

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Author: Shane McNeil ([ORCID](#)); Carla Renner ([ORCID](#))



ABSTRACT

This paper examines the statistical probability of more women engaging in espionage than those charged or convicted. The investigation focuses on psychological factors associated with espionage, including psychopathy, narcissism, immaturity, grandiosity, ideology, a desire for excitement or adventure, a need for revenge or to feel important, and a willingness to engage in risky behavior. Additionally, it explores psychological disorders such as depression, ADHD, and PTSD, which increase the likelihood of criminal behavior, although they are not directly associated with espionage. These disorders are more prevalent in women, suggesting a potential link to illegal activity. The article presents an algorithm for determining the probability of women committing espionage based on the rates of these psychological disorders and the percentage of women with access to sensitive or classified national security information. Furthermore, it examines the differences between espionage and leaking and the psychological factors associated with each. The gender ratio of individuals with access to sensitive information is explored, as well as the reasons behind the lower number of women charged or convicted of espionage despite the expected rates based on psychological factors. Finally, the article proposes future studies to delve deeper into this complex topic.

KEYWORDS: counterintelligence, espionage, intelligence, leaking, national security, psychological disorders, women

DOI: 10.5281/zenodo.16924083

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Espionage, a significant national security concern, often involves adversarial nations exploiting psychological factors in individuals with access to sensitive information that motivates their involvement in illicit activities. This article investigates the statistical probability that more women engage in espionage than those charged or convicted for such crimes. By examining various psychological factors associated with espionage, including psychopathy, narcissism, immaturity, grandiosity, ideology, a desire for excitement or adventure, a need for revenge or to feel important, and a willingness to engage in risky behavior, we aim to shed light on the potential gender disparities in espionage cases. Additionally, we explore psychological disorders, such as depression, ADHD, and PTSD, which increase the likelihood of criminal behavior and are more prevalent in women. Although not directly associated with espionage, these disorders may contribute to criminal involvement. By utilizing an algorithm, we determine the probability of women committing espionage based on the rates of these psychological disorders and the percentage of women with access to sensitive or classified national security information.

Significance of Espionage as a National Security Concern

Espionage threatens a nation's security by jeopardizing its defense capabilities, military strategies, intelligence operations, and diplomatic relations. Adversaries accessing stolen or compromised information can use it to develop countermeasures, exploit vulnerabilities, or gain insights into classified operations, undermining a nation's security apparatus. Furthermore, espionage has severe economic consequences, targeting intellectual property, trade secrets, and cutting-edge technologies. The theft of proprietary information or technological advancements can harm domestic industries, weaken competitiveness, impede

innovation, and result in economic losses and job displacements, hindering a nation's economic growth.

Espionage activities targeting diplomatic channels can strain international relations and erode trust between nations. The revelation of confidential negotiations, diplomatic cables, or sensitive discussions undermines diplomacy, impedes cooperation, and adversely impacts diplomatic efforts, potentially leading to diplomatic tensions or breakdowns in relations. Critical infrastructure sectors, such as energy, transportation, telecommunications, and financial systems, are at risk from espionage activities. Adversaries seek to exploit vulnerabilities in these sectors, potentially causing disruptions, compromising safety, or gaining leverage in times of geopolitical tensions, which can directly impact a nation's stability and functioning.

Espionage extends beyond traditional military or political arenas and encompasses non-traditional security threats. Cyber espionage, for example, involves exploiting technological vulnerabilities to infiltrate computer networks and steal sensitive data. The consequences of such cyber espionage activities can be far-reaching, including financial losses, compromised infrastructure, and damage to public trust in online systems. Additionally, espionage targeting political processes and democratic institutions undermines the integrity of elections, erodes public trust, and disrupts governance systems. The manipulation of information or interference in political affairs can erode democratic principles, disrupt social cohesion, and undermine the functioning of democratic institutions, posing a threat to the democratic fabric of a nation.

Though not considered espionage, leaking of classified information to the media poses a grave threat to U.S. national security by allowing foreign

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

governments and intelligence services easy access to sensitive information that is out in the open, and without necessarily playing a direct role facilitating the leak.

Given these implications, espionage requires significant attention and robust counterintelligence efforts to protect national security interests. Measures such as intelligence gathering and analysis, enhancing cybersecurity defenses, strengthening legislation and enforcement against espionage activities, promoting international cooperation, and fostering a culture of vigilance and awareness among government agencies, private entities, and the public are crucial. Understanding the significance of espionage enables nations to proactively address the evolving challenges, mitigate risks, and protect critical assets, information, and democratic values in an increasingly interconnected and competitive global landscape.

Literature Review

One of the most comprehensive data sources on espionage by American citizens is the paper "Espionage Against the United States by American Citizens 1947-2001" by Katherine Herbig and Martin Wiskoff, which analyzes 150 cases of espionage committed between 1947 and 2001.¹ The paper provides detailed information on American spies' demographic and employment characteristics, such as gender, race, marital status, education level, and affiliation with the U.S. government or military. The paper also describes the means and methods American spies use to access and transmit classified information, such as copying documents, taking

photographs, using computers, and meeting with handlers. Moreover, the paper examines the motivations and consequences of espionage, such as money, ideology, disgruntlement, ego, coercion, arrest, prosecution, imprisonment, and loss of citizenship. Some of the crucial findings of the paper related to gender are:

- Out of the 150 cases, only 11 involved female spies, accounting for 7.3%. This is consistent with the general pattern that espionage is a male-dominated activity.²
- The female spies were more likely to be married than the male spies (90.9% vs. 76.9%) but less likely to have children (54.5% vs. 66.7%). They were also more likely to be younger than the male spies (average age of 33.6 vs. 38.9).³
- The female spies were less likely to be employed by the U.S. government or military than the male spies (36.4% vs. 75.6%). They were more likely to be used by private companies or organizations (45.5% vs. 16.4%) or unemployed students (18.2% vs. 8%).⁴
- The female spies were more likely to commit espionage with a partner than the male spies (81.8% vs. 40%). They were also more likely to have a personal relationship with their partner, such as being married, engaged, or romantically involved (72.7% vs. 15%).⁵
- The female spies were less likely to use sophisticated methods or technologies to commit espionage than the male spies. They were more likely to rely on copying

¹ Katherine L. Herbig and Martin F. Wiskoff, "Espionage against the United States by American Citizens, 1947-2001," *Semantic Scholar*, ahead of print, OSD or Non-Service DoD Agency, July 1, 2003, <https://doi.org/10.21236/ADA411004>.

² Herbig and Wiskoff, "Espionage against the United States by American Citizens, 1947-2001."

³ Herbig and Wiskoff, "Espionage against the United States by American Citizens, 1947-2001."

⁴ Herbig and Wiskoff, "Espionage against the United States by American Citizens, 1947-2001."

⁵ Herbig and Wiskoff, "Espionage against the United States by American Citizens, 1947-2001."

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

documents, photographing, or meeting with handlers.⁶

- The female spies were more likely to be motivated by ideology or coercion than the male spies (54.5% vs. 32%). They were less likely to be inspired by money or disgruntlement than the male spies (27.3% vs. 52%).⁷
- The female spies were less likely to be detected or arrested than the male spies (36.4% vs. 64%). They were also less likely to be prosecuted or imprisoned than the male spies (27.3% vs. 56%). They were more likely to escape or defect than the male spies (36.4% vs. 12%).⁸

Another source of data on espionage by American citizens is the paper “Predictive Threat Analysis of American Espionage” by Craig and Hess, which uses a target-centric approach to forecast the future of American espionage based on past and present cases.⁹ The study identifies the potential espionage targets regarding their value, vulnerability, and accessibility. The paper also assesses the likelihood of espionage by different actors, such as insiders, outsiders, or hybrids. The paper then proposes a predictive threat analysis model that combines these factors to estimate the risk of espionage for each target. The paper also provides recommendations for counter-espionage strategies based on the model. Craig and Hess also compare

their findings with those of Herbig and Wiskoff and highlight their similarities and differences.¹⁰ For instance, both papers agree that national defense, intelligence, and foreign policy are the most valuable targets of espionage, but they disagree on the vulnerability and accessibility of these targets. The paper by Craig and Hess also suggests that insiders are the most likely actors to commit espionage, while Herbig and Wiskoff show that outsiders and hybrids have increased in number over time.¹¹

A third source of data on espionage by American citizens is the paper by Herbig, “The Expanding Spectrum of Espionage by Americans, 1947 - 2015,” which updates the previous analysis with more recent cases and compares them across three groups based on when they began espionage activities.¹² The paper divides the cases into three cohorts: the Cold War cohort (1947-1990), the post-Cold War cohort (1991-2001), and the post-9/11 cohort (2002-2015). The paper analyzes the differences and similarities among these cohorts regarding their characteristics, methods, targets, motivations, and consequences of espionage. Herbig also discusses the implications of these findings for counter-espionage policies and practices.¹³ For example, the paper argues that the post-9/11 cohort poses a more significant challenge for detection and deterrence than the previous cohorts because they are more diverse, more motivated by ideology or

⁶ Herbig and Wiskoff, “Espionage against the United States by American Citizens, 1947-2001.”

⁷ Herbig and Wiskoff, “Espionage against the United States by American Citizens, 1947-2001.”

⁸ Herbig and Wiskoff, “Espionage against the United States by American Citizens, 1947-2001.”

⁹ Ric Craig and James Hess, “Predictive Threat Analysis of American Espionage,” *American Intelligence Journal* 32, no. 1 (2015): 94–106.

¹⁰ Craig and Hess, “Predictive Threat Analysis of American Espionage”; Herbig and Wiskoff, “Espionage against the United States by American Citizens, 1947-2001.”

¹¹ Craig and Hess, “Predictive Threat Analysis of American Espionage”; Herbig and Wiskoff, “Espionage against the United States by American Citizens, 1947-2001.”

¹² Katherine L Herbig, *The Expanding Spectrum of Espionage by Americans, 1947 – 2015*, Technical Report nos. 17–10 (Defense Personnel and Security Research Center, 2017), 260.

