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Updating Personnel Vetting and Security Clearance Guidelines for Future Generations

The United States could face challenges in the near future with recruiting and retaining younger generations into both public trust positions and, specifically, sensitive positions that require more in-depth personnel vetting for the purposes of receiving a security clearance. For one, there is some evidence that millennial expectations for these positions—particularly in the government sector—may differ from those of older age groups (Weinbaum, Girven, and Oberholtzer, 2016). Furthermore, several factors that traditionally and historically have been used to gauge an individual's eligibility for a security clearance (e.g., lifestyle choices and behaviors, personal and professional associations, financial circumstances) no longer may be feasible or applicable to younger age cohorts in the same manner they were applied to earlier generations. For example, single-sex relationships are legal today. So, too, is marijuana use in many states. Also, high levels of student debt are commonplace today.

We note there are several forces that explain why these age-based changes exist, such as age (e.g., unique features of younger versus older adults), period (e.g., unique features from living during a certain time period), or cohort effects (e.g., unique features based on when someone is born). Although the causes of these broader social changes are beyond the scope of this report, we note that it is likely a combination of age-period-cohort effects (Posard et al., 2018). Furthermore, adjudication decisions are based on broad guidelines, whose interpretation evolves over time, and are highly

KEY FINDINGS

- Age-based trends among younger adults may serve as an early signal for broader social changes.

- There are more opportunities for people to interact with foreign nationals today than in the past.

- Student loan debt and alternative financial instruments are potential risks.

- Marijuana use is less of a concern, while nonmedical prescription drug use is a rising concern.

- Digital personal conduct is seen as an emerging risk.

subjective. Thus, the magnitude of a risk factor could decline (or increase) over time.

The Security, Suitability, and Credentialing Performance Accountability Council Program Management Office, a federal government interagency body, sponsored this study for RAND's National Defense Research Institute (NDRI) to first identify some emerging patterns among today's younger generations given some of these potential social changes. Researchers then turned to review the current personnel vetting guidelines for determining who is eligible—and who might present more of a risk—to hold a sensitive position and/or security clearance in the federal government. Finally, they analyzed how social and generational changes may be affecting younger generations' ability to be hired into these sensitive positions.

Introduction

In the United States, the federal government conducts detailed background investigations of people when determining their eligibility and potential risks for holding a public trust position or sensitive position requiring a security clearance. This process assumes that all people carry some type of risk; thus, the question is whether the risk someone presents is sufficiently low for the individual to fill the position (Office of the Director of National Intelligence [ODNI], 2017b).

The background investigation process for sensitive positions requiring security clearance is the most

The concept of *generation* carries different meanings within popular culture versus those who conduct demographic research.

in-depth personnel vetting process that the federal government conducts, so our study focused on the guidelines and standards to assess risks for those holding, or applying to hold, positions in national security. The ODNI promulgated the standards for evaluating risks from prospective clearance holders in Security Executive Agent Directive-4 (SEAD-4), which outlines 13 specific guidelines for making a common sense judgment of the risks presented by individuals holding national security positions. These guidelines have evolved over time with broader changes within our society. For example, the adjudicative guidelines outlined by the Director of Central Intelligence in 1968—a precursor to the SEAD-4—once listed cohabitation and homosexual conduct as risk factors (Director of Central Intelligence Directive No. 1/14 and Annex A Adjudication Guidelines, 1976). Because societal norms have changed since then, and expectations about what could be used by a foreign power to blackmail someone in a position of trust have also changed, these topics no longer exist in today's SEAD-4.

This report is presented in four parts. First, we review some of the literature on generations and generational changes. Second, we provide a brief history of adjudicative guidelines, including the present standards, and present an approach for identifying relevant trends that may vary by age. Third, we present some potential key risks based on these trends. Fourth, we recommend ways to revise risk factors that the federal government uses in its personnel vetting guidelines to reflect current conditions, revise mitigation criteria, add a new criteria related to digital personal conduct, and continuously reassess risk factors using quality data sources in the future.

Analyzing Generational and Age-Based Differences

Our study team started with the premise that behaviors and circumstances that people encounter today should inform and factor into security clearance eligibility criteria, if the federal government wants to continue to recruit and retain talent found in younger generations. Some research refers to these patterns as broader generational differences, others focus on the age of individuals, while some general-

ize to broader social changes (Posard et al., 2018). We briefly discuss these related, but distinct, approaches in the following sections.
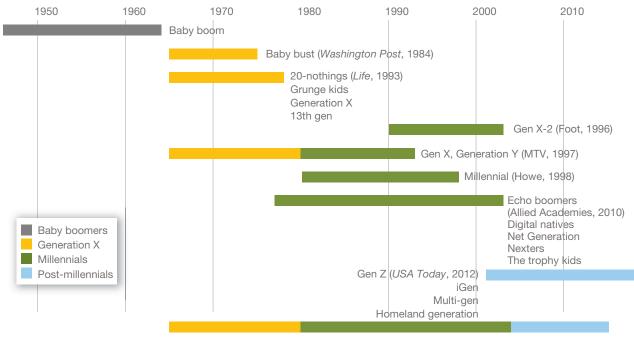
The concept of *generation* carries different meanings within popular culture versus those who conduct demographic research. For demographers, a statistically meaningful demographic event is what defines a generation. The U.S. Census Bureau classifies those born between mid-1946 and mid-1964 as the baby boom generation. The significant demographic event was that birth rates increased from 20.4 births per 1,000 people in 1945 to 24.1 per 1,000 in 1946—the largest year-over-year increase on record by the National Center for Health Statistics (National Center for Health Statistics, 2020). These birth rates would return to 1945 levels in 1964, bookending this baby boom generation. Since the baby boom, the U.S. Census Bureau has not officially defined other age groups as a generation.

In popular culture, the term *generation* refers to an age cohort who shares a common set of life experiences. Figure 1 displays some of the generational labels applied to these age cohorts, which include Generation Y, millennials, echo boomers, and the Net Generation. Pew Research Center defines *millennials* as those born between 1981 and 1996, while those born between 1997 and 2012 are part of Generation Z (Dimock, 2019). However, other research has defined *millennials* as those born between 1982 and 2000, and do not use the term *Generation Z* for younger age cohorts (U.S. Census Bureau, 2015; Posard et al., 2018).

