ramsay@mq.edu.au

### ABSTRACT

This paper highlights the need for additional research concerning intelligence agency openness or transparency. Our literature review indicates that both qualitative and quantitative research are needed. Possible variables that may be used to collect data and evaluate the openness of intelligence agencies include information releases, declassification initiatives, documentaries, current and former intelligence agency employees' media appearances, books, podcasts, and teaching assignments, published priorities, public apologies, LGBTQIA+ (lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more) policies, and websites. Our research indicates that 225 (54.1%) of the 416 national security intelligence organizations we identified in 113 countries operate websites. We hypothesized that more democratic countries would have more intelligence organizations with websites as a proxy for transparency. We fitted a Poisson model to our count data and found that democracy is a statistically significant predictor of the number of intelligence organizations with websites in a country. We believe this is the first published research substantiating the effect of democracy on intelligence agency transparency.

Key Words: *government transparency, intelligence agencies, national security intelligence*

---

### INTRODUCTION

In December 2021, Richard Moore, the head of Britain's Secret Intelligence Service (MI6) also known by the codename C, gave an interview to *The Economist* (Economist, 2021). During the interview, Moore argued that intelligence agencies must be more open in order to meet current challenges. He noted that until the 1990s, his identity as C would have been a state secret. Amy Zegart, a prominent intelligence scholar, writes in her 2022 book *Spies, Lies, and Algorithms*, that she thought the CIA's official Twitter account was a joke when she first saw it in 2014. It read: "We can neither confirm nor deny that this is our first Tweet" (Zegart, 2022, p. 1). The CIA Twitter account (2022) has 3.4 million followers as of this writing. Are these two data points examples of a broader trend across intelligence agencies? Are intelligence agencies becoming more open?

## LITERATURE REVIEW

"Openness" may be defined as a lack of secrecy or concealment (Oxford English Dictionary, 2022). In academic literature, "openness" is sometimes used as a synonym for "transparency." Transparency and accountability are variables used by academics to study policy and practice in organizations. "Transparency" often refers to security sector reform and the access to information that is provided by the leaders of intelligence agencies (Greenwood & Huisman, 2004). Openness or transparency is frequently studied by intelligence studies scholars. Gill refers to this field of study as Security Sector Reform (Gill, 2016).

A search of the Central Intelligence Agency's (CIA's) professional journal *Studies in Intelligence* reveals articles on institutional openness. For example, David Greis's 1994 article "Openness and Secrecy" argues that transparency is essential for U.S. intelligence to thrive in the post-Cold War world, where the public has new expectations for its security services. He argues that intelligence agencies should "protect only sources and methods that merit it, while disclosing as much as possible of everything else" (Greis, 1994, p. 35). A search for the term "openness" in the *International Journal of Intelligence and Counter Intelligence* reveals several articles from the last 25 years. Hulnick (1999) provides a history of CIA openness under different directors and public pressures. He argues that the United States likely has the most open intelligence system as evidenced by former practitioners' publishing books, teaching in academia, and other public disclosures of information. Hulnick (1999) writes:

Evidence of the new openness is appearing increasingly on the World Wide Web. Intelligence services with Web sites range from Argentina and Australia to South Africa and even the United Kingdom. Most of the sites provide information about internal security services rather than about foreign intelligence, but with the growing interest in intelligence matters and the breakdown of the British tradition of secrecy, it seems likely that even the foreign intelligence services will put something up on the Web before long. (p. 472)

Carroll (2001) points out transparency problems in *The Case Against Intelligence Openness*. The author argues that "aggressive and sweeping" programs of declassification and transparency underestimate the risks and costs related to source and methods (Carroll, 2001, p. 572). He notes that the "system of secrecy that grew up in the early years of the Cold War served the nation well," and "no compelling argument has yet to be offered to impugn the system's fundamental soundness." (p. 572) In 2020, the *International Journal of Intelligence, Security, and Public Affairs* announced a special issue on major political changes and access to secrets (Kleve & Juurvee, 2020). Many of the articles in the special issue related to intelligence agencies becoming more transparent. While the issue focuses on the Cold War, many articles discuss declassification. Think tanks such as Mitre have also published reports calling for intelligence agencies to make openness a reform priority. In *Intelligence After Next Radical Transparency in Intelligence Operations* (2021), Mitre analyst Christian Neubauer writes: "the intelligence community should move beyond its concern of exposing 'sources and methods' and embrace radical transparency to help secure the global community" (p. 2). Neubauer (2021) argues that

the intelligence community should harness "investigative organizations and citizen's groups" to support national security efforts to identify and track threats (p. 5).

As seen in the preceding paragraphs, intelligence agency transparency or openness may serve many ends. Political and intelligence agency leaders may use transparency as a vehicle for changing public opinion or organizational culture. Changes toward openness are often not universally accepted and, if ill-planned, may jeopardize sources and methods. Questions remain about the impact of internet-enabled technologies on national security and the agencies governments use to identify and mitigate threats.

