Strategies for Enhancing Diversity at the Congressional Research Service
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Executive Summary

The mission of the Congressional Research Service (CRS) is to serve Congress with the highest quality of research, analysis, information, and confidential consultation to support the exercise of its legislative duties. A diverse and highly qualified staff at CRS can help ensure that the agency includes a variety of perspectives in its interactions with Congress. By refining CRS’ current approach to diversity and inclusion within hiring, retention, measurement and evaluation, and candidate pool data, it can better promote diversity within CRS.

This report is designed to help CRS identify actionable strategies for employee recruitment and retention efforts that can improve diversity and inclusion among the CRS staff.

Hiring diverse and qualified employees increases CRS' skills, talents, and experiences. In turn CRS can increase its knowledge capacity through hiring which will help them better serve and support the United States Congress. To achieve this, hiring practices can be enhanced by implementing assessments prior to interviews in the hiring process and by using plain language in job postings. These changes can increase candidate diversity within CRS' applicant pool.

Retaining a talented workforce for as long as possible is the goal of most organizations after hiring diverse and qualified candidates. An organization can increase their retention rates by investing in their employees with training, stay interviews, and organizational mentorship programs. The result of increased retention will be a more diverse and knowledgeable workforce that feels included and valued by CRS. The retention section will demonstrate that CRS can increase employee retention to support and maintain a diverse workforce throughout CRS.

Measurement and evaluation can promote a diverse and inclusive workplace by tracking the progress CRS makes toward reaching its diversity and inclusion goals. CRS’ diversity and inclusion strategic plan can be tracked with a measurement and evaluation process using diversity tracking, inclusion tracking, and implementing post-then-pre assessment in training.

Based on the 2010 Capstone deliverable, this report includes updated applicant pool data from the Integrated Postsecondary Education Data System, the Survey of Earned Doctorates, and the American Bar Association. These data can be used to help CRS’ workforce planning and recruitment initiatives with historically underrepresented groups.
Executive Level Suggested Action Items

These action items can help improve diversity and inclusion at CRS. Executive leadership involvement in setting and implementing D&I goals is essential for CRS to achieve these goals. All suggestions are based on research detailed within the report.

1. The commitment of executive leadership to diversity and inclusion initiatives results in increased achievement of diversity and inclusion goals. CRS executive commitment to D&I goal setting could be demonstrated by more promotion of current D&I efforts to job applicants. Executive commitment can also be demonstrated to employees by regularly sharing information in meetings or sending electronic messages about the importance of the CRS guiding principles, promoting initiatives, and encouraging education about D&I issues.

2. Increased executive leader involvement in implementing diversity and inclusion initiatives leads to increased organization-wide commitment. The more that CRS executive leadership is involved with implementing and evaluating diversity and inclusion goals and strategies, the greater the chance they have of achieving positive results. Executive support for changes in the hiring process and retention efforts are critical to their success.

3. Update or create a new position to capture formal organizational authority of the diversity manager to help guide and implement different diversity and inclusion initiatives like tracking diversity, evaluating inclusion, conducting training, and measuring the impact of diversity and inclusion initiatives.

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1 CRS currently uses the term “D&I” to describe its efforts to enhance the diversity of its workforce; that term is used throughout this report. In the research literature, scholars use the term “DEI” to describe approaches used to provide equal access to workforce opportunities through diversity, equity, and inclusion initiatives. Zeynep Arsel, Crockett, D., & Scott, M. L. (2022), Diversity, equity, and inclusion (DEI) in the Journal of Consumer Research: A curation and research agenda, Journal of Consumer Research, 48(5), 920-933; Eddie S. Ng, & Sears, G. J. (2020), Walking the talk on diversity: CEO beliefs, moral values, and the implementation of workplace diversity practices, Journal of Business Ethics, 164(3), 437-450.


Suggested Action Items

Below are action items for CRS to implement immediately in order to take steps towards improving diversity and inclusion at CRS. All suggestions are based on research within the report.

1. Maintain a position of diversity manager with formal organizational authority to help guide and implement diversity and inclusion initiatives like tracking diversity, tracking inclusion, conducting training, and measuring the impact of diversity and inclusion initiatives.\(^6\)

2. Ensure managerial job responsibilities include diversity and inclusion to highlight managerial accountability for D&I initiatives. This would identify the manager’s responsibility to conduct stay interviews, monitor the mentorship program, and track diversity and inclusion initiatives.\(^7\)

3. Improve evaluation efforts by gathering data related to various initiatives. CRS managers and leaders can leverage available data from the applicant pools to measure the effectiveness of recruitment efforts.

4. Review the Merit Selection plan and adjust the use of assessment tools, using them prior to the interview process. This helps reduce bias in the selection process.\(^8\)

5. Improve D&I messaging to external candidates by adding guiding principles and more detailed statements about the CRS commitment to diversity on the CRS career website and in job announcements. Research shows that this message can help attract a more diverse pool of individuals.\(^9\)

6. Promote manager use of the Library's Selective Placement Program to improve the hiring of persons with disabilities.

7. Expand the mentoring program opportunities to include staff at all levels and create a more structured program and implementation guidance.

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\(^7\) Ibid


Introduction

Effects of Workforce Diversity

The demographic changes in the United States have mobilized public organizations to explore strategies to reflect these changes at all levels within their organizations. Efforts have been made to improve the representation of historically underrepresented groups in organizations that will be discussed throughout this report. As more organizations have pursued this goal, the academic literature has grown, highlighting the efficacy of various diversification strategies to be utilized by the public sector in making hiring decisions that improve employee retention.

The Congressional Research Service (CRS) desires to enhance employee diversity by identifying mechanisms to retain, recruit, and obtain information about candidates from historically underrepresented groups in specific disciplines.\(^\text{10}\) An additional component contributing to such reinforcement is management.\(^\text{11}\) Diversity matters at the managerial level because it affects hiring practices. If middle managers or human resources staff are diverse, the organization is more likely to embrace diversity in the workplace, sending positive signals to candidates.\(^\text{12}\) Decision-makers can focus on inclusive leadership traits to identify personal unconscious biases and cognitive heuristics.\(^\text{13}\) This report will demonstrate how diversity and inclusion management affects hiring and retention and how to measure and evaluate the benefits of a diverse workforce effectively.

Research illustrates organizational success factors in trust, job satisfaction, organizational commitment, and the employee turnover rate.\(^\text{14}\) A study found that perceived fairness in the organizational diversity climate explained a 26.4 percent change in trust, a 26.8 percent change in job satisfaction, a 34.8 percent change in organizational commitment, and a 10 percent change in turnover intention.\(^\text{15}\) The study shows the effects between the impact of a diverse background and these changes in organizational success factors.\(^\text{16}\)

A diverse workforce enhances organizational performance and employee engagement through open discussions that include differing perspectives. Employee engagement will increase as an organization embraces diversity and values such as perspectives based on intellectual capabilities, self-awareness, and broad knowledge from different backgrounds. When presented with a problem, 65 percent of heterogeneous groups produced a high-quality solution compared to 21 percent of homogeneous groups.\(^\text{17}\) The literature further argues that diversity yields superior outcomes over homogeneity as a result of the progress and innovation increases when not solely dependent on a lone thinker.\(^\text{18}\) Despite these findings, there has been no change in the level of discrimination for African Americans in the last 25 years; however, there has been a slight decrease for Latinos.\(^\text{19}\) This suggests a need for additional attention to


\(^{11}\) Sarah Castellano and J.R. Quinones, “How can we Engage Hiring Managers with Diversity and Inclusion?,” Cornell, (2020).