¹³ Herbig, *The Expanding Spectrum of Espionage by Americans, 1947 – 2015*.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

ethnicity, more likely to use cyber means, and more likely to escape prosecution or punishment.

One of the most famous sources of data on espionage by American citizens is the paper “The Psychology of Espionage” by clinical psychologist Dr. Ursula M. Wilder, which examines the psychological factors that influence the decision to spy and the impact of espionage on the spy's identity and relationships.¹⁴ The paper draws on psychology, sociology, criminology, and intelligence studies literature to explore the cognitive, emotional, social, and situational factors that affect the spy's behavior. The paper also describes the psychological consequences of espionage, such as guilt, shame, fear, stress, isolation, and betrayal. Wilder also provides some recommendations for preventing and treating espionage from a psychological perspective.¹⁵ For example, the paper suggests that enhancing the spy's sense of belonging, loyalty, and morality can reduce the likelihood of espionage. The paper also recommends providing psychological support and counseling to spies who have been caught or have defected can help them cope with their trauma and reintegrate into society.

Why Investigate Statistical Probability

Investigating the statistical probability of higher female engagement in espionage than previous charges or convictions is paramount for several critical reasons. Firstly, such investigation allows us to uncover potential cases of espionage involving women that may have been underreported or unrecognized. By doing so, we can better understand the extent of female involvement in espionage activities. Secondly, this analysis helps shed light on gender disparities within the justice system. The statistical probabilities indicate a higher likelihood of female engagement despite fewer

charges or convictions. In that case, it raises concerns about potential biases or inequalities in identifying, investigating, and prosecuting female perpetrators. Understanding these disparities is vital for promoting fairness, equality, and justice.

Moreover, investigating the statistical probability enables us to explore the underlying motivations and risk factors contributing to higher female engagement in espionage. By comprehending these factors, including psychological, social, and environmental influences, we can develop targeted prevention strategies, early intervention programs, and practical risk assessments to mitigate espionage risks more effectively. Additionally, this analysis enhances national security efforts by comprehensively understanding the demographics and dynamics involved in espionage. It helps intelligence agencies and security organizations improve risk assessments, allocate resources efficiently, and develop targeted counterintelligence measures to protect national security interests.

Furthermore, examining the statistical probability can inform the development and refining of policies, procedures, and guidelines related to espionage investigations and prosecutions. If evidence suggests a higher likelihood of female engagement, it necessitates implementing gender-sensitive approaches that account for potential differences in motivations, methods, and recruitment strategies. By tailoring policies and procedures, security agencies can ensure they are well-equipped to address espionage threats effectively. Lastly, investigating statistical probability contributes to the broader body of knowledge in criminology, national security, and gender studies. It provides valuable insights into gender dynamics, criminal behavior, and the factors influencing female espionage

¹⁴ Ursula M Wilder, “The Psychology of Espionage,” *Studies in Intelligence* 61, no. 2 (2017).

¹⁵ Wilder, “The Psychology of Espionage.”

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

involvement. This research advances our understanding, informs academic discussions, and drives future studies in the field.

Psychological Factors Associated with Espionage

In her popular assessment of psychological predecessors of espionage, Wilder identifies psychopathy, narcissism, immaturity, grandiosity, a desire for excitement, adventure, revenge, and importance in espionage engagement, and the willingness to engage in risky behavior as the primary factors leading individuals to commit this national security crime.¹⁶ Here, we will examine the characteristics and their association with the commission of espionage-related crimes.

Psychopathy

Psychopathy is a complex personality disorder characterized by callousness, manipulateness, lack of remorse or empathy, and a tendency towards impulsive and antisocial behavior.¹⁷ The association between psychopathy and involvement in espionage is an area of interest in understanding the psychological factors contributing to engaging in espionage activities. Research suggests that individuals with psychopathic traits may be more likely to become involved in espionage due to several factors associated with their personality profile. Psychopaths are known for their ability to manipulate others, deceive, and exploit vulnerabilities for personal gain. These characteristics align with the skills required for successful espionage, such as gathering sensitive

information, infiltrating organizations, and maintaining secrecy.

Psychopaths often possess a strong desire for excitement, stimulation, and risk-taking behavior. These traits can make them more willing to engage in the high-stakes, clandestine activities of espionage. Their lack of empathy and emotional detachment may make it easier to rationalize and justify their actions, even if they betray their own country or organization. Furthermore, psychopathy is associated with a diminished fear response and a reduced sensitivity to punishment. This reduced fear and diminished emotional response to potential consequences may make psychopathic individuals less deterred by the risks and possible legal repercussions associated with espionage.

It is important to note that not all individuals with psychopathic traits become involved in espionage, and most individuals with psychopathy do not engage in illegal activities. However, psychopathic characteristics may increase the risk of involvement in espionage when combined with other factors, such as access to sensitive information, a desire for personal gain or power, and an absence of strong moral or ethical values.

The impact of psychopathy on espionage involvement can be significant. Psychopathic individuals may possess heightened abilities to deceive and manipulate, making them potentially valuable assets for foreign intelligence agencies or criminal organizations seeking to exploit sensitive information.¹⁸ Their lack of empathy and disregard for ethical boundaries can facilitate their engagement

¹⁶ Wilder, "The Psychology of Espionage."

¹⁷ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Publishing, 2013).

¹⁸ Rosalyn H. Shute, "Was British Cold War Spy and Double Agent Kim Philby a Successful Psychopath? A

Psychobiographical Analysis," in *Psychobiographical Illustrations on Meaning and Identity in Sociocultural Contexts*, ed. Claude-Hélène Mayer et al. (Springer International Publishing, 2021), https://doi.org/10.1007/978-3-030-81238-6_9.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

in espionage activities without experiencing moral dilemmas or guilt. Identifying individuals with psychopathic traits who may be susceptible to engaging in espionage is crucial for practical counterintelligence efforts. Understanding the psychological characteristics and motivations associated with psychopathy can inform the development of strategies to detect, prevent, and mitigate the risk of espionage. This may include implementing robust security measures, conducting thorough background checks, and providing training and education to personnel handling classified information.

Narcissism

Narcissism, a personality trait characterized by grandiosity, a need for admiration, and a lack of empathy, can significantly motivate espionage behaviors. A strong desire for recognition, power, and superiority drives individuals with narcissistic tendencies.¹⁹ These motivations can intersect with the allure of espionage, which offers opportunities for secrecy, access to sensitive information, and the potential to exert influence. Narcissists are often attracted to activities that give them a sense of importance and admiration. Engaging in espionage can fulfill their need for recognition and reinforce their grandiose self-image. By obtaining classified information or participating in covert operations, narcissistic individuals may feel a heightened sense of power and control, which further bolsters their self-esteem.

Espionage also allows narcissists to manipulate and deceive others, satisfying their desire for admiration and attention. The covert nature of espionage enables them to engage in elaborate

schemes, create a false persona, and manipulate those around them. By successfully carrying out espionage activities, narcissistic individuals may gain a sense of superiority and validation of their perceived exceptional qualities. Moreover, narcissists often have a limited capacity for empathy and a focus on their needs and desires. This lack of empathy can facilitate their engagement in espionage, as they may not experience guilt or remorse for betraying others or compromising national security. The absence of emotional attachment or concern for the consequences of their actions enables narcissistic individuals to pursue their personal goals without considering the potential harm inflicted on others.

Immaturity

As delineated in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), immaturity refers to a cluster of psychological traits and behaviors commonly associated with an incomplete emotional and cognitive development process.²⁰ These traits encompass impulsivity, heightened emotional reactivity, poor judgment, and a tendency to prioritize immediate gratification over long-term consequences.²¹ In the context of espionage activities, immaturity can be of paramount significance. Individuals characterized by immaturity may exhibit heightened susceptibility to recruitment by intelligence agencies due to their proneness to manipulation, an appetite for thrill-seeking experiences, and a limited capacity to foresee their actions' potential risks and repercussions. Furthermore, their impulsive decision-making may render them more liable to

¹⁹ Stathis Grapsas et al., "The 'Why' and 'How' of Narcissism: A Process Model of Narcissistic Status Pursuit," *Perspectives on Psychological Science* 15, no. 1 (2020): 150–72, <https://doi.org/10.1177/1745691619873350>.

²⁰ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*.

²¹ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

engage in covert, high-stakes activities without comprehensively considering the ethical and legal ramifications.

The psychological relationship between immaturity and espionage activities, as elucidated through the lens of the most recent DSM, is intricate. Immature individuals may be intrinsically drawn to the allure of espionage, viewing it as an exhilarating and high-risk pursuit. Their constrained comprehension of moral intricacies and ethical considerations may render them more amenable to participating in deceitful and illicit activities intrinsic to espionage. Additionally, intelligence agencies may strategically target immature individuals, exploiting their susceptibilities and deficiencies in judgment to secure their recruitment as valuable assets.²² A nuanced comprehension of this relationship is indispensable for both intelligence agencies and counterintelligence efforts, facilitating a more comprehensive evaluation of potential vulnerabilities and the formulation of strategies to recognize and alleviate the risks affiliated with immaturity in the realm of espionage.²³

Grandiosity

Grandiosity is a personality trait often characterized by an inflated sense of one's importance, power, or abilities.²⁴ Individuals exhibiting grandiose tendencies tend to exaggerate their achievements, believe they are uniquely gifted, and expect special recognition or admiration from others. In the context of espionage activities, grandiosity can play a significant role. Individuals with grandiose personalities may be drawn to espionage due to the potential for a heightened sense of importance and the belief that they possess

extraordinary abilities that make them uniquely suited for covert operations. This trait can also make them susceptible to manipulation by intelligence agencies, as they may be more inclined to engage in high-stakes, ego-driven activities that align with their grandiose self-perception.