### **A RESEARCH AGENDA FOR INTELLIGENCE AGENCY OPENNESS**

Our review of the literature related to intelligence agency openness reveals the need for additional research. All of the literature we reviewed related to openness and transparency was qualitative in nature and primarily focused on Western countries with more democratic governments. We define "qualitative work" as exploratory and descriptive. These articles often present case studies. They utilize primarily secondary sources or survey data and generally describe the phenomena of openness or transparency related to national security intelligence.

There is a need for additional qualitative literature. Theories related to intelligence agency transparency are incomplete. What independent variables lead to intelligence agencies adopting transparency policies? What is the role of public pressure on political and intelligence leaders? Does the polity matter? Data that researchers could use could include media coverage, political and intelligence leaders' speeches, and organizational press releases, officially sanctioned documentaries, and other sources that could be linked to outcomes that signal transparency. Many dependent variables are listed in the existing literature, including information releases, declassification initiatives, documentaries, current and former intelligence agency employees' media appearances, books, podcasts, and teaching assignments. Additional variables may include published priorities, public apologies, LGBTQIA+ (lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, and more) policies, and websites.

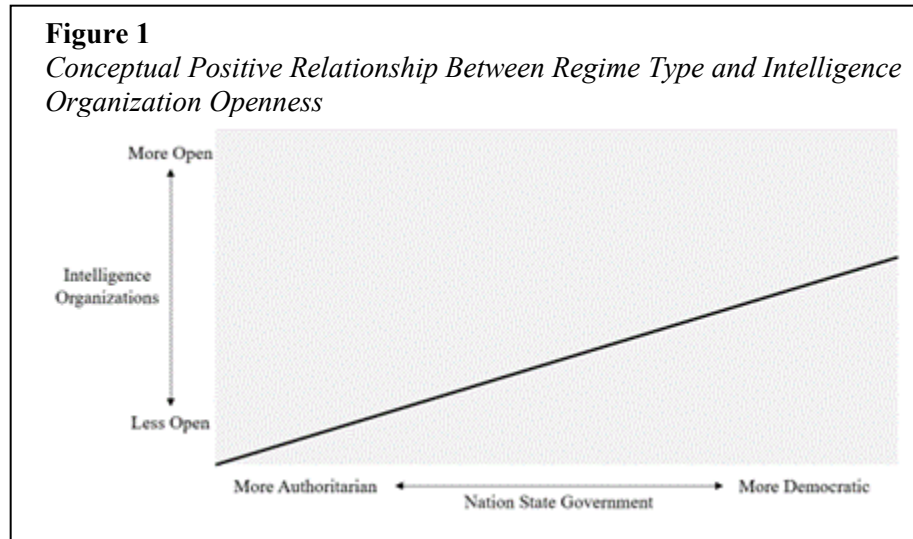
There is an equal need for quantitative studies. Macpherson (2020) notes that "social science academic literature is increasingly quantitative in nature" (para. 1). For the last 20 years, "scholars publishing in disciplines related to intelligence studies such as psychology (Cousineau, 2010), history (Paul et al., 2016), and political science (Abrahms, 2006) increasingly utilize quantitative approaches to develop evidence to scientific questions" (Macpherson, 2020, para. 1).

We define "quantitative approaches" as those that employ statistically identified correlations, experimental designs, or meta-analysis to test theory and explain and predict phenomena. As noted in Hastedt's *Towards the Comparative Study of Intelligence* (1991), "only by making comparisons can one come to appreciate what

is a unique or shared characteristic" (p. 55). There have been few studies that quantitatively compare intelligence agencies' transparency.

In the following paragraphs, we present quantitative data and investigate intelligence openness. We define "national security intelligence" as a secret nation-state activity to understand, influence, or defend against a threat (Macpherson, 2016). We define "organizational openness" as an institutional philosophy that emphasizes transparency to build trust with civil society. As a proxy for openness, we will use intelligence agencies' websites. In 1999, Hulnick reported that few intelligence agencies had websites but that the number was growing. Due to the explosion of internet access internationally in the last 20 years, we reason that many intelligence agencies will have websites now; however, as Carroll (2001) noted, there are arguments against transparency. We hypothesize that less than 50% of the intelligence agencies included in our sample will have websites.

We reason that there is a relationship between the type of government and the openness of its intelligence services. For example, in more democratic countries, we would expect to see more intelligence agency transparency. Democratic governments generally provide information to civil society on government activities to endear trust. In authoritarian regimes, we would expect there to be less intelligence agency transparency. Authoritarian states often use intelligence services to suppress their population; thus, we would expect less transparency on their activities. Figure 1 provides a visual representation of the conceptual positive relationship we propose between democracy and intelligence agency openness.