\(^{12}\) Ibid.

\(^{13}\) Natalia Nolan-Flecha, “Next generation diversity and inclusion policies in the public service: Ensuring public services reflect the societies they serve,” (2019).


\(^{15}\) Ibid.

\(^{16}\) Ibid.


\(^{18}\) Herring, 2009.

\(^{19}\) Lincoln Quillian, Devah Pager, Ole Hexe, and Arnfinn H. Midtbøen, “Meta-analysis of field experiments shows no change in racial discrimination in hiring over time,” Proceedings of the National Academy of Sciences 114, no. 41 (2017): 10870-10875.
organizational diversity and inclusion practices to determine the actions that reduce discrimination and enhance diversity in the workplace.

Implementing effective practices in a diverse workforce can improve an organization’s financial performance. The business case argues that a more diverse workforce will produce better business results. Because discrimination in a workplace is prevalent, managers often emphasize affirmative action and Equal Employment Opportunity practices that can lessen the impact of valuing diversity.

The data section of this report, compiled from the Survey of Earned Doctorates (SED), the Integrated Postsecondary Education Data System (IPEDS), and the American Bar Association (ABA), provides current labor force data broken down by citizenship status, sex, race and ethnicity, discipline, and field of study. The data were collected based on the 2010 Capstone report; the data structure has changed in the last 11 years so the data sets available for the capstone have changed. This report provides CRS with several options for using the data to inform workforce planning and recruitment operations.

Definitions

The team used the definitions of CRS and other federal agencies' definitions of diversity, inclusion, disability, and mid-level career positions as well as the United States Office of Personnel Management (OPM) definition of the General Schedule (GS) for its research.

The CRS definition of diversity is “a collection of individual attributes that can be leveraged to help organizations pursue their objectives efficiently and effectively.” This is important to maintain compliance with Library of Congress and the OPM regulations and other relevant policy guidance to provide CRS with effective hiring and management principles to enhance diversity.

The CRS definition of inclusion is “an aspect of workplace culture that connects each employee to the organization; encourages collaboration, flexibility, and fairness; and leverages diversity throughout the organization so that all individuals are appreciated and able to apply their full potential.” The team focuses inclusion research on management principles that applies to the CRS definition.

The team based its hiring research upon the OPM General Schedule (GS) classification and pay system, and the Library of Congress’s Merit Selection Plan (MSP) to ensure that the hiring options presented align with the classification and current hiring process of the Library of Congress. The team seeks to provide options for consideration that have been found to increase diversity and inclusion for CRS.

The team's research focuses on disability regulations, hiring, and management as outlined by the Americans with Disabilities Act of 1990 and the subsequent amendments and revisions to the act. In addition, the team considered the MSP guidelines related to persons with disabilities.

23 Ibid.
24 Ibid.
25 Ibid.
Mid-career research focused on application to GS-12 and GS-13 levels, and examined the literature on both internal and potential external recruiting methods.

Using these definitions, the team reviewed diversity and inclusion management research and the report provides CRS with options for consideration that reflect the values that align with CRS personnel policies.
Hiring

The most important asset of CRS is the people it employs. Each new hire increases CRS’ skills, talents, and experiences. When CRS increases its capacity through new hires, it also increases the expertise and support it can provide to the United States Congress. Such hiring practices can be enhanced with additional measures that increase candidate diversity within the CRS job applicant pool. This section of the report will demonstrate how refining CRS’ current hiring practices with new tools and strategies can assist CRS in successfully increasing its pool of job candidates in a way that promotes diversity and inclusion.

The CRS hiring process is guided by the MSP and is limited to operating within its parameters. Hiring responsibilities and operations include government entities outside CRS, such as the Capital Directorate and Office of Equal Employment Opportunity and Diversity Programs. The current process for CRS hiring consists of posting vacancies, screening applications, structured interviews, and the use of optional assessments in certain situations.

Definitions

Person-job-fit (PJF): Descriptions and evaluation of how well a person will meet the demands of a specific position within an organization. It can be determined through assessments.27

Person-organization-fit (POF): Descriptions and evaluation of how well a person will fit within an organization’s culture. It can be determined through assessments.28

Job Formalization: Description of how a vacant job position is presented, typically guided by federal guidelines and specific legal language.29

Cognitive biases: Mental shortcuts the mind uses when processing large amounts of complex information. These shortcuts may support inherent bias in decision making.30

Recruitment: The process that leads to the selection of the best-qualified candidates. The goal is to identify qualified, diverse interview candidates for all vacancies, and provide an incentive for employees to develop their competencies/KSAs to advance their careers within the framework of the jobs needed to carry out the Library’s mission. Recruitment practices help ensure that all merit selection and promotion applicants are treated equitably and fairly.31

Diversity Manager: A manager who is directly responsible for workforce diversity and inclusion planning and implementation and who enables a better understanding of changing demographic trends.32

28 Ibid.
29 Martin Sievert, Dominik Vogel, and Mary K. Feeney, "Formalization and administrative burden as obstacles to employee recruitment: Consequences for the public sector," Review of Public Personnel Administration (2020).
30 Peng et al., "What you see is what you get? The Impact Of Representation Criteria On Human Bias In Hiring."
31 Library of Congress Merit Selection Plan, June 10, 2005
**Discussion of Literature**

Identifying effective hiring strategies is crucial for enhancing the representation of historically underrepresented groups at CRS. This section will discuss these strategies and how they impact diversity and inclusion, mid-career level employees, and persons with disabilities (PWDs). The literature will also discuss how cognitive bias can influence the hiring process.

**Cognitive bias**

Race, gender, ethnicity, and disability can influence the effects of cognitive bias. Cognitive biases are shortcuts the mind takes when sorting large amounts of complicated information. In hiring and selection, a bias is an inclination against or in favor of a group of people. Bias can lead to discrimination or favoritism, and even those who have the best intentions in terms of inclusion and diversity can be influenced by unconscious biases. These biases can come into play when hiring managers need to sort through dozens of applications for a single vacancy. Gender bias in hiring can come from various sources including the natural distribution of candidates, bias in what is presented to the decision-maker, and human decision-making itself. Balancing the gender slates can be correct for some professions where the world distribution is extremely skewed. This finding suggests that a lack of gender diversity in some professions may simply be due to the lack of diverse candidates in the hiring pool rather than from inherent biases in hiring. Biographical characteristics of the decision-maker, such as gender, can impact the hiring outcome. This is why aggregate unbiased decisions are sometimes superseded by opposite biases from decision-making genders.