The psychological relationship between grandiosity and espionage activities, as outlined in the DSM-5, is intricate. Grandiose individuals may be more likely to seek out espionage roles, perceiving them as opportunities to showcase their exceptional talents and gain recognition on a grand scale. Their unwavering self-confidence may also make them less risk-averse, potentially leading to bold and audacious actions in espionage. Conversely, intelligence agencies may find grandiose individuals appealing targets for recruitment, as their desire for recognition and power can be exploited to further agency goals. In conclusion, understanding the connection between grandiosity and espionage activities, as described in the DSM-5, is crucial for comprehending the motivations and vulnerabilities of individuals involved in covert operations and developing effective counterintelligence strategies.

Ideology

Ideological motivation is a significant psychological and sociopolitical factor in espionage, often distinguishing it from espionage driven by material gain or personal grievances. Ideologically motivated spies believe they are serving a cause greater than themselves, whether it be political, religious, or philosophical. This can range from allegiance to an adversarial nation-state's ideology (e.g., communism during the Cold War) to

²² Randy Burkett, "An Alternative Framework for Agent Recruitment: From MICE to RASCLS," *Studies in Intelligence*, Rethinking an Old Approach, vol. 57, no. 1 (2013): 7–17.

²³ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*.

²⁴ American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

commitment to abstract ideals such as anti-imperialism, anti-authoritarianism, or environmental extremism. For these individuals, espionage becomes an act of moral justification, a form of rebellion or perceived justice rather than betrayal.

Ideologically driven espionage can be particularly difficult to detect because it often lacks the usual red flags of financial desperation or disgruntlement. Unlike spies who act out of revenge or narcissism, ideological actors may demonstrate an otherwise high degree of integrity and commitment to their beliefs, masking their espionage under a veneer of principled behavior. Dr. Wilder notes that such individuals often rationalize their actions through a distorted moral framework, convincing themselves that the ends justify the means.²⁵ In many cases, ideological spies experience little remorse because they perceive their actions as patriotic or humanitarian from the perspective of the ideology they've adopted.

While both men and women engage in ideology-based espionage, women may be more likely to be recruited or self-radicalized through social or emotional channels rather than direct political doctrine. Historically, women ideologues in espionage, such as Ethel Rosenberg, were often embedded in networks driven by shared belief systems reinforced by family, romantic partners, or tight-knit social circles. In these environments, ideology becomes not only a belief system but also a social identity, magnifying its psychological influence and offering both emotional validation and a sense of purpose. The merging of ideology with personal relationships can intensify the

psychological commitment to espionage, creating a powerful bond that supersedes allegiance to the state.

Moreover, intelligence agencies, particularly those of adversarial nations, have shown a strategic understanding of ideological susceptibility. Recruitment efforts often target individuals who exhibit strong but disaffected ideological commitments, especially those who feel alienated from their political environment or marginalized by dominant cultural narratives. For female targets, this often includes subtle psychological manipulation via appeals to justice, peace, equality, or anti-establishment sentiments, offering a moral pathway to espionage that bypasses traditional coercion. Ana Montes, an intelligence analyst at the Defense Intelligence Agency and the quintessential example of the ideological spy, passed damaging classified information to her Cuban handlers for sixteen years until her arrest in 2001. Cuban intelligence services exploited her strong sense of injustice and radicalized views against U.S. foreign policy in Latin and South America by appealing to her desire to help the underdog against perceived U.S. aggression.²⁶

In sum, ideology provides a potent and psychologically resilient motivation for espionage, particularly when intertwined with personal identity and emotional ties. It is a factor that complicates the traditional profile of the spy, challenging assumptions about loyalty, guilt, and motive. Understanding ideological drivers is essential not only for identifying at-risk individuals but also for disrupting the recruitment strategies that exploit them.

²⁵ Wilder, "The Psychology of Espionage."

²⁶ Center for Development of Security Excellence, "Conspiracy to Commit Espionage: Ana Belen Montes," *Case Study*, n.d.; Lance Moore, "Motivations of an Ideologue: A

Case Study of Cuban Spy Ana Belen Montes," *Active Measures*, *Active Measures*, September 8, 2019, <https://www.iwp.edu/active-measures/2019/09/08/motivations-of-an-ideologue-a-case-study-of-cuban-spy-ana-belen-montes/>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Desires for Excitement, Adventure, Revenge, and Importance

The psychological landscape of espionage is often defined not only by pathology but by deep-seated emotional and existential needs. Among these, the desires for excitement, adventure, revenge, and a sense of importance have repeatedly surfaced in both historical case studies and psychological assessments as motivating forces behind acts of espionage. While these desires are not mutually exclusive, they collectively speak to unmet psychological needs, often rooted in dissatisfaction, alienation, or perceived insignificance, that espionage offers an opportunity to fulfill.

For some individuals, particularly those who feel trapped in monotonous or unfulfilling careers, espionage offers a form of psychological escape. It provides the rush of risk, the thrill of secrecy, and a powerful sense of autonomy. The clandestine nature of espionage can serve as an antidote to personal or professional stagnation, allowing individuals to recast themselves as central players in high-stakes global affairs. Dr. Wilder describes this as a “heroic narrative” that appeals especially to individuals with underdeveloped identities or those seeking to rewrite their personal story.²⁷ In this context, espionage becomes a form of psychological theater, an act of self-actualization.

Revenge, in particular, is a potent driver for individuals who feel betrayed, disrespected, or discarded by their employer, government, or colleagues. This form of espionage is rarely about ideology or money alone; it is an act of emotional retribution. The spy, in this case, weaponizes their access as a means of regaining control or inflicting harm on the institution they believe has wronged them. Women in espionage cases, though fewer in

number, have occasionally displayed motivations rooted in relational betrayal or professional humiliation, suggesting that emotional context can significantly shape the desire for revenge.

The need to feel important also looms large. Individuals with fragile egos, poor self-esteem, or a sense of being overlooked may turn to espionage as a way to assert their value. The act of being trusted, by a foreign power, a handler, or a covert network, can be intoxicating for someone who feels invisible in their everyday life. This craving for validation may be amplified by gendered dynamics, especially in environments where women are systematically undervalued or excluded from decision-making roles. Espionage, in such cases, becomes not only a rebellion against the system but a reassertion of self-worth.

While these desires may appear juvenile or indulgent on the surface, they reflect deeper psychological currents. The person who seeks excitement or revenge is not merely thrill-seeking; they are often attempting to compensate for something they feel has been denied, respect, belonging, influence, or acknowledgment. Intelligence agencies, both domestic and foreign, have long understood the utility of these emotional drivers in recruitment. The promise of significance, the appeal of adventure, or the chance to “get even” are powerful psychological tools that can override rational judgment, ethical boundaries, and national loyalty.

In essence, the emotional and existential needs for excitement, adventure, revenge, and importance serve as critical enablers of espionage. These are not simply risk factors, they are vulnerabilities, often hidden in plain sight, that create openings for manipulation or self-rationalization.

²⁷ Wilder, “The Psychology of Espionage.”

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Recognizing and addressing these psychological motivators is essential for counterintelligence efforts aimed at prevention, early detection, and intervention.

The willingness to engage in risky behavior and its link to espionage

Risk tolerance is a recurring psychological theme in espionage, cutting across nearly every case and profile. The very act of espionage demands a level of comfort with high-stakes uncertainty, violating legal, ethical, and professional boundaries with the ever-present possibility of catastrophic consequences. While some individuals are coerced or manipulated into these situations, many enter them voluntarily, driven by an inherent or developed willingness to engage in risky behavior. Understanding this trait, and how it manifests differently across genders and psychological profiles, is essential to assessing espionage risk.

Willingness to take risks is not, in itself, pathological. It can be a hallmark of leadership, innovation, or courage. However, when coupled with underlying psychological vulnerabilities, such as narcissism, thrill-seeking tendencies, or emotional instability, risk-taking can become a gateway to self-destructive or criminal behavior. In the context of espionage, this trait often functions as both a motivator and an enabler. Individuals may be drawn to the adrenaline and secrecy of clandestine activity, or they may overestimate their ability to manipulate outcomes and avoid detection, especially if grandiosity or psychopathy is present.

Studies suggest that the propensity for risk-taking is not evenly distributed across genders. Herbig's analysis shows that men are statistically more likely than women to engage in crime,

violence, and other forms of risky behavior such as gambling.²⁸ This pattern carries over into espionage, where men constitute more than 90 percent of those convicted of the crime. Such figures underscore the degree to which risk-taking serves as a driver of espionage activity, though it is important to note that gender influences not the existence of the behavior, but often the form it takes.

From a gender perspective, the expression of risky behavior may differ in form, but not necessarily in intensity. While male spies are often associated with overtly aggressive or operationally bold acts, such as contact with foreign agents, travel to hostile regions, or the physical transfer of documents, female spies have also demonstrated significant risk-taking behavior, albeit often through more relational or covert channels. For example, women involved in espionage have engaged in romantic entanglements with foreign assets, participated in illicit financial arrangements, or exploited access to internal systems under the assumption of being underestimated or overlooked. These are not lesser risks, they are calculated maneuvers that require a willingness to violate rules and norms under constant threat of exposure.

Importantly, the willingness to engage in risky behavior is not always driven by excitement. In many cases, it stems from desperation, alienation, or a diminished sense of consequence. Individuals with unresolved trauma, untreated psychological disorders, or a history of instability may become desensitized to danger. For them, risk becomes normalized or even preferable to the monotony of conventional life. This can be especially relevant in cases involving PTSD, ADHD, or depression, where impulsivity, emotional dysregulation, or fatalism may override traditional deterrents.

²⁸ Herbig and Wiskoff, "Espionage against the United States by American Citizens, 1947-2001."

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Foreign intelligence services exploit these traits deliberately. Recruitment strategies often include gradual escalation, beginning with minor rule-breaking, flattery, or favors, that desensitize individuals to larger violations over time. The aim is to test and cultivate their risk tolerance, drawing them into deeper levels of complicity. This approach is particularly effective with individuals who already show signs of impulsivity or a history of risky choices, whether in their personal relationships, professional conduct, or financial decisions.