## METHODOLOGY

We used data from the National Security Intelligence Dataset (NSID). The NSID dataset contains information on intelligence agencies in 113 United Nations (UN) member states and Taiwan.<sup>1</sup> An "intelligence organization" is defined as an official nation-state organization whose function is to conduct national security intelligence activities. Government entities that provide oversight of intelligence organizations are not included. The NSID does not include most countries' Financial Intelligence Units (FIU). FIUs were created in most countries following the 2001 attack on the United States and subsequent international terrorist attacks. FIUs primarily share information on "money laundering, terrorist financing, and associated predicate crimes" (Egmont, 2023). Only FIU's that are specifically part of a country's intelligence services are included in the NSID.

For each intelligence agency in the NSID, a search was conducted using [www.google.com](http://www.google.com) (Google) to identify an official government website signified by the government-owned Universal Resource Locator (URL) as listed on the UN website (United Nations, 2023). The first search term used was the English language organization name from the NSID and the term "website." Researchers limited each search to 50 results. Often these searches would allow the researcher to identify the URL for the intelligence organization. If an official website was not located, a Google search was conducted using the organization's name in the country's native language. Some countries have multiple official languages. When required and when possible, the researchers repeated the search in multiple official languages. If an official website was not located using Google searches, researchers used [www.archive.org](http://www.archive.org) to attempt to identify whether official websites for the intelligence agency ever existed.

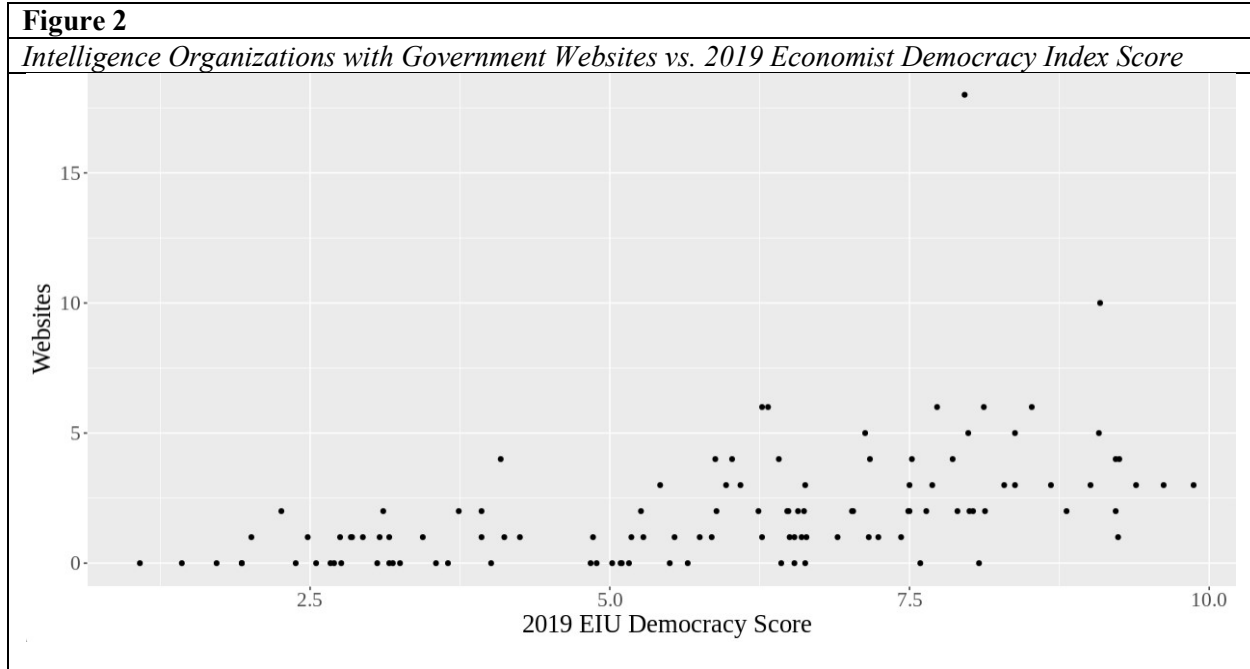
Many of the organizations found in the NSID have a single function: national security intelligence. Other organizations included in the NSID have multiple roles. For example, interior ministries frequently have many government functions in addition to a national security intelligence role. As we are measuring transparency, we decided that we would only include official government websites that provide information on the organization's national security intelligence activity. Thus, in some countries, an organizational website may exist but it is not included in our data as it is not providing information on the organization's national security intelligence activities to civil society. Researchers used [translate.google.com](http://translate.google.com) to search for information related to its national security intelligence function within an identified website. A search for the organizational subunit responsible for national security intelligence was conducted in English and, when possible, in the country's native language for the identified website. A search for the term "intelligence" in English and, when possible, in the country's native language was conducted for the identified website. Researchers were instructed to be aware of possible spelling variants such as British and American spellings. For example, Fiji uses the British "defence" instead of the American "defense."

---

<sup>1</sup> The authors wish to thank the student researchers who collected data for this study. Their names are withheld as they are seeking or may seek employment in the intelligence community.