These difference have led to a wide variety of definitions of a generation. William Strauss and Neil Howe, for example, offer an approximate length of 22 years per generation (Strauss and Howe, 1991). In the Strauss-Howe approach, individuals in a particular age cohort go through four cycles in their lifespans—childhood, young adult, midlife, elderhood—and, when they reach each cycle, younger and older individuals are simultaneously in other generational stages (Howe and Strauss, 2000). Historian Robert Wohl, often cited as the progenitor of modern generational studies, argued that both age and experience must be taken into account for

FIGURE 1

Various Names and Dates Attributed to Generations

SOURCE: Bump, 2015, as described in Posard et al., 2018.
NOTE: The different names given to various groupings by birth year are shown in this figure.

Our focus has less to do with generalizing about a particular age cohort and more to do with broader social trends. We propose that younger adults could be an early signal for broader social changes that could emerge in the future.

generations to be understood (Wohl, 1979). Even in cases where the dates and experience are defined, scholars fluctuate wildly on their interpretations of a generation's values. For example, millennials have been called both the "Generation Me" (Stein, 2013; Twenge, 2006; Westerman et al., 2011) and the "New Greatest Generation" (Howe and Strauss, 2000), and these approaches have been accompanied by a wide variety of support and criticism alike.[1] However, defining swaths of people by either birth year or which experiences they remember can create problems of oversimplification and exclusion.

Focusing on Young Adults

Our focus has less to do with generalizing about a particular age cohort and more to do with broader social trends. We propose that younger adults could be an early signal for broader social changes that could emerge in the future. For example, younger adults tend to be early adopters of new technologies (Vogels, 2019) and there is some evidence that median years of tenure with one's current employer is lower for younger adults versus older individuals, which has been a consistent pattern for the past ten years (U.S. Bureau of Labor Statistics, 2020). We assume these trends may have less to do with the intrinsic features of people born between a particular date range and more to do with broader social trends.

For these reasons, our analysis focuses on select topline trends that appear to vary by age. We do not assign a generational label for these age-based differences, and we do not assume that these differences are caused by cohort effects (e.g., when someone was born and, therefore, the difference would "stick"

with someone as they age), period effects (e.g., people born in a particular date range sharing a common interpretation of a key life event), or age effects (e.g., people changing as they age). Instead, our analysis treats current age-based trends as potential signals for broader changes. Our approach is based on the premise that some of these changes may affect how the U.S. government decides who is—and is not—an acceptable risk to hold a security clearance.

SEAD-4

The SEAD-4 is the current common criterion for determining who is eligible to hold a security clearance, which allows an individual to hold certain sensitive positions and access certain levels of classified information. The criterion informed our generational analysis in this section, which begins with a brief historical review of personnel security adjudication criteria. We then analyze the criteria outlined in the SEAD-4 and also adjudication trends based on these guidelines. Our analysis in this section concludes with a strategy for identifying relevant guidelines that could become points of friction with the SEAD-4.

Background of Personnel Security Adjudication Criteria

Until the end of the 1950s, the criteria for adjudicating security clearances in the United States were highly secretive and inconsistent (Loutinsky, 2009). In 1959, the U.S. Supreme Court ruled in *Greene v. McElroy* that a federal contractor had a right to due process when the U.S. Department of the Navy revoked his industrial security clearance based on

secret reports that he associated with communist sympathizers (Greene v. McElroy, 1959). Shortly after this decision, President Eisenhower issued Executive Order 10865, which began to standardized the process for adjudicating clearances for cleared contractors under the National Industrial Security Program (Exec. Order No. 10865, 3 CFR [1959–1963], 1960).

The modern adjudication process follows a "whole-person" concept that involves a careful weighting of variables in someone's life when determining whether he or she is an acceptable security risk (ODNI, 2017b). These variables—and their weights—have evolved over time. For example, today's SEAD-4 does not mention cohabitation or homosexual conduct, although, as we indicated earlier in this report, previous guidelines may have made that a disqualifying factor (Director of Central Intelligence Directive No. 1/14 and Annex A Adjudication Guidelines, 1976). The U.S. Census Bureau estimates that 8.5 million unmarried opposite-sex couples are cohabitating (U.S. Census Bureau, 2018); 4.5 percent of adult Americans self-identified as lesbian, gay, bisexual, or transgender in 2017 (Newport, 2018). Put simply, the weighted variables that define adjudication criteria have never been a constant over time. These tend to evolve with broader social changes that pattern generational differences.

Current SEAD-4 Guidelines

In the United States, the security clearance adjudication process assumes that all applicants have risks in their lives that could affect whether an individual is eligible to hold a national security position (ODNI, 2017b). The question is whether these risks are acceptable for the U.S. government to grant access to a sensitive position—and thus a security clearance—given the circumstances for what is known about an applicant's life. Table 1 displays the guideline letter and topical area for the 13 guidelines described in the most recent SEAD-4 as of this writing in early 2020, as well as the number of disqualifying and mitigating criteria for each. The topics covered by these guidelines range from allegiance to the United States to foreign preference and influence,

TABLE 1

SEAD-4 Topic Areas, Letters, and Number of Risk and Mitigation Criteria for Each Guideline

Guideline Topic	Guideline Letter	Number of Risk Criteria	Number of Mitigation Criteria
Allegiance to the United States	A	3	4
Foreign influence	B	9	6
Foreign preferences	C	6	8
Sexual behaviors	D	4	5
Personal conduct	E	7	7
Financial considerations	F	9	7
Alcohol consumption	G	7	4
Drug involvement and substance misuse	H	7	4
Psychological conditions	I	5	5
Criminal conduct	J	5	4
Handling protected information	K	8	4
Outside activities	L	2	2
Use of information technology	M	8	4
Total	13	80	64

SOURCE: RAND analysis of ODNI, 2017b.

and from psychological conditions to use of information technology.

Following the whole-person concept, the SEAD-4 details two sets of conditions for each guideline when determining whether an applicant is an acceptable risk. The first set involves conditions that could raise a security concern that may disqualify an applicant. Table 1 shows that, for each guideline, the SEAD-4 lists between two and up to nine risk criteria. The second set of conditions focuses on what could mitigate the security concerns raised by the first set. Table 1 shows that, for each guideline, the SEAD-4 describes between two and seven criteria that could mitigate these risks.

For example, Guideline F (financial considerations) from the SEAD-4 includes guidelines surrounding the inability and unwillingness of applicants to satisfy their financial debts. These conditions raise security concerns for several reasons—they could suggest, for example, that an applicant has poor self-control, is unwilling to follow rules and regulations, or exhibits poor judgment. These potential characteristics, in turn, may raise red flags about an applicant's ability to protect sensitive information if she or he was given a security clearance.