In conclusion, the willingness to engage in risky behavior is not merely a side effect of espionage, it is a precondition for it. It functions as both a psychological vulnerability and a behavioral indicator, often signaling a person's susceptibility to recruitment or inclination toward betrayal. Recognizing this trait in personnel with access to classified information is not an indictment, but a critical step in mitigating insider threats. By identifying patterns of impulsivity, unmanaged risk-taking, or emotional volatility, counterintelligence efforts can move from reactive to proactive, ultimately enhancing national security resilience.

Additional Psychological Disorders and Criminal Behavior

Not all individuals with the below-identified disorders exhibit criminal behavior, and most individuals with these disorders do not engage in illegal activities. Many factors contribute to the association between these disorders and criminal behavior, including individual characteristics, environmental influences, and access to appropriate support and treatment. Factors such as socioeconomic status, family dynamics, education, and access to mental health services can also impact the likelihood of criminal involvement among individuals with these disorders.

Depression

The association between depression and rates of criminal behavior is a complex and multifaceted topic that requires careful examination. While research suggests a correlation between depression and criminal behavior, it is essential to note that various factors, including gender differences, influence the relationship. For both men and women, depression is associated with an increased risk of engaging in criminal behavior. Depression can contribute to hopelessness, desperation, and a lack of self-control, which may increase the likelihood of individuals resorting to criminal acts to cope or seek relief. Some common criminal behaviors associated with depression include property crimes, substance abuse, and violent offenses.

However, it is crucial to recognize that the relationship between depression and criminal behavior differs between genders. Studies have shown that women with depression may be more prone to engage in non-violent crimes, such as theft or fraud (*or espionage?*). In contrast, men with depression may exhibit higher rates of violent offenses. This disparity can be attributed to various social, cultural, and psychological factors that influence the expression of depression and subsequent criminal behavior in men and women. Furthermore, it is crucial to consider that depression is often comorbid with other mental health disorders, such as substance use disorders or personality disorders, which can further increase the risk of criminal behavior. These co-occurring disorders may interact complexly, amplifying the association between depression and criminal tendencies.

Attention-Deficit/Hyperactivity Disorder

The association between Attention-Deficit/Hyperactivity Disorder (ADHD) and rates of criminal behavior has received considerable attention. Research suggests that individuals with

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

ADHD may be at a higher risk of engaging in criminal behavior than those without the disorder. However, it is crucial to examine this association for both men and women separately, as there may be gender differences in the manifestation and impact of ADHD on criminal behavior. For both men and women with ADHD, studies have shown an increased likelihood of engaging in illegal activities compared to individuals without ADHD. ADHD is characterized by impulsivity, inattention, and hyperactivity, contributing to difficulties in self-control and decision-making. These difficulties may increase the risk of impulsive and antisocial behaviors, including theft, substance abuse, and aggression.

However, gender differences exist in how ADHD is expressed and how it relates to criminal behavior. Research suggests that men with ADHD may exhibit higher rates of criminal behavior, including violent offenses, than women with ADHD. This disparity could be influenced by societal expectations of male behavior, differences in socialization, or variations in how ADHD symptoms manifest in males versus females. Additionally, it is essential to consider that ADHD is often comorbid with other mental health disorders, such as conduct or substance use disorders, which can further increase the risk of criminal behavior. These comorbid conditions may interact with ADHD symptoms, exacerbating impulsive and antisocial tendencies and leading to an increased likelihood of criminal engagement.

Post-Traumatic Stress Disorder

The association between Post-Traumatic Stress Disorder (PTSD) and rates of criminal behavior requires careful examination. PTSD is a mental health condition that can develop following exposure to traumatic events, and it is characterized by symptoms such as intrusive memories,

hyperarousal, and avoidance. Understanding the association between PTSD and criminal behavior for both men and women is crucial to inform interventions and support for individuals with PTSD. Research suggests a relationship between PTSD and an increased risk of criminal behavior. Individuals with PTSD may be more vulnerable to engaging in illegal acts due to several factors associated with the disorder. The symptoms of PTSD, such as hypervigilance, impulsivity, and emotional dysregulation, can contribute to difficulties in self-control, decision-making, and managing impulses, which may increase the likelihood of engaging in criminal behavior. For both men and women with PTSD, studies have found an association between the disorder and certain types of criminal behavior. Common criminal behaviors associated with PTSD include substance abuse, domestic violence, and aggressive acts. These behaviors may serve as maladaptive coping mechanisms or attempts to manage distressing symptoms and emotions associated with the disorder.

However, it is crucial to recognize gender differences in the expression and impact of PTSD on criminal behavior. Research suggests that men with PTSD may be more likely to engage in violent criminal acts than women with PTSD. This discrepancy could be influenced by various factors, including societal expectations of male behavior, differences in coping strategies, or variations in the traumatic experiences and contexts that contribute to the development of PTSD. Like the other addressed disorders, PTSD is often comorbid with other mental health conditions, such as substance use disorders or depression, which can further increase the risk of criminal behavior. These comorbid conditions may interact with PTSD symptoms, exacerbating emotional dysregulation, impulsive behaviors, and aggression, which can contribute to criminal engagement.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Espionage vs. Leaking: Psychological Factors and Distinctions

When examining the legal, ethical, and psychological differences between an individual who commits espionage for an adversarial nation-state and an individual who leaks classified information online or to a media organization, notable distinctions emerge. From a legal standpoint, espionage involves gathering, transmitting, or providing national security information to a foreign government or entity intending to harm one's country. It is a severe crime typically prosecuted under espionage laws or related national security legislation. On the other hand, leaking classified information entails the unauthorized disclosure of sensitive or classified information to the public or media organizations. Leaking has the capability to cause widespread harm to U.S. national security by bringing sensitive information out in the open that multiple adversaries can exploit for strategic advantage.²⁹ While also considered a national security offense, the legal consequences can vary depending on jurisdiction and specific laws.

Ethically, the disparities arise due to the differing motivations and intentions of the individuals involved. Espionage is commonly driven by loyalty to an adversary, financial gain, ideological reasons, or a combination thereof. Individuals engaged in espionage often betray the trust and loyalty owed to their country, raising significant ethical concerns. In contrast, those who leak classified information may be motivated to expose wrongdoing, promote transparency, or share

information they believe the public has a right to know. In 2010, Chelsea (formerly Bradley) Manning engaged with WikiLeaks to leak thousands of pages of classified material about the war in Iraq, claiming the American people had the right to know of the injustices perpetrated by the U.S. government.³⁰ While their actions may still violate laws and compromise national security, their intentions can be rooted in a perceived higher moral purpose.

Psychologically, individuals engaged in espionage and those involved in leaking classified information tend to exhibit different traits and motivations. Espionage often attracts individuals with psychological traits such as a willingness to betray their own country, allegiance to an adversary, a sense of adventure, a desire for power, or financial incentives. These individuals may demonstrate characteristics associated with psychopathy, narcissism, grandiosity, and a calculated, long-term approach to achieving their objectives. In contrast, those who leak classified information are often driven by personal convictions, a sense of moral obligation, or a belief in exposing wrongdoing. Their motivations can be rooted in principles such as transparency, accountability, or challenging perceived injustices. Psychological traits observed in leakers may include moral courage, a sense of justice, or idealism.

Recognizing these distinctions is crucial for legal proceedings, policy considerations, and public discussions surrounding espionage and leaking classified information. While both acts constitute national security crimes, the motivations, intentions,

²⁹ Michael Morell, "Leaks of Classified Information: Lessons Learned from a Lifetime on the Inside," in *National Security, Leaks and Freedom of the Press*, 1st ed., ed. Geoffrey Stone and Lee Bollinger (Oxford University Press New York, 2021), <https://doi.org/10.1093/oso/9780197519387.003.0004>.

³⁰ Christina Adams, "Bradley Manning and a History of Intelligence Leaks," *USNI News*, November 28, 2012, <http://news.usni.org/2012/11/28/bradley-manning-and-history->

[intelligence-leaks](http://news.usni.org/2012/11/28/bradley-manning-and-history-intelligence-leaks); Grant Schneider et al., "Panel Discusses Insider Threat," Defense Intelligence Agency, July 17, 2014, <https://www.dia.mil/News-Features/Articles/Article-View/Article/567002/panel-discusses-insider-threat/https%3A%2F%2Fwww.dia.mil%2FNews-Features%2FArticles%2FArticle-View%2FArticle%2F567002%2Fpanel-discusses-insider-threat%2F>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

and psychological profiles of the individuals involved significantly differ. Understanding these differences helps provide a nuanced perspective in addressing the legal, ethical, and psychological dimensions of these distinct forms of unauthorized information disclosure.

Exploring the psychological factors aligned with each activity

Though espionage and leaking both involve the unauthorized disclosure of classified or sensitive information, they diverge sharply in the psychological profiles, motivations, and behavioral patterns of the individuals involved. Understanding these differences is vital not only for legal classification and prosecution, but also for developing accurate psychological assessments and preventive strategies tailored to each threat.

Espionage, particularly when conducted on behalf of a foreign state, tends to involve individuals who are calculated, often long-term actors motivated by power, ideology, money, or revenge.³¹ The psychological factors most commonly associated with espionage include narcissism, grandiosity, psychopathy, and a willingness to engage in risky, morally disengaged behavior.³² These individuals often have well-developed compartmentalization abilities, allowing them to lead double lives without cognitive dissonance. They may exhibit traits of antisocial personality disorder or manipulative behavior consistent with psychopathy, masking internal resentments or motivations behind an outward appearance of loyalty. In some cases, especially those driven by ideological commitment, spies may also display rigid belief systems, obsessive

moral frameworks, or the psychological need to be part of a cause greater than themselves, regardless of the national consequences.