The result of this research was a dataset with the following structure. Each row was an observation: the name of the intelligence organization from the NSID. Each column was a variable. We included variables for identifying an official website and the country name. We then aggregated the data by the variable country. In this dataset, each country (COUNTRY) is the observation with variables for the total number of intelligence agencies (ORGS) and number of websites (WEB). The Economist Intelligence Unit democracy index score (DEMOCRACY) provides us with a numerical measure of a country's polity from authoritarian regime to full democracy (Economist, 2019). The EIU Democracy Index scores range from 0 to 10. More authoritarian countries have lower scores (North Korea: 1.39) and more democratic countries have higher scores (Norway: 9.87).

We selected a Poisson regression model to test our hypothesis that there is a positive relationship between a country's polity and its intelligence agency openness. Linear regression models may not be sufficient to modelling count data (Cameron & Trivedi, 2013). The use of ordinary least squares estimates on count data may result in inefficient, inconsistent, or biased estimates (Long, 1997). Nonlinear models, such as the Poisson regression model, are frequently used for "statistical analysis of counts within the framework of discrete parametric distributions for univariate independent and identically distributed random variables." (Cameron & Trivedi, 2013, p.1) A logarithm function links the Poisson distribution's mean to the linear combination of the predictor variables. The Poisson model is in widespread use and has been applied to many unique studies. For example, Bortkiewicz 1898 work on the annual number of deaths from being kicked by mules in the Prussian army (Quine & Senet, 1987). In a Poisson model the exponentiated coefficient of a predictor variable provides the expected multiplicative change in the predictor variable. The relationship between the predictor and outcome variables may be measured as a rate ratio. We predict the rate that an event will happen to one group relative to another. For our analysis, we wish to model the rate at which the number of intelligence organizations websites will change based on a one-unit increase in the Economist Intelligence Unit Democracy Index score. As seen in Figure 2, most countries have fewer than five intelligence agencies with websites.



An issue that must be addressed to fit the Poisson regression model is the number of websites and number of total intelligence organizations per country. If we use the raw number of websites relationships to EIU Democracy index score we are not addressing the number of intelligence agencies in a country. We need to scale the modeling so that a country with two intelligence organizations with websites like Albania is not predicted to have the same outcome as a country with two intelligence organization websites but ten intelligence organizations, like China. That is, we have to adjust for the number of intelligence organizations in each country. To address this issue, we use an offset variable: the log number of intelligence organizations in a county (ORGS). We use the log of the offset as the predictor is estimated in log scale. The offset variable will represent the number of intelligence organizations in each observational unit: country. Robust standard errors are used to account for heteroskedasticity and serial correlation that may be present in cross-sectional units (the organizations). As the hypothesis is directional one tail tests are used. We used R version 4.2.2 (2022-10-31 ucrt) and RStudio 2022.12.0 Build 353 on a x86 (64-bit) Windows computer. We fitted a Poisson regression model using the MASS package (7.3-58.2).

## RESULTS

We gathered data on 416 national security intelligence agencies in 113 UN member states and Taiwan. The mean number of intelligence organizations per country was 3.68 (SD = 2.44). There were 11 states that operate a single intelligence agency. The United States operates the most agencies: 18. Of the 416 national security intelligence agencies, we gathered data on 225 (54.1%) operated websites.

The dependent variable WEB is the number of intelligence organization websites we identified in any country. As seen in Table 1 the first three counts, taking values 0, 1, or 2 account for 71% of the sample. The mean number of websites is 1.99 with a standard deviation of 2.38. There are

30 occurrences (26.5%) where a country's intelligence services did not appear to have a government website or we could not identify one.

<b>Table 1</b>									
<i>Number of intelligence organizations with a website in a country: actual frequency distribution</i>									
Count	0	1	2	3	4	5	6	10	18
Frequency	30	28	22	13	9	4	5	1	1
Relative frequency	0.265	0.248	0.195	0.115	0.080	0.035	0.044	0.009	0.009

The independent variable DEMOCRACY is described in Table 2. The variable ORGS provides a count for the total number of intelligence organizations identified in any country.

<b>Table 2</b>				
<i>Number of intelligence organizations websites: variable definitions and summary</i>				
Variable	Definition	Mean	Standard deviation	
DEMOCRACY	Economist Intelligence Unit Democracy Index score 2019 from 1-10. Higher scores indicate more democratic regimes.	5.83	2.24	
ORGS	Number of intelligence organizations in a country.	3.68	2.44	

A Poisson regression model with offset (ORGS) was fitted to the data to test the relationship between DEMOCRACY and WEB. Table 3 presents the statistical results. The result showed that the log change in the incident rate of web is 25.8 for every unit increase in log democracy all other conditions held constant.