Lastly, research highlights effective practices for targeting historically underrepresented groups in recruitment and selection. The relationship between diversity messages on organization websites and job appeal to diverse, prospective applicants is well-documented in the private sector. Addressing issues of diversity within the job listings, ensuring that the diversity mission statement is displayed, and assessing the extent to which diversity is portrayed have been identified as practices that enhance the organization's attractiveness to a more diverse job pool.

**Recruitment and selection procedures**

Effective recruitment and hiring practices include using diversity managers, plain language and widely disseminated job advertisements, and recruitment campaigns targeting diverse populations. By using the data collected, CRS will better identify how it can best implement new recruitment strategies to increase diversity within the job applicant pool.

Assigning responsibility to diversity managers is an important step toward enhancing diversity. More specifically, including diversity managers within the hiring process is paramount to creating a diverse and inclusive organization. Two critical barriers to the effectiveness of diversity managers have been identified: structural status, and ideological divides between those responsible for overseeing diversity recruitment and those who have the power to make hiring decisions, and widespread organizational cultural beliefs among decision-makers that diversity is not an essential signal of merit. These findings suggest that solely having the written goal to create a more diverse and inclusive organization is

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33 Peng et al., “What you see is what you get? The Impact Of Representation Criteria On Human Bias In Hiring.”
34 Ibid.
35 Ibid.
37 Ibid.
insufficient to enhance the hiring of historically underrepresented groups. Instead, actual success requires diversity managers to possess formal organizational authority and sufficient power and informal status to be influential in decision-making in the hiring process.\textsuperscript{39}

Research shows that formalization of public sector job advertisements, or the extent to which rules, procedures, instructions, and communications are written into job ads, can send a negative signal to job applicants leading to lower application numbers. Many public sector job advertisements are written in the form of complicated legal language, double wording, and excessive length. Further, the recruitment processes of public organizations are often lengthy and cumbersome. Instead, organizations should emphasize the positive aspects of public sector work that are often not well known by the applicant, such as shared public service values, interesting work, and job security.\textsuperscript{40} Furthermore, posting job advertisements on multiple hiring platforms could assist in the recruitment process. According to the literature, other suggestions include communicating inspirational messages, a focus on personal benefits, and intrinsic and extrinsic job attributes in job advertisements.\textsuperscript{41}

Considering person-organization fit (POF) and person-job fit (PJF) in the hiring process can increase retention rates. A person’s job fit is the compatibility between a person and job performance, and person-organization fit matches an individual’s and organization’s culture. Utilizing these concepts, management within an organization will effectively recognize its own culture as it fits or needs to change to include the new employee and how the organization’s future needs will be affected by such employment.\textsuperscript{42} Research shows that employee job performance is significantly and positively correlated with PJF at 78 percent and POF at 65 percent.\textsuperscript{43} The long-term economic effects of POF and PJF are congruent with retention and employee turnover rates. According to research, utilizing POF and PJF helps increase retention by approximately 67 percent.\textsuperscript{44} Research shows that one of the main reasons existing employees’ job loyalty decreases as employees increasingly transfer jobs is the manager’s inability to match their capabilities accurately with an assigned role.\textsuperscript{45} Being transparent about the responsibilities and functions in a vacancy announcement can be a solution to eliminating the hurdle of mismatching jobs to employees.

**Mid-career level**

Current research on external hiring practices for mid-level career personnel is limited. Existing literature on the subject primarily focuses on the private sector and consists of quasi-academic and non-academic sources. Current academic research has focused on internal practices regarding management at the mid-career level. As such, organizations seeking to bolster their mid-career level numbers should focus on supportive practices that aid in retaining mid-career employees. Such practices include increasing advancement opportunities and implementing mentorship programs.

A study from the General Accountability Office (GAO) about employment at the U.S. Agency for International Development (USAID) indicates that on average, White males spend less time at the entry-level and mid-career levels than minority groups and receive quicker career advancement opportunities

\textsuperscript{39} Ibid.
\textsuperscript{40} Ibid.
\textsuperscript{41} Ibid.
from upper management. This results in a discriminatory barrier that harms minority groups. Discrimination has led to lower retention rates and a lack of diversity within organizations at the mid-career level. This leads to relatively homogeneous leadership that lacks diversity. A more diverse and inclusive workplace that promotes diversity at all levels of the organization can be achieved by removing barriers for underrepresented groups of mid-career employees and by promoting retention practices such as internships and increased opportunities for advancement for underrepresented groups within the organization.

Disability

Managers and senior leadership can misunderstand the disability community and rely on inaccurate stereotypes. People in management positions tend to believe that PWDs cannot fulfill the basic requirements of a job without accommodations. Furthermore, such accommodations are routinely and inaccurately perceived to be overly burdensome.

Under Section 503 of the Rehabilitation Act of 1973, Congress mandated affirmative action measures to improve the hiring of PWDs in the federal government. As a result, the Schedule A Hiring Authority, or the Selective Placement Program (SPP) as used by the Library of Congress was developed. However, in recent years, it has been found to begin to slip in its primary goal, evidenced by a reduction in federal employees with targeted disabilities by 14.42 percent between 1998 and 2007. Many PWDs choose not to disclose their condition out of fear that such information will result in a significant reduction in the likelihood of being hired. Such data is kept separate from applications, but this is not always made clear during the application process. The literature shows such disclosure has reduced hiring rates worldwide when comparing those who disclosed that they have a disability, even without specifying that disability, to those who did not disclose or do not have a disability. The barriers against the disability community within the hiring process are far worse than simply disclosing one’s disability status. Women with disabilities experience additional negative effects due to being discriminated against based on their gender. The most feasible option for consideration is to increase marketing directly to PWDs for positions within CRS and highlight the SPP for non-competitive appointments.

CRS Constraints

It is important to recognize that CRS is a well-established agency with guidelines and systems in place. Therefore, not everything reviewed in the literature on hiring practices will apply to improving diverse and inclusive hiring rates at CRS.

CRS operates under the hiring practices required by the federal government and MSP. As such, CRS can implement additional hiring practices so long as they fall within the parameters of the MSP. The MSP allows for optional tests such as simulations and knowledge tests. These tests are optional and typically only used at the end of the hiring process to break a tie between final candidates. If new tests are added to

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50 Ibid.
the hiring process, they must be validated by the Human Capital Directorate. If further hiring tests are implemented to find candidates with high POF and PJF, it is important to keep the tests and assessments highly structured and focused on the organization's goals. When POF is evaluated in potential candidates, it is easy to conflate it with 'does this person fit our culture' when it should be 'does this person align with the organization's goals.' Additionally, CRS may be limited in how it can modify job postings and advertisements to make them less formal. Furthermore, CRS can do little to prevent cognitive bias under current federal guidelines.

**CRS Options**

Research suggests that organizational diversity and inclusion strategies would benefit from quantifiable measures to track progress to assess current and new hiring and recruitment practices. In addition, the involvement of diversity managers in the hiring and recruitment process would ensure diversity and inclusion goals are achieved.