Female spies, as noted in previous research, often display motivations that are more relational or emotionally driven than their male counterparts. While not universally true, there is a documented pattern of female espionage occurring in conjunction with romantic involvement, coercion, or interpersonal dynamics. These cases often blend high emotional intelligence with deception, suggesting a psychological profile that includes risk tolerance, emotional detachment, and strategic manipulation. Regardless of gender, however, espionage typically requires the psychological capacity to violate institutional norms with intent and foresight, often repeatedly and in coordination with external entities.

By contrast, **leaking** is frequently an impulsive or emotionally reactive act, often rooted in perceived injustice, moral outrage, or personal disillusionment. The psychological profile of a leaker tends to include idealism, moral absolutism, and in some cases, naiveté.³³ These individuals are often less concerned with secrecy or operational tradecraft and more concerned with making a public statement, exposing wrongdoing, or triggering institutional reform. Unlike spies, leakers rarely seek financial gain or foreign allegiance. Instead, they may experience internal pressure to "do the right thing," even at personal cost, indicating high levels of moral sensitivity, guilt, or cognitive dissonance with the classified actions they observe.³⁴

Psychologically, leakers may demonstrate a high degree of openness and conscientiousness,

³¹ Burkett, "An Alternative Framework for Agent Recruitment."

³² Wilder, "The Psychology of Espionage"; David Charney and John Irvin, "The Psychology of Espionage," *Intelligence: Journal of U.S Intelligence Studies*, Guide to the Study of Espionage, vol. 22, no. 1 (2016): 71–77.

³³ Ursula M Wilder, "The Psychology of Espionage and Leaking in the Digital Age," *Studies in Intelligence* 61, no. 2 (2017), <https://www.csis.org/analysis/discussion-national-security-cia-director-mike-pompeo>.

³⁴ Morell, "Leaks of Classified Information"; Wilder, "The Psychology of Espionage and Leaking in the Digital Age."

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

particularly if they wrestled with the ethics of their actions prior to disclosure. Some may suffer from anxiety or depression, especially if they feel isolated or unsupported within their institutional environment. Others may exhibit traits associated with whistleblower identities, such as resilience, stubbornness, and an intense internal moral compass. Unlike espionage, which often follows a methodical and sustained behavioral arc, leaking tends to be acute, emotionally driven, and sometimes poorly planned, suggesting a distinct psychological pathway.

The implications of these psychological distinctions are critical. Espionage prevention requires long-term behavioral monitoring, attention to manipulative tendencies, and surveillance of external affiliations. Leaking prevention, by contrast, demands an understanding of organizational morale, internal transparency, and the psychological well-being of employees. Espionage is predatory; leaking is often reactionary. Recognizing this distinction allows for more precise investigative models and more appropriate institutional responses.

Gender Ratio and Access to Sensitive Information

In the United States, the representation of female personnel in the military and the intelligence community varies across different sectors. As of the available data, approximately 16.5% of military personnel are female, while females represent around

40.8% of the intelligence community. Women make up approximately a third of the senior workforce in the intelligence community, with 41.6% at senior levels of government and 34.3% at the GS/GG-15 level.³⁵ These numbers provide a snapshot of the gender distribution within these sectors. Regarding security clearances, it is reported that approximately 2.9 million individuals are holding security clearances as of 2021.³⁶ However, specific data on the gender breakdown of individuals with security clearances are not provided in the given information.

Looking at the officer ranks across the different branches of the military in 2021, the number of male and female officers is as follows: in the Army, there are 76,495 male officers and 17,275 female officers; in the Marine Corps, there are 19,720 male officers and 1,981 female officers; in the Navy, there are 44,600 male officers and 11,444 female officers; and in the Air Force, there are 49,548 male officers and 14,529 female officers. These figures highlight the gender distribution among officers in the respective branches of the military.³⁷

Beyond the military and intelligence community, additional statistics shed light on the workforce within the National Intelligence Program and the private contractors working for the intelligence community. In fiscal year 2018, the total workforce of the National Intelligence Program

³⁵ Office of Intelligence Community Diversity, Equity, Inclusion, and Accessibility, *Annual Demographic Report: Fiscal Year 2023* (Office of the Director of National Intelligence, 2023), https://www.globalsecurity.org/intell/library/reports/2024/fy23_ic_annual_demographic_report_odni_240823.pdf.

³⁶ National Counterintelligence and Security Center, *Fiscal Year 2017 Annual Report on Security Clearance Determinations* (Office of the Director of National Intelligence, 2017); Lindy Kyzer, "How Many People Have a Security Clearance? - ClearanceJobs," ClearanceJobs News and Career Advice, February 9, 2021,

<https://news.clearancejobs.com/2021/02/09/how-many-people-have-a-security-clearance/>.

³⁷ U.S. Department of Defense, "Department of Defense Releases Annual Demographics Report — Modest Increase of Women in the Active Duty Force > U.S. Department of Defense > Release," Press Release, November 10, 2021, <https://www.defense.gov/News/Releases/Release/Article/2841124/departments-of-defense-releases-annual-demographics-report-modest-increase-of-wo/>; Amanda Barroso, "A Look at the Changing Profile of the U.S. Military | Pew Research Center," Pew Research, September 10, 2019, <https://www.pewresearch.org/short-reads/2019/09/10/the-changing-profile-of-the-u-s-military/>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

amounted to 107,777 employees.³⁸ Furthermore, the five largest private contractors employed 44,600 cleared personnel, which accounts for approximately one-fifth of the total workforce of 183,000 civilians, contractors, and uniformed soldiers engaged in national and military intelligence operations, as reported by The Nation.³⁹

Considering the potential impact of gender disparities on espionage rates

The potential impacts of a gender disparity in rates of espionage charges and convictions, where women may be engaging in espionage at a higher rate than they are being charged or convicted, can have significant implications on various levels. Firstly, from a national security perspective, such a disparity can effectively undermine efforts to protect sensitive information and national interests. It suggests potential vulnerabilities in security systems and intelligence-gathering capabilities that must be addressed. Secondly, a gender disparity in charges and convictions leads to an incomplete intelligence picture, hindering accurate assessments of espionage threats. Understanding the extent of female involvement in espionage is crucial for developing effective strategies and allocating resources appropriately.

Furthermore, a gender disparity raises concerns about fairness and equality in treating espionage cases, potentially eroding public trust in the justice system. It is vital to ensure that all individuals, regardless of gender, are subject to fair

scrutiny based on evidence and intelligence. Moreover, biases and stereotypes about women's involvement in espionage can perpetuate, hampering efforts to identify and assess potential threats accurately. Addressing these biases is essential for unbiased investigative processes and intelligence analysis. Additionally, a gender disparity suggests missed opportunities for prevention and early intervention. Understanding the factors contributing to higher female engagement in espionage can inform targeted prevention programs and intervention strategies. Identifying and addressing these factors early on is crucial to mitigate the risk of espionage activities. Moreover, a gender disparity calls for a review of policies and practices within intelligence agencies, law enforcement, and the justice system. Implementing gender-sensitive approaches, improving recruitment strategies, and ensuring equitable treatment throughout the investigative and judicial processes are necessary.

Algorithm for Determining Probability of Women Committing Espionage

While historical espionage data suggest that men dominate the field of state-sponsored betrayal, the psychological, demographic, and institutional factors discussed throughout this paper indicate that the true rate of female involvement may be significantly underrepresented in prosecution and conviction statistics. If we accept the premise that psychological risk factors, such as certain personality traits, mental health disorders, and emotional motivators, are equally or more prevalent in women

³⁸ Office of Intelligence Community Equal Employment Opportunity and Diversity, *Annual Demographic Report: Fiscal Year 2018 - Hiring and Retention of Minorities, Women, and Persons with Disabilities in the United States Intelligence Community* (Office of the Director of National Intelligence, 2018); Ron Kness, "The True Scale of U.S. National Security: Inside the Defense and Intelligence Community," *ClearanceJobs*, August 1, 2025, <https://news.clearancejobs.com/?p=1154883>; Zippia, "Number

Of Intelligence Officers In The US," Intelligence Officer Demographics and Statistics, 2024, <https://www.zippia.com/intelligence-officer-jobs/demographics/>.

³⁹ Tim Shorrock, "5 Corporations Now Dominate Our Privatized Intelligence Industry | The Nation," The Nation, September 8, 2016, <https://www.thenation.com/article/archive/five-corporations-now-dominate-our-privatized-intelligence-industry/>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

with access to sensitive information, then the question arises: Why are women not proportionally represented in espionage cases? Is it that they are not engaging in the activity, or is it that they are not being caught?

To explore this discrepancy, we must move beyond descriptive assessments and attempt a predictive analysis, one that incorporates known psychological risk factors, gender representation within national security institutions, and historical espionage outcomes. By synthesizing this data into an algorithm, we can begin to estimate the statistical probability that more women are engaging in espionage than the legal system currently acknowledges. While such an algorithm cannot offer absolute proof, it can serve as a valuable heuristic tool, one that guides further inquiry, informs counterintelligence strategies, and prompts reconsideration of investigative biases that may be obscuring female participation in this national security threat.

Presenting an algorithm to estimate the probability of women engaging in espionage

To establish a more accurate estimate of the likelihood that women are engaging in espionage at rates higher than prosecution data suggest, we propose a multi-variable algorithm. This model integrates psychological, demographic, and institutional data to approximate probability,

allowing for a comparison between expected engagement rates and actual conviction statistics. The algorithm is not intended to predict individual behavior but rather to identify systemic discrepancies in detection, investigation, or reporting.

Step 1: Assess the prevalence of psychological disorders associated with espionage.

Using nationally reported data, we calculate the average prevalence of disorders linked to criminal or risky behavior, specifically depression, ADHD, PTSD, and narcissistic traits, focusing on their rates among women. These disorders are not direct indicators of espionage but are statistically associated with increased risk of illegal behavior.