<b>Table 3</b>					
<i>Effect of Democracy on Intelligence Organization Websites (log)</i>					
	Estimate	Robust SE	Pr(> z )	Lower Limit	Upper Limit
(Intercept)	-2.3275448	0.23170821	9.649599e-24	-2.7816929	-1.8733967
DEMOCRACY	0.2581736	0.02917798	8.891482e-19	0.2009848	0.3153625

To convert the predictor from log back to units that are readily understandable (websites) we exponentiate. As seen in Table 4 for each one unit increase in DEMCORACY there is a 29.5% increase in WEB (websites). This is interpreted as a 29.5% increase in websites for each unit increase in EIU Democracy Index.

<b>Table 4</b>				
<i>Effect of Democracy on Intelligence Organization Websites</i>				
	Estimate	Robust SE	Lower Limit	Upper Limit
(Intercept)	0.09753492	0.02259964	0.06193357	0.153601
DEMOCRACY	1.29456357	0.03777275	1.22260617	1.370756



We evaluated the model to ensure it was consistent with Poisson regression model assumptions. For example, we checked the assumption that the mean and variance of the response variable are approximately equal. We checked this assumption by using the residual deviance and degrees of freedom from the fitted model to calculate the dispersion parameter. If the dispersion parameter is close to 1, it suggests that the mean and variance of the response variable are approximately equal. The dispersion parameter of 0.75 is not significantly less than 1. Figure 3 is a plot of the actual and predicted number of websites using the 2019 EIU Democracy score.

## DISCUSSION

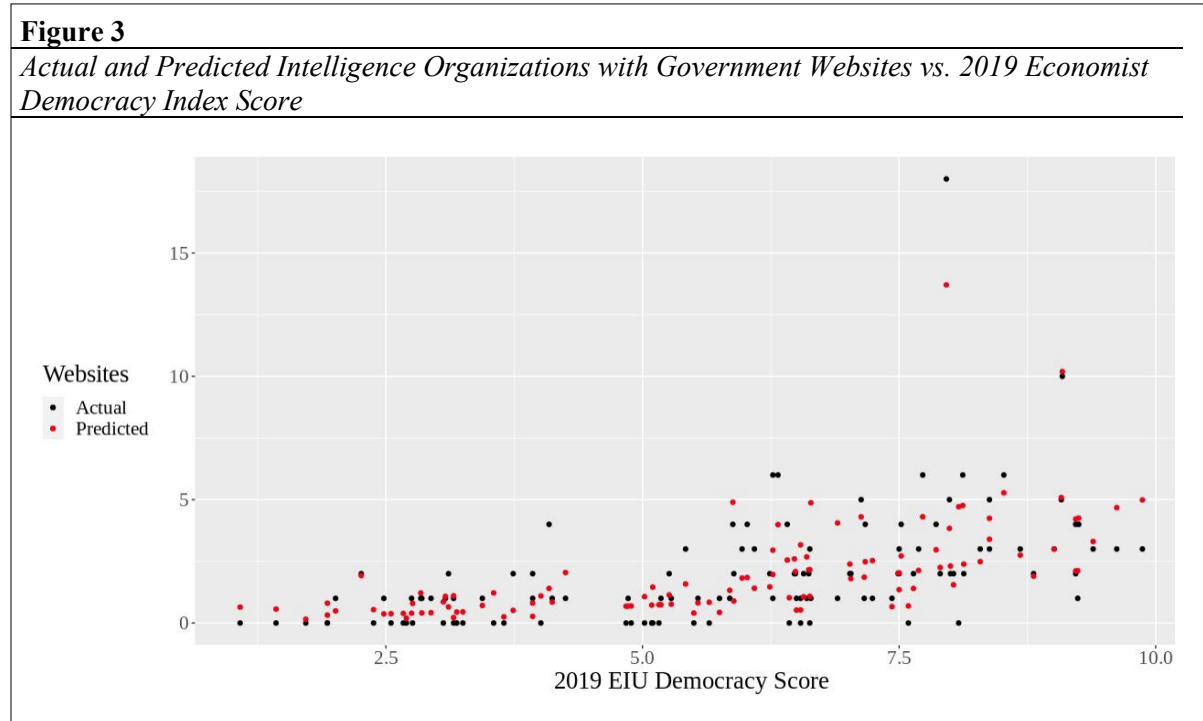
This sample of 113 UN member states and Taiwan represents 58% of the UN's total membership and 89% of the world's population. This is a purposeful sample. All the major economic and military powers are included in the sample with a few exceptions. For example, Afghanistan and Brazil are not included due to time and resource limitations. We anticipate including these countries and others in future data collection efforts.

We found that on average countries have 3.68 intelligence agencies. The statistic may indicate that there is no dominant model that country's employ to conduct national security intelligence activities. For example, a monolithic agency conducting all aspects of intelligence, like the Committees for State Security (KGB) set up in Soviet states during the Cold War, was not discovered. Only 11 of the 113 (9.7%) countries have a single national security intelligence agency. The United States intelligence community model featuring 18 highly specialized organizations is not replicated across the sample. Only four countries have 10 or more intelligence agencies.