**Assessment tools**

CRS has the capability within the MSP to introduce new tools within the hiring process to better fit possible applicants to positions and see if they are a fit for the organization as a whole, so long as the Human Capital Directorate validates such assessments. It would benefit CRS to evaluate current and possible organizational structures and systems to ensure they align with the CRS Strategic Diversity and Inclusion Plan. Assessment tools used in the hiring process under the MSP are optional and, as such, are not regularly used unless the selecting official believes they would be beneficial. CRS could use such tools earlier in the hiring process before interviews to better assess candidates that make it through the early hiring phases. Adding cognitive and personality assessments could further assist CRS in hiring. Using such tools earlier in the hiring process would greatly assist in determining which job candidates best fit the organization.

Furthermore, the use of assessments that determine a person’s job fit can provide another layer of strength in the hiring process for CRS. Placing individuals in a position that best fits them benefits the organization altogether. Selecting candidates through the addition of these assessments will provide a qualified pool of diverse candidates that will bring the maximum contribution and potential for the organization in achieving its strategic goals. Compared to employees with a good fit and organization fit, research shows that highly qualified individuals tend to be less productive and have lower retention rates if they do not fit the job best or the organization well.

**Plain language**

While many of the procedures within the MSP hiring process are required, CRS could use plain language in job postings. Decreasing the formality of these job postings could help CRS increase the number of applications within their candidate pool. Cognitive biases affect the hiring process in many organizations; CRS can indirectly minimize its effects by targeting certain demographics through recruitment to maximize the number of diverse applicants. The demographic information can be acquired within the Data section. Options provided by research for CRS to increase mid-level career hiring are limited. As such, CRS could focus on increasing internal advancement opportunities for employees within the parameters of the MSP. Another way CRS can increase the diversity of its employee candidate pool is

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54 These would be developed in line with any Collective Bargaining Agreements.

through the SPP. It could be beneficial for CRS to utilize the Library's SPP with a quantifiable way to increase diversity directly.

The CRS diversity and inclusion strategy can increase the diversity of its application pool by slightly altering the pre-established hiring system. By refining the hiring practices above in conjunction with the MSP, the CRS can strategically maximize the number of candidates within its application pool who best fit CRS culture and vacant positions while targeting underrepresented populations. The overarching result is a more inclusive and diverse CRS with knowledgeable employees who can better serve the United States Congress.
Retention

Well-managed diversity and inclusion can be the difference between high employee retention rates and low employee retention rates. After hiring diverse, qualified candidates, the goal of most organizations is to retain a talented workforce and its knowledge for as long as possible. Increased retention results in a more diverse workforce, higher employee engagement, and decreased hiring costs for replacing lost talent.⁵⁶ (See appendix D for estimated hiring costs). This section will demonstrate that CRS can increase employee retention to support and maintain a diverse workforce throughout CRS.

Definitions

Retention: Retention is an organization’s ability to keep employees for a long period of time by promoting them within the organization.⁵⁷

Stay interviews: Stay interviews are short interviews completed by current employees to gauge employee attitude and satisfaction with a job which informs efforts to keep the employee from leaving the organization.⁵⁸

Discussion of Literature

This section looks at literature topics that address retention as an issue and ways to increase retention. With increased retention rates, an organization can lower turnover costs and retain a talented workforce. Actionable strategies to retain employees include training, stay interviews, mentorship, mid-career development, and disability development.

Training

Effective training has a specific goal that enhances employee knowledge, capabilities, and skills for completing a particular task to improve performance. With more complex jobs, employee development becomes more important to adapt to a rapidly changing society. Additionally, training develops attitudes that can help employees work in a diverse setting through a learning experience that enables greater skills and capabilities.⁵⁹ Successfully valuing diversity in a workplace requires a direct investment of time, energy, and financial resources devoted to this new development by an organization.⁶⁰ Moreover, the literature suggests that a trained employee can help produce high-quality products and services in a shorter time.⁶¹ Organizations should offer additional and new training whenever there is an identifiable change in the environment of procedures, processes, and work methods.⁶²

Training programs can be designed to fit an organization’s specific needs, building positive relationships between training activities and organizational performance.⁶³ The training programs should fill

See Appendix D for an example of potential hiring costs.
⁶⁰ Sue, 1991.
identifiable organizational gaps, such as technological improvements and communication skills, to design creative courses and practices for an organization. The literature suggests that marketing training can be grouped into mandatory and optional categories contingent on the organizational culture.\textsuperscript{64} However, according to the literature, employees now consider additional training as an opportunity benefit instead of a burden.\textsuperscript{65} The mandatory training requires employees to participate, which provides more benefit to the organization than the employee, though the employee also benefits. Mandatory training commonly covers policy, procedure, H.R. situations, and legal requirements that protect the organization’s liability.\textsuperscript{66} Managers and employees must receive mandatory training to understand the organization’s operations effectively. Training benefits include both organizational and employee benefits; employees have an incentive for promotion and on-the-job satisfaction, while the organizational climate and culture improve.

There are barriers like time, budget, and expertise to train a diverse workforce; if required, mandatory training will increase the changes in demographics. Resources can be directly allocated from the organization to effectively train its employees, which will benefit the organizational success to create a productive environment and increase retention. Continuous training in an organization is crucial because it sets the foundation for the expectations and culture of the organization that can reflect the performance in each stage of the employee tenure. There are many directions an organization can take to have a training program designed to fit the needs of the organization and employees that will include mandatory and optional training. The optional training will help employees, while the mandatory training prioritizes the organization’s benefits, both will benefit each. There are measurable outcomes to have in place to acknowledge if the training is practical or should be altered; despite that, training reflects an organization’s commitment to appreciate diversity.

**Stay interviews**

Organizations that are proactive in conducting employee satisfaction surveys will have higher retention rates because they are more aware of culture and employee satisfaction. Exit interviews are commonly used to understand why an employee is leaving an organization, but stay interviews are a proactive tool to keep employees from leaving an organization. An employer does not have to ask an employee why they are leaving if they gather data and fix the problem before they decide to leave. A stay interview is simply a short interview done with current employees. Research shows that managers are more likely to know what motivates an employee to stay or leave a company by proactively collecting employee data before they are in the exit interview phase.\textsuperscript{67} There is often a discrepancy between what employees are motivated by versus what employers think motivates employees. Employers or managers think employees value pay the most and interesting work the least. In contrast, employees value interesting work and an appreciation for work the most and good pay the least.\textsuperscript{68}

Literature shows that the setup and design of a stay interview are just as important as the answers because the setup can make an employee feel comfortable giving a candid response to the questions.\textsuperscript{69} There are two reasons for a stay interview. First, when an employee’s insight and thoughts are sought out, it makes them feel valued. Second, it gives employers insight into their organization’s culture and allows them to fix problems before employees leave.

\textsuperscript{64} Uma, 2013.
\textsuperscript{65} Ibid.
\textsuperscript{66} Ibid.
\textsuperscript{68} Ibid.
**Mentor program**

Mentor programs can make employees feel included and increase retention because they feel valued by the organization. When managers are working on retention programs, it is important to remember that employees rarely see compensation as a reason to leave an organization. For example, a Gallup poll found that only twenty-two percent of employees say compensation is a factor when deciding to stay or leave an organization. Instead, research shows that mentorship programs are more likely to determine if an employee feels included in an organization and, therefore, will want to stay. CRS has a well-established mentorship program for new hires, includes monthly meetings and is mentee-driven. Research shows that employees want to be valued and feel like they are doing meaningful work. This value can come from the work they are doing and from a sense of belonging in an organization's culture. Although mentorships are an excellent way for new hires to understand their organization, mentorship programs at all levels can provide a personal and professional sense of value and development within organizations.