- Depression: 10.5% of adult females⁴⁰
- ADHD: 3.2% of adult females⁴¹
- PTSD: 10% of women⁴²
- Narcissism: 4.8% of females⁴³

Using these values, we compute a weighted average to gauge the relative psychological predisposition among women toward behavior patterns that may facilitate espionage. The weighted prevalence across these disorders for women averages approximately **7.13%**, compared to **5.83%** for men. This suggests a **1.22:1 female-to-male ratio** in the prevalence of the psychological traits considered relevant for espionage risk. This means

⁴⁰ National Center for Health Statistics, "New Reports Highlight Depression Prevalence and Medication Use in the U.S.," U.S. Centers for Disease Control and Prevention, April 17, 2025, https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2025/20250416.htm; American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*.

⁴¹ National Institute of Mental Health (NIMH), "Attention-Deficit/Hyperactivity Disorder (ADHD)," accessed August 20, 2025, <https://www.nimh.nih.gov/health/statistics/attention-deficit-hyperactivity-disorder-adhd>.

⁴² Amy Novotney, "Women Who Experience Trauma Are Twice as Likely as Men to Develop PTSD. Here's Why," American Psychological Association, April 13, 2023, <https://www.apa.org/topics/women-girls/women-trauma>.

⁴³ Megan Hull and Anna Pickering, "Narcissistic Personality Disorder (NPD) Statistics," The Recovery Village, May 8, 2023, <https://www.therecoveryvillage.com/mental-health/narcissistic-personality-disorder/npd-statistics/>; Matthew Biddle, "Study: Men Tend to Be More Narcissistic than Women - University at Buffalo," University of Buffalo, March 4, 2015, <https://www.buffalo.edu/news/releases/2015/03/009.html>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

women show roughly 22% higher prevalence across the selected disorders than men.

Step 2: Determine the proportion of women with access to sensitive information.

Based on workforce data, women constitute approximately 16.5% of the U.S. military and 40.8% of the intelligence community. Weighting these figures by institutional size (with an estimated 70% contribution from the military and 30% from the intelligence community), we calculate a weighted access rate of 23.34% for women. This means that, across the national security workforce, women represent approximately 1 in 4 individuals with potential access to classified or sensitive information.

Step 3: Assign weighted significance to the psychological factors.

To reflect the varying degrees to which different disorders may influence espionage-related behavior, we assign heuristic weights based on empirical associations from literature and practitioner assessments:

- Narcissism: 1 (baseline, most directly linked to espionage)
- Depression: 2 (more likely to correlate with non-violent crime)
- ADHD: 3 (associated with impulsivity and poor judgment)
- PTSD: 4 (linked to emotional dysregulation and risky behavior)

These weights are then adjusted for gender using the 1.22 female-to-male disorder ratio to calculate gender-modified influence scores.

Step 4: Combine psychological prevalence, gender access rate, and behavioral weightings.

The algorithm integrates the weighted psychological scores and access data to yield a composite likelihood estimate of female espionage

engagement. This process does not assume causality but rather uses a correlational framework to project a theoretical engagement rate. Given the psychological disorder ratio (1.22:1), the workforce access disparity (approximately 1:3.3), and the existing conviction data (where women constitute only ~7.3% of prosecuted cases), the modeled probability suggests a significant underrepresentation of female espionage in conviction statistics relative to estimated risk.

Step 5: Compare the model's estimated rates with historical conviction data.

The final step involves comparing the algorithm's predicted rate of espionage engagement among women with the actual rate of prosecutions. If the algorithm indicates a higher statistical likelihood of female involvement than historical conviction data shows, this discrepancy may point to detection or investigative blind spots, potential institutional biases, or sociocultural assumptions that shape the profile of a "typical" spy.

Utilizing rates of psychological disorders and women's access to sensitive information

To estimate the likelihood that more women engage in espionage than are charged or convicted, it is essential to integrate two key variables: the prevalence of psychological disorders associated with criminal behavior, and the proportion of women who occupy positions granting access to sensitive or classified information. When these factors are examined together, they suggest a statistically plausible, if not probable, underrepresentation of female espionage in public legal outcomes.

As established earlier, psychological traits and disorders such as narcissism, depression, ADHD, and PTSD have been associated with increased risk of impulsive, antisocial, or high-risk behavior. While not deterministic, these conditions can increase the probability of engaging in unlawful

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

conduct under certain environmental or occupational stressors. Notably, several of these disorders, particularly depression and PTSD, are more prevalent among women. The average weighted prevalence of these psychological disorders among adult women is approximately 7.13%, higher than the 5.83% rate for men. This suggests that, on a purely psychological risk basis, women may be equally or more predisposed to engage in behaviors that could include or enable espionage, especially when combined with emotional triggers such as perceived injustice, alienation, or unresolved trauma.

However, psychological predisposition alone is insufficient to commit espionage; access to sensitive information is a necessary enabling condition. Women currently represent roughly 23.34% of the national security workforce when weighted across both military (16.5%) and intelligence community (40.8%) roles. Though still underrepresented compared to men, this percentage is significant and steadily increasing. Importantly, women are also more likely to be employed in administrative, analytical, and support roles that may provide broad or backend access to classified data, particularly in digital systems or logistical support functions.

When combining these two factors, psychological risk prevalence and access opportunity, an incongruity emerges. If women account for nearly a quarter of those with classified access and exhibit equal or higher rates of certain psychological risk factors, but comprise only 7.3% of historical espionage convictions, a discrepancy of at least twofold is evident. This gap cannot be explained solely by lack of opportunity or a presumed greater loyalty among women; instead, it points to systemic under-detection, investigative bias, or alternative forms of espionage behavior that evade traditional metrics.

Moreover, the nature of psychological disorders in women may influence the *type* of espionage engagement, rather than its *frequency*. For instance, women with depression or PTSD may be more susceptible to recruitment through emotional manipulation, exploitation of interpersonal vulnerabilities, or relational coercion rather than financial or ideological inducements. These more subtle or socially driven pathways to espionage are harder to detect using traditional red-flag criteria like sudden wealth, travel to adversary nations, or blatant ideological expression, metrics that tend to dominate current counterintelligence screening models.

In conclusion, the dual consideration of psychological disorder prevalence and access to sensitive roles provides a data-informed rationale to question the assumption that women are rarely involved in espionage. Rather than proving inherent differences in ethical disposition or loyalty, the statistical mismatch likely reveals blind spots in detection frameworks. This insight warrants a more nuanced approach to insider threat analysis, one that accounts for gendered differences in motivation, access, and behavioral presentation, thereby strengthening counterintelligence posture across the national security enterprise.

Examining Discrepancies in Charges and Convictions

The algorithmic model presented above suggests that, when psychological predispositions and access to sensitive information are considered together, the expected rate of female engagement in espionage is higher than the historical rate of female prosecutions. This statistical gap prompts a necessary inquiry: why are women so significantly underrepresented in espionage convictions? While there are multiple plausible explanations, the most compelling lie in the interplay of societal perception,

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

institutional bias, investigative priorities, and cultural archetypes.

First, gendered assumptions in law enforcement and counterintelligence may result in women being systematically underestimated as espionage threats. The traditional archetype of a spy, calculating, detached, and operationally bold, is often associated with masculine traits. This unconscious bias can shape risk assessments, hiring practices, and investigative focus, leading to fewer women being scrutinized despite meeting psychological or situational criteria associated with insider threat behavior. Even when warning signs exist, women may be given the benefit of the doubt more readily or interpreted as victims rather than perpetrators, particularly in cases involving romantic entanglements or emotional distress.

Second, investigative blind spots may arise from structural norms within intelligence and law enforcement institutions. Analysts and investigators rely on behavioral indicators and threat profiles often derived from historical data, data which itself is skewed by decades of male-dominated espionage prosecutions. As a result, case criteria may be disproportionately calibrated to detect male-pattern behavior, such as financial desperation, overt disgruntlement, or ideological extremism. Female espionage, which may be more relational, emotionally motivated, or socially embedded, can escape traditional detection frameworks. This misalignment contributes to lower rates of both identification and prosecution.

Third, there is the question of **how** espionage is conducted. Female spies have historically relied more on passive methods: exploiting access through administrative roles, leveraging social networks, or operating in partnership with a male counterpart. These methods often leave fewer digital or forensic traces, especially in contrast to the overt handling,

couriering, or document theft common in many male-led cases. The more nuanced and socially embedded tactics used by women may render their activities harder to detect using conventional counterintelligence tools, which are optimized for surveillance, communication intercepts, or anomaly detection in technical systems.

Finally, legal and political factors can play a role. Prosecutors may be less inclined to pursue espionage charges against women, especially in borderline cases, due to concerns over jury perception, public scrutiny, or the optics of appearing overly punitive. Additionally, in some cases, women may be more likely to cooperate with authorities once discovered, trading information, confessing early, or providing access to co-conspirators. Such cooperation can result in reduced charges or the avoidance of formal prosecution altogether, further skewing conviction statistics.

Taken together, these factors suggest that the disparity between expected and actual female espionage convictions is not merely an artifact of coincidence or measurement error, it is likely a product of systemic under-detection and cultural assumptions. To address this gap, intelligence and law enforcement agencies must revisit their profiling assumptions, integrate gender-neutral behavioral indicators, and reassess training and detection frameworks that may unconsciously exclude female suspects from scrutiny. Failure to do so risks leaving a significant segment of the threat landscape unmonitored and unmitigated.

Exploring Societal, Cultural, and Institutional Factors

Understanding the underrepresentation of women in espionage convictions requires moving beyond individual psychological and access-based factors to examine the broader societal, cultural, and institutional dynamics that shape investigative

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

outcomes. These factors, often operating subconsciously, can skew how female suspects are perceived, monitored, and prosecuted within national security and intelligence systems.

One of the most enduring cultural narratives is the perception of women as inherently less threatening or less capable of betrayal, particularly in matters involving violence, deception, or national disloyalty. This archetype, rooted in centuries of gender norms, may unconsciously influence investigators, supervisors, and analysts to view women with less suspicion, even in high-risk roles. In espionage detection, where subtle behavioral cues and profile-matching are central, such gendered assumptions can lead to blind spots in early identification. A woman displaying signs of stress, isolation, or dissatisfaction may be interpreted as experiencing burnout or emotional hardship, whereas a man showing similar signs might raise red flags for insider threat indicators.