Guideline F also lists criteria that could mitigate these potential security risks, including whether the debt was beyond the control of the applicant and whether the applicant is making a good-faith effort to repay the debt. The Defense Office of Hearings and Appeals (DOHA) has ruled that "A security clearance case is not a debt procedure. It is a procedure designed to evaluate an applicant's judgement, reliability, and trustworthiness" (DOHA, 2020a, p. 6). Thus, under the whole-person concept that focuses on the characteristics of an applicant's lives, adjudicators may assign less weight to financial risks (i.e., personal debts) if the applicant was unemployed or underemployed for a while and/or demonstrates that she or he has made a good faith effort at resolving these debts.

Select Adjudication Trends

We found no publicly available database that provides a detailed list of the reasons that all applicants were denied a security clearance. Although the SEAD-4 is a standard guideline for how to make these decisions, the application of this criteria is based on the individualistic whole-person concept. Despite the differences between each applicant, the DOHA does list its administrative judges' decisions on appeals by contractor personnel of its security clearance cases (DOHA, 2020b). This data set represents appeals to DOHA for contractor personnel under Department of Defense (DoD) Directive 5220.6, which implements Executive Order 10865 that President Dwight Eisenhower signed in 1960 in response to the Supreme Court's 1959 decision in *Greene v. McElroy* (DOHA, 2014). DOHA provides a formal administrative denial and revocation process for applicants who are private sector employees already holding—or are

required to hold—a security clearance as part of their employment. According to DOHA, these individuals are employees of private companies working for DoD, other select federal departments and agencies, and some nongovernment partners (e.g., the North Atlantic Treaty Organization, the Red Cross, the United Service Organizations) (DOHA, 2014). Thus, these trends are not representative of all adjudications or appeals—only select individuals who require a clearance for their job, were denied this clearance, and then decided to appeal through DOHA.

Table 2 displays the frequency of the guidelines listed in Table 1 that were used by DOHA administrative judges in security clearance appeals cases brought by DoD contractors and other relevant cases under DoD Directive 5220.6 from 2015 to 2019. These cases include a variety of clearance cases, including initial clearances and clearance renewals in periodic reinvestigations. The cases we analyzed are not exhaustive: They only include those that were publicly listed on DOHA's website, and there is no easily accessible demarcation of these cases (without reading through each of them individually and manually coding them). Three factors in this table are worth highlighting. First, the current version of the SEAD-4 was effective as of June 8, 2017. Thus, the risk and mitigation criteria prior to 2017 might differ for some during these earlier years. However, the criteria for Guidelines B (foreign influence), E (personal conduct), and F (which are discussed in depth later in this report) have not undergone significant changes since the 2005 version of the SEAD-4 (White House, 2005).

Second, the guidelines addressed by the largest number of DOHA cases in 2019 were Guideline F (904 cases), Guideline E (359 cases), and Guideline B (229 cases). Third, the guidelines that most frequently have been a subject for a DOHA appeals decisions have remained consistent over time: Guidelines F, E, and B have ranked as the top risks.

Table 2 is by no means an exhaustive list of reasons for why applicants were initially denied a security clearance. First, these are the publicly available cases decided by DOHA administrative judges, typically for DoD contractors. Second, they all follow the whole-person concept, meaning they are rooted in the lives of individual applicants, not broader classes of applicants.

TABLE 2

Estimated Frequency of Guideline Topics Addressed by DOHA Industrial Security
Clearance Appeals Decisions, 2015–2019

Guideline Letter	Guideline Topic	2015	2016	2017	2018	2019
A	Allegiance to the United States	0	0	0	0	1
B	Foreign influence	142	205	338	275	229
C	Foreign preferences	73	90	113	50	16
D	Sexual behaviors	12	10	15	33	30
E	Personal conduct	372	331	524	530	359
F	Financial considerations	1,000+	1,000+	1,000+	1,000+	904
G	Alcohol consumption	98	88	155	144	107
H	Drug involvement and substance misuse	161	131	188	160	157
I	Psychological conditions	6	5	1	5	41
J	Criminal conduct	104	95	127	149	91
K	Handling protected information	11	10	13	19	19
L	Outside activities	0	1	8	0	2
M	Use of information technology	5	16	18	20	11

SOURCE: DOHA, 2020b.

NOTES: Some cases covered multiple guideline topics. The gray column for 2017 represents the year that the SEAD-4 went into effect.

Third, it is possible that some types of applicants are more likely than others to file appeals with DOHA.[2]

Although Table 2 counts the number of public cases that go to the appeals court, it covers only a fraction of the number of security clearances handled by the ODNI each year. Figure 2 shows the number of security clearance approvals processed between the 2012–2017 period, during which there was a notable decline from 800,000 annually to 600,000. Over these years, denials of all submitted clearance applications, which are not shown in the table, averaged 3 percent annually. Another 0.69 percent of applications were revoked, while the number of appeals cases doubled from 0.2 percent to 0.4 percent of cases (ODNI, 2017a).
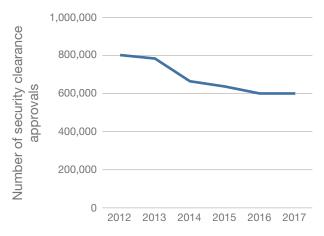
Age-Based Trends and Potential Risk Factors

In this section, we review some of the age-based trends that we identified as potential risk factors for consideration when evaluating current or future clearance holders. To do this, we worked from the idea that the whole-person concept is the basis for determining when someone is an acceptable risk for holding national security positions. This concept is based on 13 broad guidelines, each listing specific types of risks and criteria that may mitigate these risk factors. Although this concept is based on fact patterns of applicants, these individuals exist within a larger society. Norms and behaviors within this society tend to vary between groups of people over time. This report focuses on one source of this variation: the ages of applicants. Specifically, we hypothesized that risks from individual circumstances could be higher or lower depending on the age of someone. Put another way, the risks associated with life experiences of a younger whole person may differ from those of an older person.

Approach

We took a four-step approach to understand some of the risk factors that may affect younger age groups in comparison with older groups.

FIGURE 2

Number of Security Clearance Approvals Issued by ODNI, 2012–2017

SOURCE: RAND analysis of data from National Counterintelligence and Security Center, 2012–2017.