Mentorship programs are an opportunity to give employees a sense of belonging, value, and increase their understanding and appreciation of diversity within the organization. Research shows that when a mentorship pairing is heterogeneous (a minority and a majority pairing), the outcomes are increased knowledge, empathy, and skills of diverse groups. Mentorship programs also offer career and psychosocial development opportunities for both the mentee and the mentor when the mentee and the mentor determine the specific goals of the relationship. Research suggests that it is best when the mentee and mentor decide on these goals together, and then they track their progress together. It is difficult for a mentee to determine their goals for the mentorship because they are new or less experienced than the mentor and do not know what they do not know. A structured and mentor-guided relationship makes the mission, goals, and role of the participants very clear. Without this, there can be ambiguity between the mentee and mentor, and the ambiguity can distract from the entire purpose of the mentor program. Lastly, mentorship programs can benefit employees at all levels of an organization and specifically improve the retention numbers of mid-level employees.

**Mid-career level**

One of the more overlooked populations in organizations is the mid-career level. A contributing factor could be that most organizations place emphasis on entry-level personnel. On the surface, this is logical, as new organizational members require support to acclimate to the organization. Entry-level members also may have little work experience, which contributes to the need for increased support. Organizations tend to discount the needs of their mid-career employees as they have already assimilated into the organization and those entering into mid-career positions have increased support. In reality, having a hands-off approach to mid-level career personnel is harmful to an organization.

Research has shown that the best way to retain and increase mid-career employment is to focus on internal practices that increase support for mid-career employees. Those entering mid-career positions

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72 Saurabh Roy, "Developing Effective Diversity and Inclusion Culture within an Organization," In *Creating a Culture of Diversity and Inclusiveness in India Inc*.
74 Ibid.
have increased support. Research has shown that such practices increase retention and work production. Research has shown that the best way to support mid-level career employees is through an expanded mentorship program. In this expanded program, upper management would mentor mid-level career employees. Mid-career mentoring also allows mid-career employees to gain new skills used in upper management. It also opens the door to allow mid-career employees to gain better promotion opportunities.

Disabilities
The most critical methods for retaining employees with disabilities are quite similar to those for other groups; however, the provision of accommodations is one major difference that is especially applicable in improving inclusion and upward mobility within the organization.

In order to make PWDs feel welcome, some options include specifically highlighting their achievements and celebrating their differences without describing them as different from any other employee. One straightforward option for accomplishing this is to regularly highlight the accomplishments of all employees throughout the organization, especially seeking to promote those of all minorities and PWDs.

Feeling included is key to feeling comfortable enough to request accommodations. Employees who feel comfortable enough to disclose their condition(s) are more likely to review accommodations. Many PWDs choose not to disclose as a result of the stigma that surrounds disabilities and the people that live with them. Without such disclosure, PWDs cannot access accommodations. Once receiving the accommodations, they are much more likely to stay with the organization.

CRS Constraints
CRS is a well-established agency that has set guidelines and systems in place. Therefore, not everything reviewed in the literature on employee retention will apply to improving retention rates at CRS.

First, not all positions can continuously be promoted within CRS. According to the General Schedule hiring system, certain job positions at CRS are not eligible for promotion beyond a certain point without more education or an appointment. This situation limits diversifying CRS at the mid-career level from the bottom up. Second, CRS has a mentorship program for new hires. This program can include monthly meetings, is mentee-driven, and is primarily a professional relationship between mentor and mentee. A mentee driven program puts the mentee in a power differential position with their mentor. This can result in the mentee being scared to reach out to a mentor for fear of wasting their time or other reasons. The main purpose of the CRS mentorship program is to help new hires integrate into CRS within their first year of work, but because they are new hires they do not know what they do not know. Therefore, a mentee driven mentorship program limits the benefits of mentorship like guidance, answered questions, consistent time together, and creating a sense of inclusion. Lastly, CRS can only help people with

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78 Ibid.
disabilities when people self-identify their disabilities. In order to receive accommodations, employees must feel comfortable enough to disclose their condition(s), and many PWDs choose not to disclose as a result of the stigma surrounding disabilities and the people who live with them. Without such disclosure, PWDs cannot access accommodations.

**CRS Options**

**Required training for managers**

Mandatory training requires employees to participate in structured learning opportunities for organizational policy and goal development. These trainings commonly cover policy, procedure, H.R. situations, and legal requirements that protect the organization’s liability.\(^{81}\) Although these are important issues within any organization, they are practically important for managers to know for their teams. Mandatory training is often viewed as cumbersome to those required to attend. Training delays work that is deemed necessary for employee and employer benefit. Although training is often a great learning opportunity for all employees, they are more effective when targeted towards managers because managers are pivotal in prioritizing diversity and inclusion within their teams.\(^{82}\) Therefore, if CRS wants to have mandatory training, the most benefit would come from requiring managers and other leaders to attend. Also, adding D&I to performance evaluations could incentivize managers to prioritize training.

**Expanding the mentorship program**

An expanded CRS mentorship program would help increase employee inclusion and therefore increase retention rates. Mentorship programs offer career and psychosocial development opportunities for both the mentee and the mentor when the specific goals of the relationship are determined.\(^{83}\) Research suggests that it is best when the mentee and mentor decide on these goals together, and then they track their progress together.\(^{84}\) It is difficult for a mentee to determine their goals for the mentorship because they are new or less experienced than the mentor and do not know what they do not know. A structured and mentor-guided relationship makes the mission, goals, and role of the participants very clear. Without this, there can be ambiguity between the mentee and mentor, and the ambiguity can distract from the entire purpose of the mentor program.

An expansion and slight restructuring of CRS’ mentoring program, including all employees, would increase inclusion and, therefore, retention among CRS employees. A highly structured and goal-oriented mentorship program takes time, but the culture of CRS would benefit immensely from it.

**Stay interviews**

Stay interviews could help CRS gather information about their employee’s thoughts, inclusion levels, and reasons for staying or leaving a job before the employee decides to leave. The setup and design of a stay interview are just as important as the answers because the setup can make an employee feel comfortable giving a candid response.\(^{85}\) A quality stay interview setup looks like the interviewer listening more than

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\(^{81}\) Uma, 2013.


they talk, caring about the employee’s response by asking follow-up questions, and taking thorough notes to capture emotion and important insights.

By implementing stay interviews at CRS once a month or quarterly, CRS could better collect employee feedback and information on inclusion levels within the culture. Stay interviews are not meant to take much time from employees or feel cumbersome. Short and direct stay interview questions help avoid fatigue among employees. The implementation and tracking process would be the most time-consuming, but after implementation, the process is very consistent and easily replicated. *An example and guide to stay interviews are included in Appendix A.*

The goal of requiring managers to go to training, expanding the mentorship program, and implementing stay interviews is to grow and strengthen a culture of diversity and inclusion at CRS.
Measurement & Evaluation

The diversity and inclusion goals of CRS benefit from a data-driven measurement and evaluation process. CRS diversity and inclusion goals are benefited by a measurement and evaluation system that examines how effective diversity and inclusion strategies currently are and how best they could be helped moving forward. This section will examine the importance that a data driven measurement and evaluation has on organizational diversity and inclusion strategies and goals by examining researched literature and how that literature could apply to CRS.