We expected to identify websites for less than 50% of the 415 intelligence agencies included in the sample. Our researchers identified websites for 225 (54.1%) intelligence organizations. We believe that the number is likely higher than our research indicates. A number of intelligence agencies have official government URLs that are reachable but do not share any information. For example, the official government website of the Foreign Intelligence Service of the Republic of Azerbaijan reads, "The website will be live soon." Other URLs were not reachable at the time of our research but have provided information in the past; these sites may become live in the future. One example is the Military National Security Service of Hungary. A snapshot of the service's website was captured on Dec, 31 2019 by an internet archiving service featuring links to a Hungarian and English language website (Way Back Machine, 2019) but as of spring 2022 it was not online.

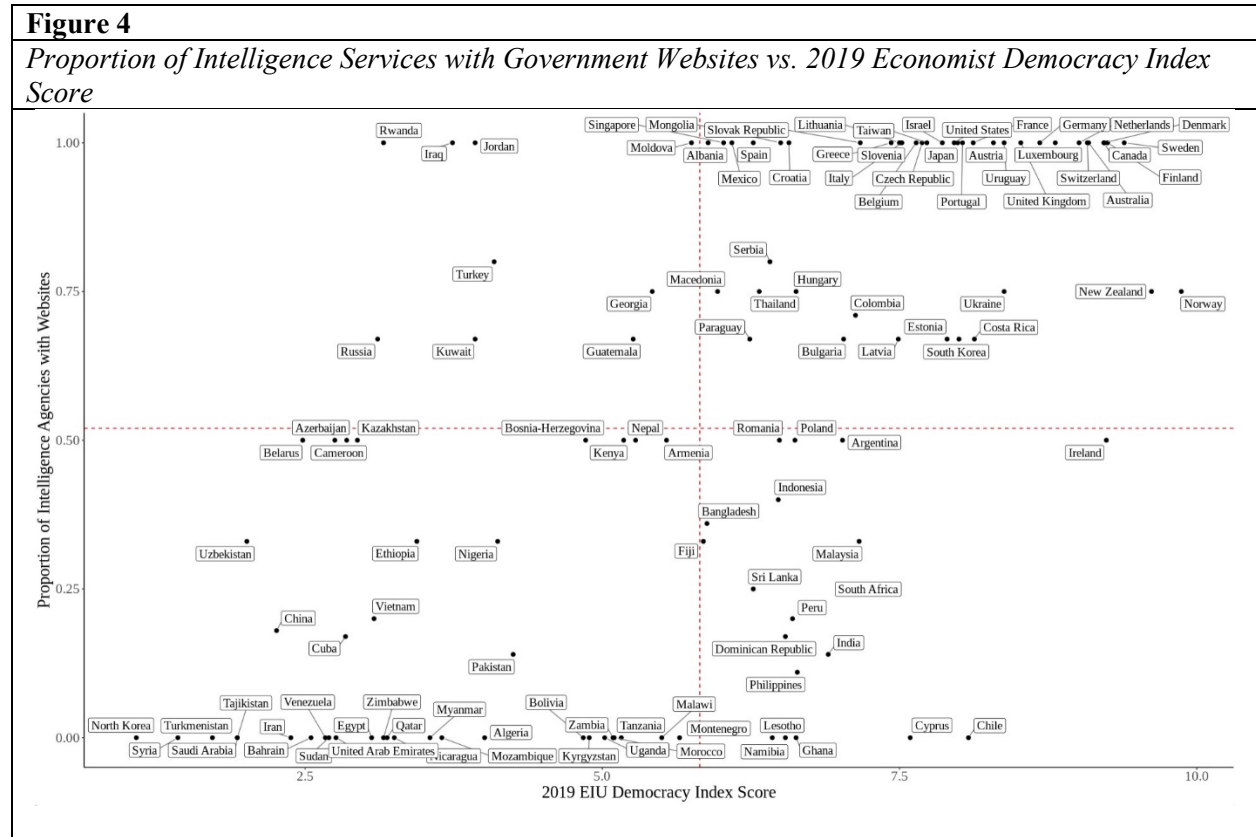
Our research team identified many websites yet they faced significant challenges including language translation. Some of the researchers had relevant foreign language skills: our team included researchers with Dutch, English, French, Russian, and Spanish language training. However, it is likely that we did not identify some websites due to language barriers and our necessary use of online translation engines. We are unable to authoritatively state that no further official government website exists for organizations found in the NSID.

As seen in Figure 1 we proposed a positive relationship between democracy and intelligence agency openness. Table 3 demonstrates that the effect of the DEMOCRACY variable on the WEB variable is statistically significant and positive consistent with our hypothesis. More democratic societies are linked to an increased number of intelligence organizations with websites. We believe this is the first published research substantiating the effect intelligence agency transparency.