1. We catalogued the 13 guideline topics within the SEAD-4, the 80 risk criteria across these guidelines, and the 64 mitigation criteria across these guidelines listed in Table 1.
2. We used Table 1's 80 risk criteria as the basis for reviewing age-based trends in attitudes and behaviors from peer-reviewed scholarly journals, government reports, think-tank reports, and large-scale data sets from such surveys and organizations as RAND's American Life Panel, the General Social Survey, the U.S. Census Bureau, and the Federal Reserve. For example, our review found that student loans are a growing risk area for younger age cohorts based on survey data, scholarly articles, and data from the Federal Reserve (Board of Governors of the Federal Reserve System, 2016).
3. We compared these initial data trends with the mitigation criteria described for each guideline topic within the SEAD-4.
4. We binned these age-based patterns into four key risk categories, stemming from existing SEAD-4 categories:
   a. *foreign contacts*: risks from virtual or in-personal relationships with foreign nationals
   b. *financial risks*: risks associated with various financial instruments, including stu-

dent loan debts and digital assets (e.g., cryptocurrency)
   c. *substance use*: risks associated with the use and/or abuse of legal and illegal substances
   d. *digital personal conduct*: risks from behaviors over the internet.

The four risk categories we identified in Step 4 encompass a wide variety of risks associated with an individual applicant's circumstances. Based on our review of the literature and relevant data, we found age-based differences in trends related to each category. Although it is likely that other trends may exist, these four were the most salient in our review.
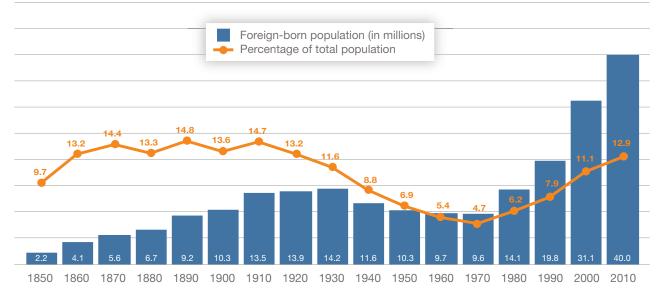
Foreign Contacts

We broadly interpreted foreign contacts to include in-person and virtual interactions. The SEAD-4 contains broad language that largely focuses on concerns surrounding divided allegiance (ODNI, 2017b). Such contacts may include family members, foreign persons or groups, shared living with foreign nationals, or visiting or living in foreign countries. Although decades of globalization, coupled with the ubiquity of internet access, have reduced barriers to having contacts with foreign nationals, we identified two emerging risks in this area: rising foreign-born populations in the United States and increased student participation in study abroad programs. Both trends suggest more opportunities to have contacts with foreign nationals (or their social networks).

Foreign-Born Populations

First, there has been a rise in the number of foreign-born people living in the United States (U.S. Census Bureau, 2010). Figure 3 shows that, in 1980, there were 14.1 million people living in the United States who were born outside the country, representing 6.2 percent of the population. By 2020, an estimated 44.9 million (13.7 percent) of the U.S. population were foreign-born (as estimated from 2019 American Community Survey [U.S. Census Bureau, 2020]). According to the U.S. Census Bureau, Mexico is the largest source of the foreign-born population, consisting of 29.3 percent of the U.S. foreign-born population in 2010, followed by people from the People's

FIGURE 3

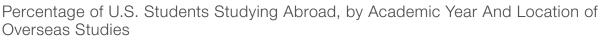Number and Percentage of Foreign-Born Population Living in the United States

SOURCE: U.S. Census Bureau, undated; and authors' analysis of data from 2019 American Community Survey estimates.
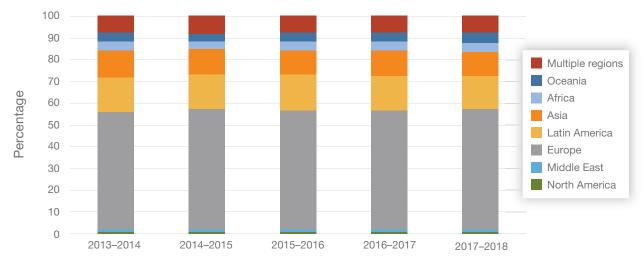
Republic of China, Taiwan, Hong Kong, and Macau (5.4 percent) (Grieco et al., 2012).

Knowing someone born in a foreign country is not necessarily a disqualifying condition to hold a security clearance by itself. We believe a key source of this risk is the social network for some of these foreign-born populations. This point is highlighted by one applicant who the government denied a security clearance because of foreign influence (DOHA, 2019e). This applicant was born in Somalia and, in 2009, had lived in a refugee camp in the Netherlands, where he met his future wife, who was a naturalized U.S. citizen. He occasionally spoke to his elderly mother who lived in Somalia and sent financial assistance to her and his siblings. He also went to school with a man whose father was believed to be a Somali Army general. His clearance was denied initially, but an administrative judge ultimately ruled that it was unlikely for this applicant to be "in a position of having to choose between the interest of the United States and the interests of Somalia" (DOHA, 2019e, pp. 7–8). In this way, the case suggests that the *nature* of foreign contacts (e.g., a relationship with someone whose father was believed to be a Somali Army general) affects the level of perceived risk. If this class-

mate's father was a Chinese general, then the nature of this contact might change, and the risk could be higher. We note that some national security positions requiring a security clearance require a deep understanding of local cultures and languages that typically come from firsthand experiences. In these cases, the personnel vetting guidelines may hinder recruitment and retention of people with these mission-critical skills. Thus, a balance between these two needs (security and personnel with mission-critical skills) may require adjustments in future contexts.

Study Abroad

There has been an increase in the number of Americans studying abroad and foreign nationals studying within the United States. An estimated 341,751 Americans studied abroad during the 2017–2018 academic year. Figure 4 displays the percentage of Americans studying abroad by region of the host country (NAFSA: Association of International Educators, undated). Europe has been the most popular destination, attracting more than half of American students since the 2013–2014 academic year. Latin America and Asia have been other popu-

FIGURE 4

Percentage of U.S. Students Studying Abroad, by Academic Year And Location of Overseas Studies

SOURCES: NAFSA analysis of data from the Institute of International Education's *Open Doors Report* (2013–2018) and the National Center for Education Statistics (2018).

lar destinations, attracting 14.9 percent and 11.2 percent of study abroad students, respectively.
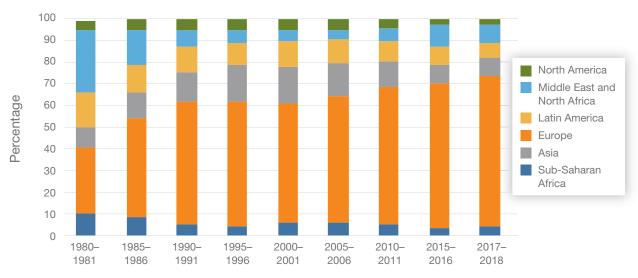
This may create at least two types of risks. First, studying abroad in higher-risk countries (e.g. China) increase the opportunities to interact with foreign nationals or their networks—some of whom may have ties to foreign intelligence services. Second, studying abroad in lower-risk countries (e.g., France) that are popular destinations for people from higher-risk countries (e.g., China or Russia) may also increase opportunities for recruitment by these foreign intelligence services.