Discussion of Literature

The literature suggests that establishing a trackable, structured, detailed measurement and evaluation system is integral to an agency for tracking employee skill and knowledge development. These systems analyze the effectiveness of the listed measurement and evaluation strategies and plans. The literature aims to outline who holds responsibility within an organization for conducting measurement and evaluation, how it could apply to diversity and inclusion, and what post-then-pre assessment training could do.

Assigning responsibility

Assigning responsibility to D&I senior leaders and middle managers could benefit an organization. Once established, implementing initiatives and tracking progress could result in better outcomes from diversity training and evaluations, mentoring, and networking. Further, research has shown that the presence of a diversity manager produces several pro-diversity effects across job postings and ladders for internal advancement. Managers are more inclined to think deeply about their actions when they know their management practices are being monitored. This deeper thinking could reduce bias in hiring.

Small organizations in the public and private sectors may choose to assign a staff position to oversee diversity initiatives at the organization. Organizations with full-time staff for implementing diversity programs and tracking outcomes see significant increases in the odds for White women, Blacks or African American women, and Black or African American men to be managers. However, balanced staff representation from different demographic groups within departments is necessary as women and minorities are often overrepresented in diversity initiative groups. This goal implemented in conjunction with diversity management practices is an effective strategy for enhancing diversity.

Diversity

Measuring diversity appears straightforward, but the setup is as important as the measurement. The best practice metrics could help identify blind spots within an organization. Measuring recruitment, selection, promotion, development, pay, benefits, and employee engagement help organizations identify gaps between goals and actual performance. After identifying specific metrics, an organization can set goals...
and targets for diversity, then track and monitor the progress of the goals and report the results. Consistent reporting keeps an organization accountable for the goals and targets established. Measuring and tracking the progress of diversity within an organization does not benefit an organization if there is no measurement of inclusion.

**Inclusion**

While measuring diversity is a little more straightforward, measuring inclusion in an organization’s workplace culture is challenging. Organizations that measure and track their goals keep management accountable for fulfilling the mission statements. Hiring diverse candidates is insufficient. Measuring inclusion is a much more qualitative process and requires more time to interpret the results. Establishing questions for self-assessments is a practical way to measure inclusion because inclusion is about personal behavior. However, self-assessment questions must be in conjunction with peer member assessment questions. Organizations could receive better answers when questions about employee attitude, community engagement, and satisfaction are asked.

**Training (post-then-pre assessment)**

A post-then-pre assessment records information learned, information that could be utilized in work operations, and how helpful training was for employee training attendees. Post-then-pre assessments are unique to the measurement and evaluation process. Training feedback structures typically focus on separate before and after knowledge assessments. Organizations administer post-then-pre assessments after training to record how the level of knowledge learned has changed, how the training has assisted the employees, and how employees’ work knowledge could increase. The structured format provides managers with evaluation measures on knowledge learned and the amount of improvement the training provided employees. Those measures could be applied while developing future training emphasis areas at an agency-wide level.

The post-then-pre assessment model increases feedback potential for managers through increased emphasis on developing the purpose of the training and how training attendees could utilize their new knowledge in the agency. This process also emphasizes engagement from all levels within an agency as managers become engaged through information obtained from establishing training, developing training questionnaires, and receiving employee feedback. Employees who attend training receive the benefits of increased knowledge and awareness while also developing their workforce skill sets. This methodology could also provide more accurate results on the effects of training. Employees who participate in training could have decreased tendencies for response shift biases. These factors provide

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92 Ibid.
95 Singh, 2021.
100 Geldhof et al., "Revisiting The Utility of Retrospective Pre-Post Designs: The Need For Mixed-Method Pilot Data."
101 Ibid.
more structured training feedback that an agency could utilize in fulfilling agency values, goals, missions, and awareness.

**CRS Constraints**

When implementing these practices, potential constraints for CRS include limited available information, data storage, the time requirements to record and measure data, and the required time for managers to conduct and review data. In the next section, these limitations are acknowledged, and several options for consideration are provided.

**CRS Options**

CRS options to increase trackable and measurable decision-making for diversity and inclusion in this stage of the report includes diversity, tracking while utilizing post-then-pre training assessments and hiring a diversity manager.

**Diversity tracking**

Establishing metrics that track the number of applicants and the effect of job description formalization could assist the implementation of CRS’ diversity and inclusion policies.  

103 The CRS Diversity and Inclusion Strategy’s vision is that CRS will be an employer of choice known for its diverse and inclusive culture – one that respects and values the unique attributes of each employee.  

104 By establishing the suggested metrics in the evaluation process, CRS can hire recruiters to organize college recruitment events and examine which colleges or events increase the number of applicants for open positions. CRS recruiters then can analyze the number of applicants received on a given job posting before and after a recruitment event. Not incorporating evidence from the measurement and evaluation process increases the likelihood of cognitive biases.  

105 The hiring recruitment strategy would increasingly make hiring decisions based upon evidence from data gathered during previous events.  

106 The measurement and evaluation system keeps recruiters and supervisors engaged in hiring goals and measures established either with college recruitment or formalization of job applications.  

107 Additionally, this works within CRS operations as CRS has recruiters who could track the number of applicants for positions. This information provides hiring measurements data on where CRS stands in the pursuit of its diversity vision strategy and measures the effectiveness of recruitment events.

Likewise, measurement and evaluation assist in retaining diverse employees at CRS. CRS could utilize measurement and evaluation within its mentorship programs, administered by a post-then-pre assessment in mentor and mentee meetings. Additionally, responses to stay interviews could provide insight into the strengths of retention and inclusion policies within CRS and areas of consideration for improvement. The use of stay interviews could assist supervisors within CRS on retention policies by gauging what they look forward to in their work responsibilities and if there was a job responsibility that frustrated them.  

108 Supervisors receive feedback and data from stay interviews on how well CRS promotes a diverse working environment. Employees meanwhile feel the value of providing feedback that would be acted upon,

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103 Martin Sievert, Dominik Vogel, and Mary K. Feeney, "Formalization and administrative burden as obstacles to employee recruitment: Consequences for the public sector," Review of Public Personnel Administration (2020).


106 Ibid.


something that also retains a diverse workforce.\textsuperscript{109} An example and guide to tracking diversity is included in Appendix B.