In Figure 4 we present a scatterplot using the Economist Democracy Index scores and the proportion of their intelligence services with an official government website. We calculated the mean Economist Democracy Index score as 5.83 and plotted a vertical line. We used the mean proportion (.541) number of intelligence organizations with websites to plot a horizontal line. These two lines provide a starting point for a quadrant analysis of these data. We split the scatterplot into four quadrants. We note that most countries fall in either the lower-left or upper-right quadrants. The lower-left quadrant contains the states with low Economist Democracy Index scores, indicating they are authoritarian or hybrid regimes where there are weaknesses in governance (such as infringements on individual freedoms). Some of these states have intelligence agencies with websites. We wonder what benefit these countries' governments see in maintaining websites. Conversely, many countries with high Economist Democracy Index scores have websites for all of their intelligence agencies. Interestingly, this may be contrary to what the management of the intelligence agencies want. For example, in 2020 the Australian Signals Directorate Director General decommissioned an official history of the organization commissioned by her predecessor, likely due to secrecy concerns (Edwards, 2020). As noted in the literature review, many academic and professional articles call for very careful or limited implementation of transparency initiatives within intelligence organizations (Brand, 2015; Gates, 1992; Hedley, 1994; Carroll, 2001;

Kinsman, 2001).



It seems that due to their open nature, democracies may provide incentives or mandates for transparency. Richard Moore's call for openness at Britain's Secret Intelligence Service was also a call for qualified employees. With an open employment market, MI6 is incentivized to try to recruit the best candidates, and its leadership has determined that openness is one way it can be competitive against private sector jobs. The United States intelligence community is mandated to deliver transparency. For example, the American Freedom of Information Act (FOIA) is a "statutory right of access by any person or organization to federal government information" (CIA, n.d.). The CIA received 2,837 FOIA requests in 2021 (CIA, 2021).

Intelligence agencies' openness goes beyond web pages. Our researchers noted that it appears that the Venezuelan Bolivarian Intelligence Service (SEBIN) has an official Twitter account (<https://twitter.com/sebinoficial>) but no web page. It is likely that intelligence agencies maintain official Facebook, Instagram, and other social media accounts. Future researchers may choose to catalog these services and their relationships to intelligence agencies. Analyses of the content of websites and the languages used may provide insight into an agency's choices for messaging.

We believe the use of the NSID dataset can lead to exciting new quantitative research around intelligence agencies. Compiling additional variables for the NSID could provide opportunities for additional predictive research. For example, do neutral countries have unique characteristics versus countries with security alliances? The collection of variables such as

number of employees, budget, and other organizational information could be correlated with independent variables such as population or Gross Domestic Product to develop predictive models. Categorizing the function of intelligence agencies could lead to a new typology. Organizational charts could be compiled and compared for structural analysis. Additional clustering of countries could be performed using relevant variables to identify hidden relationships.

The implications of this research fall into two categories. First, work must continue to develop quantitative methodologies that apply to intelligence studies research. As seen in this study, descriptive research activities may lead to advances in predictive analysis. Second, the development of common data sources, such as the NSID, may lead to additional explanatory analysis.

## REFERENCES

- Abrahms, M. (2006). Why terrorism does not work. *International Security*, 31(2), 42–78.
- Brand, R. (2015). Transparency in the intelligence community. *FedSoc* (Federalist Society) blog. <https://fedsoc.org/commentary/fedsoc-blog/transparency-in-the-intelligence-community>
- Cameron, & Trivedi, P. K. (2013). *Regression analysis of count data* (Vol. 30). Cambridge University Press.
- Carroll, T. P. (2001). The case against intelligence openness. *International Journal of Intelligence and CounterIntelligence*, 14(4), 559–574. 10.1080/08850600152617164
- Central Intelligence Agency. (2021). *Annual report FY 2021*. Freedom of Information Act Electronic Reading Room. [https://www.cia.gov/readingroom/docs/CIA\\_FY2021\\_FOIA\\_Annual\\_Report.pdf](https://www.cia.gov/readingroom/docs/CIA_FY2021_FOIA_Annual_Report.pdf)
- Central Intelligence Agency. (n.d.). *Freedom of Information Act*. Freedom of Information Act Electronic Reading Room. <https://www.cia.gov/readingroom/freedom-information-act-5-usc-%C2%A7552>
- Central Intelligence Agency Twitter account. (2022, November 12). Twitter. Retrieved November 12, 2022, from [https://twitter.com/CIA?ref\\_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor](https://twitter.com/CIA?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor)
- Cousineau, D. (2005). The rise of quantitative methods in psychology. *Tutorials in Quantitative Methods for Psychology*, 1(1), 1–3. <https://doi.org/10.20982/tqmp.01.1.p001>
- The Economist. (2021, December 9). We ask "C": How do intelligence services need to change in the 21st century? *The Economist Asks: Richard Moore*. [Audio podcast]. Retrieved November 12, 2022, from <https://www.economist.com/podcasts/2021/12/09/we-ask-how-do-intelligence-services-need-to-change-in-the-21st-century>.
- The Economist Intelligence Unit. (2019). Democracy Index 2019. <https://www.eiu.com/topic/democracy-index/>.
- Edwards, Peter. (2020, November, 12). Australia's intelligence agencies send mixed signals on openness and transparency. *The Strategist*. <https://www.aspistrategist.org.au/australias-intelligence-agencies-send-mixed-signals-on-openness-and-transparency/>
- Egmont Group. (2023, January, 2). About. <https://egmontgroup.org/about/>.
- Florian Hartig (2022). DHARMA: Residual Diagnostics for Hierarchical (Multi-Level / Mixed) Regression Models. R package version 0.4.6. <http://florianhartig.github.io/DHARMA/>