Figure 5 displays the percentage of international students enrolled since the 1980–1981 academic year at U.S. universities by their country of origin. In total, there were 1,094,792 foreign students enrolled in U.S. institutions of higher education in the 2017–2018 academic year (National Center for Education Statistics, 2018). The largest proportion, 69.2 percent (totaling 758,076) was from Asia.

These foreign students are not necessarily a risk, although some of these students could be supported or recruited by foreign intelligence services of their home countries. In cases where the students are not a direct risk, they may have associations or direct relationships with people who are risks.[3] We believe these risks are likely to increase given the role of globaliza-

tion, particularly in higher education. To illustrate, one security clearance applicant was completing a master's degree in language studies, during which he studied in Turkey. While in Turkey, this applicant met his wife—a citizen of the People's Republic of China—in class. This applicant also traveled to China to meet his in-laws, none of whom appeared to have an affiliation with the Chinese government. The administrative judge ultimately ruled that although it is likely the applicant "is loyal to the United States, it is outweighed by his familial obligations and loyalty to those closest to him" (DOHA, 2018c, p. 10).

Financial Risks

Financial risks made up the second category that we identified. The SEAD-4 focuses on guidelines related to financial considerations for clearance applicants. Some of the conditions that could raise a security concern include an "inability to satisfy debts," "unwillingness to satisfy debts regardless of the ability to do so," and "a history of not meeting financial obligations" (ODNI, 2017b, p. 15). We found evidence that these risks may disproportionately affect younger rather than older applicants. Specifically, this section focuses on two types of financial risks:

Foreign Students Studying in the United States, By Academic Year And Student Country Of Origin

SOURCE: National Center for Education Statistics, 2018.
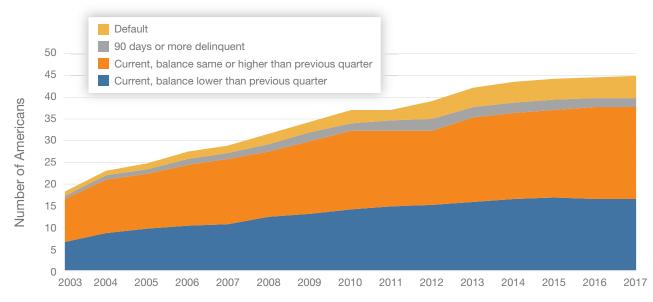NOTE: Percentages may not add up to 100 percent due to rounding.

student loan debt and a willingness to use alternative financial instruments like bitcoin.

Figure 6 displays the number of Americans with student loan debt by repayment status. This shows a rise in the number of Americans holding student loan debt. In 2017, 16.6 million Americans were current on their student loans with their balance lower than in the previous quarter. At the same time, however, 21.3 million students were current, but their balances had not changed or were higher than in the last quarter. Furthermore, Figure 6 shows a noticeable rise in loan debt from 2003 to 2017. In 2003, 18.3 million Americans had borrowed money to pay for education expenses, and the total in 2017 had risen to 44.7 million Americans.

Similarly, Figure 7 shows the total student loan balance in billions of dollars by age group. In 2017, 28 percent of these balances were held by those younger than 30 years old, with another 33 percent held by those between the ages of 30 and 39. This percentage is noticeably smaller than in 2004 when 43 percent of the debt was held by individuals younger than 30 years old, indicating that people have been unable to resolve their education debts in recent years. Because these trends occurred well before the current economic recession from the

coronavirus disease 2019 (COVID-19) pandemic, we hypothesize there is a risk that these trends could worsen in the near-future.

There are several examples from appeals cases surrounding the issue of student loan debt. In some cases, unpaid student loan debt from decades ago has become problematic. For example, one DOHA appeals case describes an applicant who was unemployed for six months, during which he was past due on four student loans, a home equity line of credit, and two medical debts. The court noted that "incurring student loans is seen as an obligation incurred to improve his daughter's life, with respect to future employment and career prospects, and, therefore, are viewed differently than a debt obligation for a new car or credit card debt." By consolidating his student loans and working to resolve obligations, his clearance was granted (DOHA, 2019a). In a second example, the applicant's student loan debts of $37,522 had been consistently paid since October 2017 (DOHA, 2019f). This was the applicant's only debt, and his job performance and character references showed a favorable whole-person concept. He was granted clearance. Finally, another case shows an applicant with approximately $35,000 in student loans and child support payments (DOHA, 2018b). The judge

Number of Americans with Student Loan Debt By Repayment Status, 2003–2017 (in millions)

SOURCE: Scally and Lee, 2018.

initially found the applicant had a plan to resolve debts and track record of repayment. However, when the case was reexamined, it was determined that the applicant had not established a significant track record of payments and intent to resolve the debts. The applicant's favorable decision was reversed.

Potential Rise of Volatile Cryptocurrencies

Bitcoin and other cryptocurrencies are another potential problem area. Cryptocurrencies have been called some of the most volatile assets that exist, dramatically increasing and decreasing in value over time (Vigna, 2020). Furthermore, the decentralized cryptocurrencies typically use digital currency exchanges that may not be as transparent to authorities (e.g., Zietzke v. USA, which involves an Internal Revenue Service inquiry into one of these exchanges) (Zietzke v. United States, 2020). Thus, greater adaption of these volatile assets by younger age groups may present new risks to applicants that may be not be reported in a traditional credit report. Figure 8 show the results from a survey administered by Harris Poll on a nationally representative sample of adult Americans in 2017, which asked respondents, "How likely are you to buy bitcoin in the next five

years?" (Blockchain Capital, 2017). This figure shows that younger adults were the most willing to use these highly volatile cryptocurrencies. For example, 32 percent of those between 18 and 34 years old were either very or somewhat likely to report a willingness to use bitcoin, while 34 percent of those between 35 and 44 years old reported a willingness.

An estimated $76 billion illegal transactions involve the use of cryptocurrency, which is an estimated 46 percent of bitcoin transactions throughout the world; such illegal transactions encompass an estimated one-quarter of bitcoin users (Foley, Karlsen, and Putniņš, 2019).