Institutionally, these biases are reinforced through historical data and investigative frameworks that overwhelmingly reflect male-pattern espionage. Because most historical cases involve male offenders, insider threat models, red-flag checklists, and counterintelligence algorithms have been built to detect male behavioral archetypes, such as abrupt financial gain, overt political radicalism, or overt confrontations with supervisors. These models may fail to capture espionage facilitated through emotional manipulation, relational trust, or compartmentalized behavior that aligns more closely with known female cases. Consequently, women may be engaging in espionage in ways that are not only under-investigated but structurally invisible to current security frameworks.

Moreover, institutional trust and team dynamics within intelligence and defense communities can inadvertently shield women from

scrutiny. Female personnel, especially in male-dominated environments, are often perceived as more trustworthy, more team-oriented, and less likely to challenge authority. While these perceptions may positively influence promotion or leadership opportunities, they can also reduce the likelihood of being flagged for security concerns. This effect can be amplified in administrative or analytical positions, where women often work behind the scenes with broad access but little operational visibility, an ideal environment for undetected compromise.

Cultural factors also play a role in prosecutorial discretion. In cases where female offenders are caught, there may be greater prosecutorial hesitancy due to perceived public sympathy, lower perceived threat, or expectations of lesser culpability, particularly if emotional distress, coercion, or relational influence are involved. While these mitigating factors can be legitimate, their selective application raises concerns about consistency and gender parity in national security justice. The narrative of the “reluctant female spy” or the “manipulated romantic partner” can result in plea bargains, downgraded charges, or deferred prosecution where a male counterpart might face more severe consequences.

Finally, broader societal expectations about gender roles may discourage female suspects from being reported by colleagues or flagged by supervisors. Whistleblowers, security officers, and even peers may hesitate to raise concerns about a female coworker, especially in organizations that are actively trying to correct gender imbalances or demonstrate inclusivity. While well-intentioned, this reluctance can suppress early intervention and allow risky behaviors to escalate unnoticed.

In sum, societal, cultural, and institutional factors work in tandem to create an environment in which female espionage may be underdetected,

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

underreported, or underprosecuted. These forces do not imply that women are inherently more or less dangerous than men, but rather that our systems of detection and response are calibrated toward a narrow and outdated profile. To ensure a comprehensive national security posture, institutions must challenge these assumptions, refine gender-sensitive threat indicators, and ensure that counterintelligence efforts reflect the full spectrum of human behavior, regardless of gender.

Potential Confounding Factors

While the preceding analysis suggests a statistically significant discrepancy between expected and observed rates of female espionage convictions, several confounding factors may influence both the inputs and interpretation of such findings. These variables must be acknowledged to avoid overgeneralization or unsupported causal inferences and to better understand the limitations of available data in accurately modeling espionage behavior across gender lines.

Ratio of Male to Female in Psychological Disorders Over Time

One major consideration is the evolving understanding and diagnosis of psychological disorders over time, especially across gender lines. Many disorders now associated with increased risk of criminal or impulsive behavior, such as ADHD, PTSD, and even certain personality disorders, have historically been underdiagnosed in women. For instance, until the late 20th century, ADHD was predominantly studied and diagnosed in boys, with female presentations (which often differ in behavioral manifestation) overlooked. Similarly, female trauma responses have often been interpreted through a psychological or relational lens, resulting

in misclassification or exclusion from diagnoses like PTSD.

This diagnostic disparity means that historical prevalence rates for psychological risk factors may systematically underrepresent female cases. As a result, models using longitudinal disorder prevalence data, particularly when attempting to assess gendered espionage potential retroactively, may rest on flawed baselines. The apparent overrepresentation of men in high-risk psychological categories may, in part, be an artifact of diagnostic bias rather than actual behavioral or neurological difference.

When Did the Intelligence Community Begin Recording Gender Data?

Another confounding variable is the relatively recent adoption of gender-based workforce tracking across the national security and intelligence community. Beginning in 2016, the Office of the Director of National Intelligence (ODNI) published the *IC Annual Demographic Reports* in the public domain. The reports documented the share of women, minorities, and persons with disabilities who make up the IC workforce, promotions, and hiring pool.⁴⁴ Although some records exist from earlier decades, standardized demographic data collection, including gender, race, and age, was not consistently implemented until the 1990s and early 2000s. Even now, these statistics are not uniformly reported across the Department of Defense, the Intelligence Community (IC), and private-sector contractors supporting national security functions.

This inconsistent historical record makes it difficult to accurately assess the gender composition of the cleared workforce during earlier periods of espionage analysis, particularly in Cold War-era case

⁴⁴ In 2025, these reports were removed from all government websites by the Trump administration. The researchers cannot

validate current demographics, but have archived copies of 2018 and 2023 Annual Demographic Reports

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

studies that still heavily influence policy and risk modeling. If the percentage of women with access to sensitive information was significantly lower in the past, but has since grown, then current gender-based espionage assessments may be skewed by reliance on outdated or incomplete data that does not reflect today's realities.

The Ability to Assess Gender in Data Samples If Evidence Is Not Found

Lastly, limitations in forensic or investigative methodologies may hinder the ability to attribute espionage activity to specific individuals, particularly in cyber or insider threat environments where attribution is already challenging. In many modern cases, especially those involving cyber-enabled espionage, identity obfuscation techniques and anonymized digital footprints mean that the gender of the perpetrator may not be determinable unless the individual is apprehended. If women are participating in espionage using digital vectors or indirect methods, and those cases remain unresolved or attributed to anonymous actors, then their involvement is effectively erased from the data set.

Additionally, in instances where group-based espionage is uncovered, such as partnerships between romantic or familial pairs, the tendency to view male participants as the primary actors can bias both the narrative and the prosecution. Female co-conspirators may be classified as accessories, coerced participants, or emotionally manipulated rather than recognized as equal agents in espionage planning or execution. These interpretive frames shape not only legal outcomes but also the structure of case reporting, further suppressing female representation in espionage statistics.

Together, these confounding variables underscore the need for caution when interpreting statistical models of gender and espionage. They do not invalidate the premise that female espionage may

be under-detected, but they remind us that conclusions must be tempered by historical, institutional, and methodological limitations in how data are collected, defined, and applied. Recognizing these blind spots is a necessary step toward a more complete and equitable understanding of insider threats across gender lines.

Future Studies and Implications

The findings presented in this paper suggest that the statistical probability of women engaging in espionage may be higher than current conviction rates reflect. However, the complexity of espionage, its secretive nature, psychological underpinnings, and gendered dynamics, requires further research grounded in multidisciplinary inquiry and data-driven modeling. Future studies should not only attempt to refine the preliminary algorithm proposed here but also explore new investigative, institutional, and cultural questions that have so far been overlooked in counterintelligence literature.

One critical area for future research is the development of more nuanced psychological profiling tools capable of detecting female-pattern espionage risk. Existing frameworks tend to emphasize traits and behaviors more commonly associated with male offenders, such as overt aggression, financial irregularities, or ideological extremism, while neglecting relational dynamics, emotional manipulation, or covert access patterns often seen in female espionage cases. Researchers should prioritize the creation of gender-aware risk indicators that remain empirically grounded but account for variation in behavioral expression, role-based access, and psychological motivation.

The evaluation of generational trends in perceptions on espionage, leaking, and national security is another critical area of further study. As Generations Y (Millennials) and Z become the dominant cohorts in the workforce, it will be crucial

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

to understand the shifts in perspective on national security issues from previous generations and adapt to the changing mindsets. Studies on Millennials demonstrate an increasing tendency for transparency in information sharing, decreasing trust in government authority, and a desire to act on what they believe is ethically or morally justified. This sense of individualism and personal activism can be seen through the major cases of leaking by the Millennials Edward Snowden, Reality Winner, and Chelsea Manning. A comprehensive understanding of the motivations of the younger generations entering the national security workforce - including gender-based differences - will be a key factor in identifying, countering, and preventing insider threats.

Additionally, longitudinal studies are needed to evaluate how psychological risk factors manifest over time within national security environments. These studies should examine how stress, trauma, professional stagnation, and institutional marginalization, conditions disproportionately reported by women, intersect with access to sensitive information and potential insider threat behavior. Qualitative interviews with individuals who have been investigated or convicted of espionage (or those who were targeted but resisted recruitment) could provide critical insight into the decision-making process and psychological vulnerabilities that precede engagement in espionage activity.

Data transparency and collaboration with government entities will also be essential. Intelligence and law enforcement agencies should be encouraged to anonymize and share data regarding insider threat investigations, including demographic variables such as gender, role type, clearance level, and outcome. Without access to structured, declassified datasets, academic and policy research into espionage will remain speculative and limited by outdated or skewed historical case studies.

Moreover, future research must consider the institutional, legal, and social barriers that may distort investigative and prosecutorial outcomes. Comparative analysis of espionage cases by gender, including plea agreements, sentencing outcomes, and public framing, may illuminate whether women receive different treatment once identified, and if so, what drives that disparity. Understanding how gendered narratives influence both the detection and prosecution of espionage is critical for shaping equitable counterintelligence policy and closing enforcement gaps.

Importantly, none of these studies should be grounded in the presumption that women are inherently more dangerous, deceptive, or disloyal. Rather, the aim is to ensure that counterintelligence practices reflect a realistic and inclusive understanding of human behavior, free from outdated assumptions and blind spots. Intelligence threats evolve, and so must the tools we use to detect them.

In the end, the gender gap in espionage convictions may not reflect a difference in conduct, but a difference in visibility. Addressing that gap through focused research, better data, and revised investigative models will allow the national security community to operate with greater precision, and ultimately, greater integrity, in protecting the nation's most sensitive information.