- Gates, Robert. (1992, February 21). CIA and openness. Oklahoma Press Association. <https://irp.fas.org/eprint/gates1992.html>
- Gill, P. (2016). *Intelligence governance and democratisation: A comparative analysis of the limits of reform*. Routledge & CRC Press. <https://www.routledge.com/Intelligence-Governance-and-Democratisation-A-comparative-analysis-of-the/Gill/p/book/9781138649675>
- Greenwood, D., & Huisman, S. (2004). *Transparency and accountability of police forces, security services and intelligence services | DCAF – Geneva Centre for Security Sector Governance*. Geneva Centre for the Democratic Control of Armed Forces. <https://dcaf.ch/transparency-and-accountability-police-forces-security-services-and-intelligence-services>
- Greis, David. (1994). Openness and secrecy: A basic tension. *Studies in Intelligence*, 37(5), 33–35.
- Hastedt, G. P. (1991). Towards the comparative study of intelligence. *Journal of Conflict Studies*, 11(3). <https://journals.lib.unb.ca/index.php/JCS/article/view/14966>
- Hedley, J. H. (1994). The CIA's new openness. *International Journal of Intelligence and CounterIntelligence*, 7(2), 129–141. 10.1080/08850609408435242
- Hulnick, A. S. (1999). Openness: Being public about secret intelligence. *International Journal of Intelligence and CounterIntelligence*, 12(4), 463–483. 10.1080/088506099305007
- Kinsman, R. N. (2001). Openness and the future of the clandestine service. *Studies in Intelligence*, 44(5). <https://www.cia.gov/resources/csi/studies-in-intelligence/archives/vol-44-no-5/openness-and-the-future-of-the-clandestine-service/>
- Kleve, K., & Juurvee, I. (2020). Introduction to the special issue: Need to know—Major political change and access to secrets. A special edition of the best from the Need to Know Conference in Bodø 2018 and Tallinn 2019. *The International Journal of Intelligence, Security, and Public Affairs*, 22(3), 133–138. <https://doi.org/10.1080/23800992.2020.1840088>
- Long. (1997). *Regression models for categorical and limited dependent variables*. Sage Publications.
- Liu, Fang, and Yunchuan Kong. (2015). "zoib: An R Package for Bayesian Inference for Beta Regression and Zero/One Inflated Beta Regression." *The R Journal* 7 (2): 34–51. <https://journal.r-project.org/archive/2015/RJ-2015-019/index.html>.
- Macpherson, A. (2020). Quantitative intelligence literature: Are intelligence scholars behind the curve? *Journal of Security, Intelligence, and Resilience Education*, 9(1). <https://jsire.org/quantitative-intelligence-literature-are-intelligence-scholars-behind-the-curve/>

- Macpherson, A. (2016). Why defining national security intelligence matters [Unpublished manuscript].
- Neubauer, C. (2021). *Intelligence after next: Radical transparency in intelligence operations*. MITRE. <https://www.mitre.org/news-insights/publication/intelligence-after-next-radical-transparency-intelligence-operations#:~:text=Intelligence%20After%20Next%3A%20Radical%20Transparency%20in%20Intelligence%20Operations,-Jan%202013%2C%202021&text=The%20Intelligence%20Community%20can%20and,help%20secure%20the%20global%20community>
- Oxford English Dictionary. (2022). Openness. <https://www-oed-com.unh.idm.oclc.org/view/Entry/131722?redirectedFrom=openness#eid>
- Paul, C., Clarke, C. P., Grill, B., & Dunigan, M. (2016). *Moving beyond population-centric vs. enemy-centric counterinsurgency*. RAND. [https://www.rand.org/pubs/external\\_publications/EP66692.html](https://www.rand.org/pubs/external_publications/EP66692.html)
- Quine, & Seneta, E. (1987). *Bortkiewicz's Data and the Law of Small Numbers*. *International Statistical Review*, 55(2), 173–181. <https://doi.org/10.2307/1403193>
- United Nations. (2023). *Country URLs*. UN E-Government Knowledgebase. <https://publicadministration.un.org/egovkb/en-us/Resources/Country-URLs>
- Way Back Machine (2023). Search <https://www.knbsz.gov.hu>. <https://web.archive.org/web/20191231134301/https://www.knbsz.gov.hu/>
- Zegart, A. (2022). *Spies, lies, and algorithms: The history and future of American intelligence*. Princeton University Press.