Drug Use

Substance abuse was the third risk category that we identified. In this area, we identified two age-based trends, one connected to marijuana use and another to nonmedical prescription drug use. The first trend, legal marijuana use, is related to the SEAD-4 guidance concern regarding "illegal use of controlled substances" including "substances that cause physical and mental impairment," as concerns could result in denial of a security clearance (ODNI, 2017b).
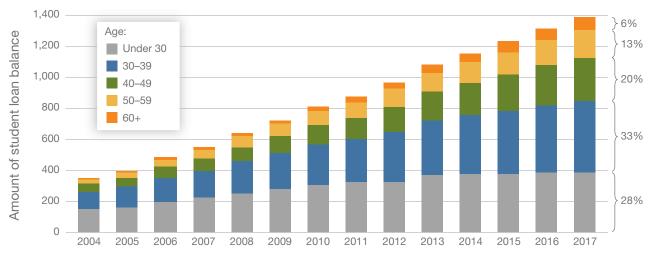
FIGURE 7

Total Student Loan Balance by Age Group, 2004–2017 (in billions of U.S. dollars)

SOURCE: Scally and Lee, 2018.

FIGURE 8

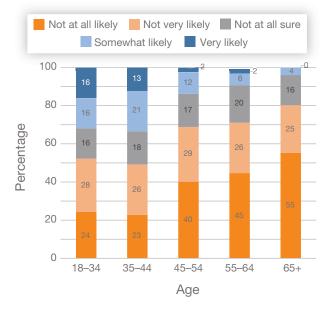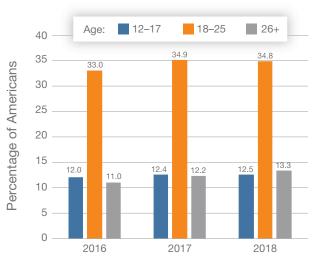## Self-Reported Likelihood to Use Cryptocurrencies, by Age Group

SOURCE: Harris Poll as cited in Blockchain Capital, 2017.

FIGURE 9

Self-Reported Use of Marijuana Anytime in the Past Year, 2016–2018

SOURCE: National Institute of Drug Abuse, 2018.

We found limited evidence that marijuana was abused by younger adults. Figure 9 shows results from the National Institute of Drug Abuse's National Survey of Drug Use and Health of self-reported use of marijuana anytime in the past year. Between 2016 and 2018, marijuana use among 18-to-25-year-olds was consistently more than twice as high that of people in other age brackets. However, these self-reported levels of use dropped for those 26 years of age or older. Besides marijuana, the second most used illicit drug for 18-to-25-year-olds was nonprescription psychotherapeutics—a broad category that includes pain relievers, tranquilizers, stimulants, and sedatives (Substance Abuse and Mental Health Services Administration, 2016). Some of these substances present far worse risks for dependency than marijuana (Nutt et al., 2007).

We also found evidence suggesting that one's chance of illegally using marijuana could vary by state of residence. For example, Figure 10 displays the legal status of marijuana as reported by the National Cannabis Industry Association. Marijuana use is illegal under federal law, but it is legal in some limited, medical, or adult-use form in all but four states. Some states, such as Wisconsin, allow for possession of marijuana-derived cannabidiol (CBD) oil with a doctor's certification. Others, such as Washington, allow for recreational use of marijuana, while others, such as Maryland, permit use for medical purposes.

The various state laws on marijuana use create opportunities for applicants to violate federal laws—either knowingly or unknowingly. These various laws may affect recruitment of young people by dissuading potential candidates from considering positions that require a security clearance. Specifically, some of these potential candidates may avoid applying for these positions under the belief that their legal marijuana use within one state may exclude them from holding a clearance under Guideline H (drug involvement and substance misuse). For example, several DOHA appeals cases specifically mention confusion from the applicant regarding conflicting differences between federal and state laws. These cases state "there is considerable confusion surrounding the patchwork of state laws around the nation, legalizing [marijuana]" (DOHA, 2019c) and "[the applicant misinterpreted the byzan-

FIGURE 10

Legal Status of Marijuana by State, 2019

Legend:
- Limited legal use
- Legal for adult use
- Legal for medical use
- Illegal to use

SOURCE: National Cannabis Industry Association, undated.

tine change in the law . . . with respect to legalizing the use of [marijuana]" (DOHA, 2019d).

Digital Personal Conduct

The last category that we describe is focused broadly on people's behaviors on the internet. Scholars note that today's technology companies create platforms that promote user engagement, but they play a limited role in dictating who produces what online (Ritzer and Jurgenson, 2010, pp. 13–36). This relative freedom to share large volumes of personal details may create opportunities to expose risks that touch on various guidelines described in the SEAD-4. For example, Guideline E (personal conduct) within the SEAD-4 mentions

> credible adverse information in several adjudicative issue areas that is not sufficient for an adverse determination under any other single guideline, but which, when considered as a whole, supports a whole-person assessment of questionable judgement, untrustworthiness, unreliability, lack of candor, unwillingness to

comply with rules and regulations, or other characteristics . . . . (ODNI, 2017b, p. 13).

Drawing from the language described in Guideline E, we propose that online conduct may expose a variety of adverse information that, when taken together, may expose risk factors. Also, the volume of potentially adverse information that exists online merits a separate category that focuses on identifying and analyzing these details.

The current SEAD-4 outlines digital and online concerns throughout the guidelines. However, we have identified several trends regarding the way digital technology has changed how individuals communicate, share information, and engage in illegal activity. The SEAD-4 describes usage of the internet and digital media by security clearance applicants in the context of "unauthorized entry into any technology system," loading, modifying, and transmitting "or otherwise handling protected information on any unauthorized equipment or medium," and "contact, regardless of the method" with foreign citizens (ODNI, 2017b). We found that the vast majority of younger adults are the most active on social media and how much information they share online appears to be on the

FIGURE 11

Percentage of Adult Americans Who Use at Least One Social Media Site Over Time, by Age

SOURCE: Pew Research Center, 2019.

rise. Although younger adults report more vigilance in data privacy than older adults, we found there is still a noticeable percentage of the former who are less concerned about what they share online.
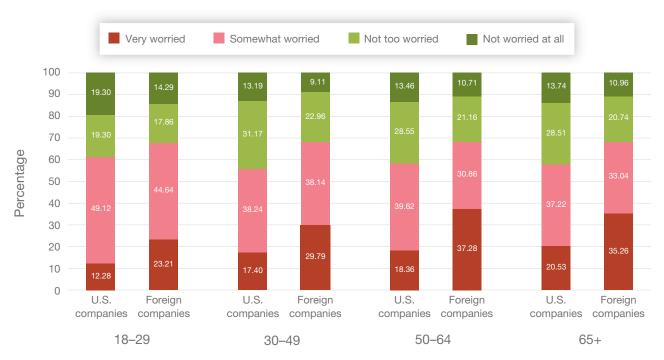
First, younger adults tend to use social media websites more than older age groups. Figure 11 shows results from surveys on nationally representative samples of a cross-section of Americans. One question on this survey asked respondents about their social media use. This figure shows that 88 percent of 18-to-29-year-old adults reported using at least one social media site in 2019, while 78 percent of those between 30 and 49 years old reported using one site.