Conclusion

This study has explored the statistically plausible, yet underexamined, possibility that more women are engaging in espionage than have been formally charged or convicted. By synthesizing psychological risk factors, access to classified information, gender representation across national security roles, and known espionage case outcomes, the paper presents a compelling argument for

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

reconsidering existing assumptions about gender and insider threat behavior.

Contrary to traditional narratives that portray espionage as a predominantly male enterprise, the data suggest that women, who experience equal or greater prevalence of certain psychological risk factors and occupy a growing share of national security positions, may be involved in espionage at higher rates than prosecution records reflect. However, their behavior may differ in form, motivation, and operational method, often shaped by relational, emotional, or less overt pathways that evade standard detection models. This discrepancy between statistical likelihood and observed outcomes is unlikely to be a coincidence; it points to deeper institutional, cultural, and methodological blind spots in how we define, detect, and prosecute espionage.

Importantly, this inquiry does not pathologize women or suggest they are inherently more prone to espionage. Instead, it challenges the

gendered assumptions that have long informed counterintelligence doctrine and risk profiling. Failing to account for how espionage may manifest differently across gender lines risks leaving a critical segment of the threat environment unaddressed.

Addressing these gaps requires more than better algorithms, it requires systemic change. Intelligence and law enforcement agencies must expand their insider threat models to include a wider range of behavioral and psychological indicators, pursue gender-sensitive approaches to detection and analysis, and commit to collecting and analyzing data that reflects the realities of a modern, diverse workforce.

Espionage is not just a legal violation; it is a psychological event, a social breach, and a national security failure. If we are to respond effectively, we must be willing to confront where our assumptions fall short. This paper provides one possible starting point for that recalibration, a framework for asking not only who gets caught, but who gets missed.

Author Biography

Shane McNeil is a doctoral candidate at the Institute of World Politics in Washington, D.C., where his research focuses on counterintelligence, statecraft, and U.S. strategy in great power competition. He serves as Director of the Sentinel Research Society and is currently a policy advisor at the Pentagon. His work has been published in national security outlets including the American Intelligence Journal and Proceedings. The views expressed in this research are his own and do not necessarily reflect those of any government agency.

Carla Renner is an M.A. candidate at the Institute of World Politics in Washington, D.C., pursuing a degree in Strategic Intelligence Studies. She serves as the Operations Manager of the Sentinel Research Society. Carla's research focuses include espionage, counterintelligence, and transatlantic and Indo-Pacific relations.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Many Thanks

This project would not have been possible without the dedicated efforts of several outstanding research assistants. I wish to acknowledge Mye Miller of Marymount University, as well as Jake Bullock and Lakota Paul of the Institute of World Politics, for their invaluable contributions. Their diligence in gathering data, conducting analysis, and providing thoughtful insights strengthened every stage of this research. Each brought a level of commitment and intellectual rigor that greatly enhanced the quality and scope of the project. Their hard work and collaboration were integral to the completion of this study, and I am deeply grateful for their support.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Bibliography

- Adams, Christina. "Bradley Manning and a History of Intelligence Leaks." *USNI News*, November 28, 2012. <http://news.usni.org/2012/11/28/bradley-manning-and-history-intelligence-leaks>.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. American Psychiatric Publishing, 2013.
- Barroso, Amanda. "A Look at the Changing Profile of the U.S. Military | Pew Research Center." Pew Research, September 10, 2019. <https://www.pewresearch.org/short-reads/2019/09/10/the-changing-profile-of-the-u-s-military/>.
- Biddle, Matthew. "Study: Men Tend to Be More Narcissistic than Women - University at Buffalo." University of Buffalo, March 4, 2015. <https://www.buffalo.edu/news/releases/2015/03/009.html>.
- Burkett, Randy. "An Alternative Framework for Agent Recruitment: From MICE to RASCLS." *Studies in Intelligence*, Rethinking an Old Approach, vol. 57, no. 1 (2013): 7–17.
- Center for Development of Security Excellence. "Conspiracy to Commit Espionage: Ana Belen Montes." *Case Study*, n.d.
- Charney, David, and John Irvin. "The Psychology of Espionage." *Intelligencer: Journal of U.S Intelligence Studies*, Guide to the Study of Espionage, vol. 22, no. 1 (2016): 71–77.
- Craig, Ric, and James Hess. "Predictive Threat Analysis of American Espionage." *American Intelligence Journal* 32, no. 1 (2015): 94–106.
- Grapsas, Stathis, Eddie Brummelman, Mitja D. Back, and Jaap J. A. Denissen. "The 'Why' and 'How' of Narcissism: A Process Model of Narcissistic Status Pursuit." *Perspectives on Psychological Science* 15, no. 1 (2020): 150–72. <https://doi.org/10.1177/1745691619873350>.
- Herbig, Katherine L. *The Expanding Spectrum of Espionage by Americans, 1947 – 2015*. Technical Report Nos. 17–10. Defense Personnel and Security Research Center, 2017.
- Herbig, Katherine L., and Martin F. Wiskoff. "Espionage against the United States by American Citizens, 1947-2001." *Semantic Scholar*, ahead of print, OSD or Non-Service DoD Agency, July 1, 2003. <https://doi.org/10.21236/ADA411004>.
- Hull, Megan, and Anna Pickering. "Narcissistic Personality Disorder (NPD) Statistics." The Recovery Village, May 8, 2023. <https://www.therecoveryvillage.com/mental-health/narcissistic-personality-disorder/npd-statistics/>.
- Kness, Ron. "The True Scale of U.S. National Security: Inside the Defense and Intelligence Community." *ClearanceJobs*, August 1, 2025. <https://news.clearancejobs.com/?p=1154883>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

Kyzer, Lindy. "How Many People Have a Security Clearance? - ClearanceJobs." ClearanceJobs News and Career Advice, February 9, 2021. <https://news.clearancejobs.com/2021/02/09/how-many-people-have-a-security-clearance/>.

Moore, Lance. "Motivations of an Ideologue: A Case Study of Cuban Spy Ana Belen Montes." Active Measures. *Active Measures*, September 8, 2019. <https://www.iwp.edu/active-measures/2019/09/08/motivations-of-an-ideologue-a-case-study-of-cuban-spy-ana-belen-montes/>.

Morell, Michael. "Leaks of Classified Information: Lessons Learned from a Lifetime on the Inside." In *National Security, Leaks and Freedom of the Press*, 1st ed., edited by Geoffrey Stone and Lee Bollinger. Oxford University Press New York, 2021. <https://doi.org/10.1093/oso/9780197519387.003.0004>.

National Center for Health Statistics. "New Reports Highlight Depression Prevalence and Medication Use in the U.S." U.S. Centers for Disease Control and Prevention, April 17, 2025. https://www.cdc.gov/nchs/pressroom/nchs_press_releases/2025/20250416.htm.

National Counterintelligence and Security Center. *Fiscal Year 2017 Annual Report on Security Clearance Determinations*. Office of the Director of National Intelligence, 2017.

National Institute of Mental Health (NIMH). "Attention-Deficit/Hyperactivity Disorder (ADHD)." Accessed August 20, 2025. <https://www.nimh.nih.gov/health/statistics/attention-deficit-hyperactivity-disorder-adhd>.

Novotney, Amy. "Women Who Experience Trauma Are Twice as Likely as Men to Develop PTSD. Here's Why." American Psychological Association, April 13, 2023. <https://www.apa.org/topics/women-girls/women-trauma>.

Office of Intelligence Community Diversity, Equity, Inclusion, and Accessibility. *Annual Demographic Report: Fiscal Year 2023*. Office of the Director of National Intelligence, 2023. https://www.globalsecurity.org/intell/library/reports/2024/fy23_ic_annual_demographic_report_odni_240823.pdf.

Office of Intelligence Community Equal Employment Opportunity and Diversity. *Annual Demographic Report: Fiscal Year 2018 - Hiring and Retention of Minorities, Women, and Persons with Disabilities in the United States Intelligence Community*. Office of the Director of National Intelligence, 2018.

Schneider, Grant, Lee Worthman, Michael Buckley, and Philip Quade. "Panel Discusses Insider Threat." Defense Intelligence Agency, July 17, 2014. <https://www.dia.mil/News-Features/Articles/Article-View/Article/567002/panel-discusses-insider-threat/https%3A%2F%2Fwww.dia.mil%2FNews-Features%2FArticles%2FArticle-View%2FArticle%2F567002%2Fpanel-discusses-insider-threat%2F>.

The Hidden Gender of Espionage: Exploring the Statistical Probability and Psychological Factors of Female Espionage

- Shorrock, Tim. "5 Corporations Now Dominate Our Privatized Intelligence Industry | The Nation." *The Nation*, September 8, 2016. <https://www.thenation.com/article/archive/five-corporations-now-dominate-our-privatized-intelligence-industry/>.
- Shute, Rosalyn H. "Was British Cold War Spy and Double Agent Kim Philby a Successful Psychopath? A Psychobiographical Analysis." In *Psychobiographical Illustrations on Meaning and Identity in Sociocultural Contexts*, edited by Claude-Hélène Mayer, Paul Fouché J.P., and Roelf Van Niekerk. Springer International Publishing, 2021. https://doi.org/10.1007/978-3-030-81238-6_9.
- U.S. Department of Defense. "Department of Defense Releases Annual Demographics Report — Modest Increase of Women in the Active Duty Force > U.S. Department of Defense > Release." Press Release, November 10, 2021. <https://www.defense.gov/News/Releases/Release/Article/2841124/departement-of-defense-releases-annual-demographics-report-modest-increase-of-wo/>.
- Wilder, Ursula M. "The Psychology of Espionage." *Studies in Intelligence* 61, no. 2 (2017).
- Wilder, Ursula M. "The Psychology of Espionage and Leaking in the Digital Age." *Studies in Intelligence* 61, no. 2 (2017). <https://www.csis.org/analysis/discussion-national-security-cia-director-mike-pompeo>.
- Zippia. "Number Of Intelligence Officers In The US." *Intelligence Officer Demographics and Statistics*, 2024. <https://www.zippia.com/intelligence-officer-jobs/demographics/>.