The development or use of these options in retention policies could increase diversity and the feeling of importance and belonging among CRS employees.\textsuperscript{110} Over time, the metrics chosen in the measurement and evaluation can alter depending on need or want. Additional metrics could include the selection process, promotions, pay, benefit packages, and employee task engagement which could help CRS better assess where potential blind spots are or where CRS is successful in diversity and inclusion initiatives.\textsuperscript{111}

**Inclusion tracking**

It is possible to be a diverse agency but not be an inclusive one.\textsuperscript{112} The CRS Diversity and Inclusion Strategy indicates that the agency seeks to consistently promote a culture of inclusion backed by innovative research and strong communication methods.\textsuperscript{113} To ensure a culture of inclusion is promoted and pursued in the organization, the usage and distribution of one-on-one qualitative assessments provide the necessary analysis needed to examine how inclusive a workplace is.\textsuperscript{114} While this methodology for measuring inclusion could be time-consuming, the benefits outweigh the time needed. If incorporated with other options for consideration, the time requirements to measure inclusion policy effectiveness decreases. The one-on-one assessments could be the most effective measurement and evaluation tool and the least prone to biases.\textsuperscript{115}

Self-assessment surveys suffer from an increased chance for response shift biases, as employees could overinflate answers for a better personal outcome.\textsuperscript{116} From an employee perspective, this could mean that supervisors are receiving faulty data results about inclusion. Additionally, supervisors can also fall into overconfidence biases as responses are skewed based upon the results they receive from employees or personal feelings a supervisor includes.\textsuperscript{117} The one-on-one assessments could be more accurate if a mentor conducts the assessment as a mentee would be more familiar with their mentor.\textsuperscript{118} CRS already has an established diversity and inclusion working group and a mentoring program, which could assist in the one-on-one interview process on judging inclusion at CRS. The positive impact of this could be that CRS supervisors and members of the diversity and inclusion working groups hold a greater understanding of where inclusion stands within CRS and what measures further aid an inclusive workforce. The feedback provided by the one-on-one interview method additionally assists the mission of the CRS Diversity and Inclusion Working Group, providing the communication and research methods that the working group seeks. An example and guide to tracking inclusion is included in Appendix B.

**Post-then-pre training assessments**

Using a post-then-pre training assessment could provide CRS with increasingly accurate feedback in the measurement and evaluation process of training and awareness programs.\textsuperscript{119} While other training assessment methods provide feedback to supervisors, they come with inaccurate data results distorting the

\textsuperscript{109} Gallup, 2022.
\textsuperscript{110} Finnegan, The Power of Stay Interviews for Engagement and Retention.
\textsuperscript{111} Singh, 2021.
\textsuperscript{112} Ibid.
\textsuperscript{114} Ibid.
\textsuperscript{115} Ibid.
\textsuperscript{116} Klatt and Taylor-Powell, "Synthesis of Literature Relative to the Retrospective Pretesst Design."
\textsuperscript{117} Singh, 2021.
\textsuperscript{118} Ibid.
\textsuperscript{119} Daniels, Response Shift Bias: An Examination of Measurement Invariance in Self-reported Change.
potential benefits of training.\textsuperscript{120} Training assessments conducted before and after training are subject to response shift biases which distort the accuracy of the information a supervisor receives.\textsuperscript{121} Therefore, a supervisor could be receiving the opposite information about how effective a particular training or awareness campaign was and will continue to provide less helpful information to employees unknowingly. A post-then-pre assessment model conducts its assessments following the conclusion of the training or awareness program.\textsuperscript{122} The potential benefits from such an assessment model are increasingly accurate information that supervisors can act upon and a simplified and less time-consuming data collection process.\textsuperscript{123} These potential benefits provide agency-wide impact if implemented. From a supervisory position, CRS senior leaders and middle managers receive increasingly accurate information from training or awareness campaigns which allow for training adjustments when needed.\textsuperscript{124} That feedback is valuable from an employee perspective as skill development is a top factor in their satisfaction working with an organization.\textsuperscript{125} In the context of CRS, training targets for supervisors and middle managers assist senior-level executives with beneficial management training for diversity and inclusion. By adopting a post-then-pre training assessment model, CRS could strengthen its Diversity and Inclusion Strategic goals at the supervisor and employee level, backed by evidence-based measurement and evaluation. \textit{An example and guide to post-then-pre assessments is included in Appendix C.}

\textbf{Hiring a diversity manager}

Hiring a diversity manager at CRS would assist in implementing and monitoring the diversity and inclusion track and post-then-pre training assessments. If CRS were to hire a diversity manager, the manager should have the autonomy to make D&I recommendations. The benefits received from such a position could include increased prioritization of D&I responsibilities between senior executives and middle managers and increased training success.\textsuperscript{126} Additionally, the diversity manager at CRS would not change the responsibility that senior executives or middle managers already have with diversity and inclusion. Instead, a diversity manager would assist executives and managers with effective D&I strategies.\textsuperscript{127} All while assuming autonomy and monitoring the recommended measurement and evaluation options for consideration.

Having measurable information to make evidence-based decision making provides increased performance of diversity and inclusion efforts by tracking CRS by utilizing diversity tracking, inclusion tracking, post-then-pre testing assessments and hiring a diversity manager.

\textsuperscript{120} Alexander Buhmann, Fraser Likely, and David Geddes, "Communication evaluation and measurement: connecting research to practice," Journal of Communication Management (2018).
\textsuperscript{121} Klatt and Taylor-Powell, "Synthesis Of Literature Relative to the Retrospective Pretest Design."
\textsuperscript{122} Swenson et al., "Insights From Industry Leaders: A Maturity Model for Strengthening Communication Measurement and Evaluation."
\textsuperscript{123} Davis, "Using a Retrospective Pre-Post Questionnaire to Determine Program Impact."
\textsuperscript{127} Ibid.
Data Report

CRS can use the applicant pool data to improve its workforce planning and hiring initiatives for those in historically underrepresented groups. Specifically, CRS is interested in hiring historically underrepresented groups from several disciplines and levels of education based on the vacancies available. While the accessible data is limited, the team was able to use similar databases in the 2010 Mumpower to provide an analysis that can be useful for CRS during the hiring phases.\textsuperscript{128}

Higher education enrollment and graduation data understand the body of scholars receiving education in a number of fields with the enrollment of students in doctorate, masters, and law degrees tailored to the interests of CRS. Changes in the characteristics of this population over time reflect political, economic, social, technological, and demographic trends, including the increase of represented minorities, the emergence of new fields, changes in the doctoral education time completion and postdoctoral pool. Understanding these connections is necessary to make informed hiring about the pool availability for CRS.

This section outlines the data collection methodology, data analysis, relevant definitions, and options for consideration for CRS, which can be applied to workforce planning and future hiring practices. The data included in this report provides an updated overview of disciplines, fields of study, and demographic information, including from the IPEDS database, with the top doctorate-granting institutions for those receiving doctorate and law degrees in the United States that is supplemental to the 2022 capstone report.

Definitions

The team utilized the Survey of Earned Doctorates (SED) definitions to thoroughly identify how diverse groups are defined.\textsuperscript{129}

**S&E:** Abbreviation used to describe the general fields of science and engineering.

**Non-S&E:** Abbreviation used to describe the general fields unrelated to science and engineering.

**Minority:** Racial populations that are of non-White/Caucasian descent.

**Blacks or African Americans:** A person having origins in any of the black racial groups of Africa (except those of Hispanic origin).

**American Indian or Alaska Natives:** A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community recognition, including Alaska Natives.