Second, we found evidence that a majority of younger adults are worried about their data privacy. Figure 12 shows the results from RAND's American Life Panel on a nationally representative sample of adults who were asked about their views on data privacy. One of the survey's questions asked, "How worried are you, if at all, about the following? . . . U.S. or foreign companies knowing what I do on my smart-

phone?" Result show that younger adults are more worried about this issue than older adults. However, 38.6 percent of respondents between 18 and 29 years of age reported being not too worried or not worried at all about their data privacy from U.S. companies. When asked about foreign companies, 32.2 percent of those between 18 to 29 years of age reported not being worried. These risks have become apparent with DoD banning the Chinese-based social media platform TikTok from official devices (Vigdor, 2020).
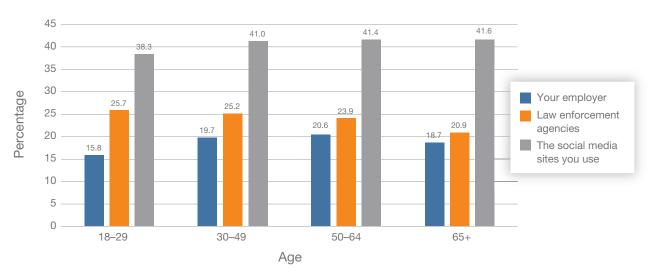
Figure 13 shows that younger adults (i.e., 18-to-29-year-olds) were the least concerned about their employer having access to their personal information, while more than a quarter were concerned about law enforcement agencies having this access.[4] These percentages were similar across age categories. For all age groups, we found that respondents were most concerned with personal information that social media sites have about them. These results suggest that respondents are aware that information about them exists online and although law enforcement is one concern, those who hold these data—social

Self-Reported Worries about Data Privacy by U.S. and Foreign Companies, by Age Groups

SOURCE: Authors' analysis of unpublished RAND Corporation research, 2019.

FIGURE 13

Self-Reported Worries over Certain Groups Having Access to Your Personal Information

SOURCE: Authors' analysis of data from Pew Research Center, 2019.
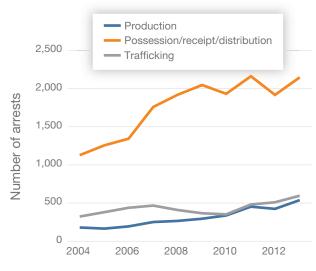NOTES: Unweighted samples used.

media websites—are at the forefront of the minds of many people.

As the internet has become integral to people's daily lives, it also gives individuals more access to illegal activities and content, including child pornography. As displayed in Figure 14, possession charges for child pornography rose by 91.4 percent from 2006 to 2013. Additionally, production of child pornography rose 210.6 percent and trafficking rose 86.6 percent between the same years (Bureau of Justice Statistics, 2017). The median age of commercial sexual exploitation of children suspects was 39 years of age between 2006 and 2013 (Bureau of Justice Statistics, 2017, p. 1).

Summary and Findings

This report identified some key trends among younger adults to understand broader changes that may affect current security clearance adjudication guidelines. We argue that age-based trends, particularly by younger adults, may serve as an early signal for broader social changes that may occur in the future. We reviewed current security clearance adjudication standards—the SEAD-4. These guidelines assume that everyone carries some type of risk

FIGURE 14

Child Pornography Arrests, by Charge

SOURCE: Bureau of Justice Statistics, 2017.

in their lives. The SEAD-4 is a set of guidelines to assess whether these risks are low enough—based on the position to which the applicant is applying—to be acceptable to the employing agency. These guidelines served as a starting point for our analysis of relevant trends among younger adults. Although there is limited data on why people are denied a clearance,

We assume that trends that are popular among younger adults could be an early signal for broader trends in the future.

we reviewed topics addressed in appeals cases by contractors from the DOHA. We found that appeals cases from 2015 to 2019 mainly involved the following four guideline topics: financial considerations, personal conduct, drug involvement and substance misuse, and foreign influence.

We then reviewed various data sources that related to topics within the SEAD-4, with a focus on topics addressed in recent DOHA appeals cases. Next, we identified a variety of relevant age-based trends in peer-reviewed scholarly journals, government reports, think tank reports, and large-scale data sets, such as RAND's American Life Panel, the General Social Survey, the U.S. Census Bureau, and the Federal Reserve. Based on these results, we binned these trends into four broad risk categories related to foreign contacts, financial risks, substance use, and digital personal conduct. We summarize each of our findings from these risk factors next.

More Opportunities to Interact with Foreign Nationals and Their Extended Network

There are more opportunities for people to interact with foreign nationals today than in the past. We found evidence that the number of foreign-born people living in the United States has been on the rise for the past two decades. Furthermore, the numbers of U.S. college students studying abroad and of foreign students studying in the United States are increasing. Foreign nationals in and of themselves may not present a risk, but their immediate and distal networks of friends and families are potential risk factors to consider.

Student Loan Debt and Alternative Financial Instruments Are Potential Risks

We found evidence that student loan debt is on the rise. Because most loans are backed by the federal government, it is unlikely that today's students could discharge these debts in federal bankruptcy court in the future. Thus, student loans likely represent a debt obligation that potential clearance holders will carry for years to come. We also found evidence that younger people express more willingness than older age groups to use alternative financial instruments, such as cryptocurrency. These financial instruments are less regulated and more volatile than mainstream instruments. Thus, increasing adoption of these new types of financial instruments is a trend that the federal government should continue to monitor.

Marijuana Use Is Less of a Concern, While Nonmedical Prescription Drug Use Is a Concern

We found evidence that marijuana use has remained relatively stable between 2016 and 2018. Furthermore, we found that fragmented and contradictory state and federal laws on marijuana use could easily create circumstances in which some clearance holders violate these laws. For example, although the federal government still holds that marijuana use is illegal, the picture is different at the state and local levels, with recreational marijuana use legal in some states, medical marijuana use legal in other states, and CBD oil use legal with medical approval in still other states. Furthermore, we found some evidence that nonmedical prescription drug use could merit more attention by adjudicators in the future.

Digital Personal Conduct Is an Emerging Risk

We propose that online environments are becoming a distinct domain that, for some people, may represent

unique risks compared with in-person interactions. For example, how people behave at work may be very different than how they behave while playing online role playing games, using forums, or using social media platforms. We found evidence that younger adults tend to be first adopters of new online trends. Furthermore, we found evidence that younger age groups were worried about data privacy intrusions made by foreign and U.S. companies and governments. Additionally, surveys suggest there is growing concern surrounding how much information social media websites have about individuals.

Recommendations

Our results are based on general trends that provide a roadmap for select types of risk factors that may become salient for the federal government in the future. We assume that trends that are popular among younger adults could be an early signal for broader trends in the future. Based on our analysis of a wide variety of data, we developed four broad categories of recommendations for the federal government to consider. In general, we note the benefits of transparency in communicating these guidelines to younger adults who may have an interest in positions requiring a security clearance. Such transparency may make it easier for these potential applicants to mitigate their risks before they apply for positions in the future.

Revise Language on Select Risk Factors

We found evidence that student loan exposures have risen for younger adults in recent years. Given these results, we recommend that criteria related to the inability to satisfy debts should focus on managing essential debts. Given the high bar to discharging federally backed student loans in U.S. Bankruptcy Court and given the assumption that most jobs within the Intelligence Community require some post–high school training, we believe that student loan debt has become common for many potential applicants of security clearances. Thus, risks from these loans has less to do with satisfying these debts and more with managing them for years to come.

We also found evidence that there are more opportunities to forge relationships with foreign nationals in recent decades.

- We recommend emphasizing the management of essential debts, instead of satisfying these debts, as a risk factor.

We also found evidence that there are more opportunities to forge relationships with foreign nationals in recent decades. Furthermore, we posit that risks may lie with the social networks that foreign nationals may carry with them, including family, friends, and acquaintances.

- We recommend that criteria about these risks focus on the nature of contacts with foreign nationals and the risk levels of their home countries. Specifically, one should assign risk levels for certain countries that are determined by regular assessments to be higher risk. The ODNI's yearly worldwide threat assessment is a useful starting point for making these assessments (Coats, 2019).

Revise Language on Mitigation Criteria

The current SEAD-4 lists misuse of controlled substances as defined by 21 U.S.C. 802 (Office of the Director of National Intelligence, 2017b, pp. 17–18). While marijuana is illegal under this federal law, we found that it is legal or decriminalized in most U.S. states and the District of Columbia. Some states have legalized recreational use, others have legalized medical use, and others place restrictions on chemical extracts from marijuana.

- We recommend that the federal government consider the legality of the substance at the

state and local level as a mitigating factor. Such a mitigating factor would take into account the severity and frequency of use within states or locales where it is legal.

As discussed earlier, we found that student loan debt loads are rising, specifically with a postsecondary degree that is essential for many national security positions that often require a security clearance; most students seeking this degree will take on some type of student loans to finish their education.

- We recommend that student loan debts from accredited institutions of higher education be weighted less than more riskier forms of debt for applicants.

Add Digital Personal Conduct Criteria

We found that many of the risk factors outlined in the SEAD-4 touch on some form of digital life. Younger adults tend to be some of the first adopters of social media platforms. They also are comfortable forging interpersonal relationships via online websites (e.g., social media platforms, dating websites), even as they report elevated worries about what types of information social media companies have about them. We contend that new technologies afford users with more opportunities to engage in risky behaviors, ranging from illicit activities, forging close and per-

sonal ties with foreign nationals, and trading risky financial assets like cryptocurrencies (which are largely exchanged online), to name a few.

- We recommend a new guideline that broadly addresses the personal conduct that individuals may exhibit online. This guideline should include the timing, frequency, and context of problematic conduct by clearance applicants. Regardless as to whether it is a standalone criterion or listed within an existing criteria, it should be considered a ubiquitous factor for clearance adjudicators.

Continuously Reassess Risk Factors with Quality Data Sources

Finally our review of trends sacrificed depth for breadth. We looked at a wide variety of risk factors outlined in the current SEAD-4, then compared these factors with various data sources. These trends are merely a starting point to reassess them and others in the future. We outline a table of some of these data sets—many of which are free for public use—in the appendix.

- We recommend that the federal government continuously reassess risk factors based on trends from these data sources.

Appendix. Index of Data Sources

TABLE 3

Index of Relevant Data Sources

		U.S. Census Bureau	Federal Reserve Board	National Center for Education Statistics	National Institute of Drug Use	Bureau of Justice Statistics	Internet Crime Report Center	Pew Research Center Reports	DOHA
Guideline									
A	Allegiance to the United States		X			X	X	X	X
B	Foreign influence	X	X	X				X	X
C	Foreign preference	X		X				X	X
D	Sexual behavior					X	X	X	X
E	Personal conduct		X			X	X	X	X
F	Financial considerations	X	X			X	X	X	X
G	Alcohol consumption	X			X	X	X	X	X
H	Drug involvement	X			X	X	X	X	X
I	Psychological conditions	X				X	X	X	X
J	Criminal conduct	X	X			X	X	X	X
K	Handling protected information					X	X	X	X
L	Outside activities		X	X				X	X
M	Use of information technology					X	X	X	X
N	Digital personal conduct	X	X	X		X	X	X	X

NOTE: Guideline N is our new proposed guideline that was noted earlier in the report as a recommendation.

Notes

[1] This argument does not only apply to millennials; other scholars have warned against the danger of ascribing personalities to generations with such warnings as, "Contrary to popular belief, there is no 'typical' boomer" (see Segal Company, 2001).

[2] For example, some applicants may have more resources to hire attorneys to file an appeal or have sufficient knowledge about the DOHA appeals process themselves. Thus, the sample of appeals cases in Table 2.2 is nonrepresentative of all DoD industrial security clearance decisions.

[3] See, for example, Dilanian, 2020.

[4] In our review of DOHA appeals cases, we found several cases surrounding child pornography. For example, an applicant began accessing child pornography before 2007 and, although he was investigated several times for possession, no sufficient evidence was found. Several years later, targeted questions on the applicant's usage of specific websites later resulted in a removal of the applicant's clearance. In other cases, polygraph tests have produced cases of child pornography that may have otherwise been missed. For more details, see DOHA, 2019b; DOHA, 2018a.

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About This Report

The Security, Suitability, and Credentialing Performance Accountability Council Program Management Office, a federal government interagency body, sponsored this study for the RAND Corporation's National Defense Research Institute (NDRI) to first identify some emerging patterns among today's younger generations given some potential social changes; review the current personnel vetting guidelines for determining who is eligible—and who might present more of a risk—to hold a sensitive position and/or security clearance in the federal government; and, finally, analyze how social and generational changes may be affecting younger generations' ability to be hired into these sensitive positions.

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