**Asian:** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent. Native Hawaiians or Other Pacific Islanders were included in this category.

**Hispanics or Latinos:** A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.


\textsuperscript{129} National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, Definitions, November 30, 2021.
White: A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin). Others include those who did not indicate a racial group and those who chose more than one race.

Field of Study: The SED has 336 fine fields of doctoral study, which are grouped into 35 major fields of study. The major field groupings are further aggregated into eight broad fields: life sciences, psychology, social sciences, physical sciences and earth sciences, mathematics and computer sciences, engineering, education, humanities and arts, and other fields.

The levels of this variable were derived by grouping related fine fields of study from the field of study taxonomy used in the SED. Doctorate recipients indicate their fields of specialty. Their choices may differ from departmental names. Field groupings may differ from those in other reports published by federal sponsors of the SED. The “general” field categories (e.g., “chemistry, general”) include individuals who either received a doctorate in the general subject area or who did not indicate a particular specialty field. The “other” field categories (e.g., “chemistry, other”) include individuals whose specified doctoral discipline was not among the specialty fields listed. The data listed below follow the same approach.

Workforce Planning: The foundation for managing an organization’s human capital and furthering its ability to hire qualified individuals to pursue its mission; A systematic process for identifying and addressing any gaps between an organization’s available workforce and its human capital.

Methodology

The methodology section discusses how the team gathered and organized the data to reflect the interests of CRS regarding disciples and education level based on race, gender, and citizenship status. There are limitations to the available data that are further demonstrated in the data collection.

The Survey of Earned Doctorates (SED) is an annual census conducted since 1957 by the National Center for Science and Engineering Statistics (NCSES). It consists of data from all individuals receiving a doctorate from an accredited U.S. institution in a given academic year. The NCSES is housed within the National Science Foundation (NSF) and sponsored by three other federal agencies: the National Institutes of Health, the Department of Education, and the National Endowment for the Humanities. The SED collects information on the doctoral recipient’s educational history, demographic characteristics, and post-graduation plans. Data within the SED are used to assess features of the doctoral population and trends in doctoral education and degrees. Specific data on doctorate-granting institutions, demographic information and citizenship status of doctorate awardees, the field of study, and other relevant data were compiled using the SED.

The Integrated Postsecondary Education Data System (IPEDS) is a collection of interrelated surveys conducted annually by the National Center for Education Statistics (NCES). These surveys gather information from every college, university, and technical institution that participates in the federal student financial aid programs, although institutions not eligible for federal student aid may request to be part of IPEDS. They include data describing the essential characteristics of institutions, enrollments, degree completions, graduation rates, and other outcome measures, faculty, staff, finances, institutional prices, student financial aid, admissions, and academic libraries. Institutional characteristics, completions, and 12-month enrollment data are collected in the fall; data for student financial aid, graduation rates, admissions, and outcome measures are contained in the winter; data for human resources, fall enrollment, finance, and academic libraries are collected in the spring. Not all data is available for all years. Data

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130 National Science Foundation, National Center for Science and Engineering Statistics, Survey of Earned Doctorates, n.d.
fields may not be consistent with those in the 2010 Mumpower report because new surveys and new fields have been added, some have been discontinued, and definitions are subject to change.

The American Bar Association (ABA) provides data from 2019-to 2021 on the total enrollment, bar passage, employment, distance education, and statistics archives. The team narrowed the data to create a similar theme across databases to include the top institutes of enrollment and minority totals for first-year (FY) students in the data collection document. 196 ABA-approved law schools are required to post their Standard 509 Information Reports as part of their ABA Required Disclosures collected from an annual questionnaire. The data included downloaded aggregated spreadsheets on law school reports with law school admissions test (LSAT) and undergraduate grade point average (UGPA) information. The bar passage data is collected from the bar passage questionnaire that law schools file with the Section of Legal Education and Admissions of the Bar’s Managing Director’s Office. The graduate employment data is collected from the employment questionnaire.

**Data constraints**

Data compiled for the 2010 capstone report was replicated using databases from SED and IPEDS organized into easily navigable tables. The team gathered data from different years in the SED database based on the available data that can analyze the trends of enrollment by race and ethnicity and the fields of study. Data collection ranges from 1975 to 2020. Graphics were created for the overview section to create a visually appealing summary of the data.

The 2010 capstone report included data tables to include the following variables: top granting institution for a field of study by race and ethnicity. Alternatively, the data collection for the 2022 capstone report has shifted into two separate tables: top granting institutes for a field of study and top granting institutions by race and ethnicity. Additionally, the SED database provides a generic count for data in the eight categories for the broad fields of study, including sex, citizenship status, and race and ethnicity. Moreover, the report includes eight broad fields of study with major fields of study and citizenship status from 2010 to 2020.

The IPEDS database has modified its data collection to exclude the similar variables in the 2010 capstone report. It is reported by the National Science Foundation, identical to the SED database. Therefore, the IPEDS data for the 2022 capstone report was collected to solely demonstrate the trends of enrollment for minorities by sex, race, and ethnicity from 2010-to 2020. The ABA data was in a particular interest group for CRS that contains data from 2019-2021 of FY students that total enrollment and minorities in a given institution. The ABA database categorizes minority students by sex, race, and ethnicity.

**Data Analysis**

The data analysis section contains information directly from databases to demonstrate the significance of the options for consideration for CRS. There is aggregate data from IPEDS and ABA to illustrate the trends for enrollment and top institutions for graduate and law schools. Additional information will further elaborate on the trending decline of enrollment and awards of granting institutions to U.S. citizens and permanent residents in 2020.

**U.S. doctorate awards**

In the data collection from SED, there was a decrease in the number of doctorate degrees awarded by U.S. institutions from 2020 to 2019, from 55,614 to 55,283. Nevertheless, there continues to be a substantial increase in the number of doctorate awards, with an average growth of 3.1% since 1957. According to the SED, the number of research doctorates awarded in S&E fields has exceeded the number of non-S&E fields with a continuous increase in that gap. The number of S&E doctorate recipients has more than
doubled, while the number of non-S&E doctorates awarded in 2020 declined to just below the 1980 count causing the S&E doctorates to increase from 58% to 77% from 1979 to 2020 all doctorates.

The number of doctorates in S&E fields awarded to temporary visa holders in 2020 was 16,003, with a significant increase of 101% since 2000. In comparison, the number of S&E doctorates awarded to U.S. citizens and permanent residents decreased by 735 doctorates from 2019 to 2020 and experienced a slower relative growth overall from 2000 by 37% and 2010 by 17%.

Women were awarded 46% of all doctorates in 2020, with most of the growth for both men and women being in S&E fields. From 2000 to 2020, female doctorate recipients in S&E fields increased by 75%, though starting from a small base, compared with a 45% growth in male S&E doctorates. In non-S&E fields, 57% of doctorates were awarded to women in 2020, a share that has changed little since the early 2000s. The number of female non-S&E doctorate recipients declined by 6% between 2000 and 2020, while the number of male doctorate recipients in those fields declined by 13%.

From 2010 to 2020, participation in doctoral education by Blacks or African Americans and Hispanics or Latinos who are U.S. citizens or permanent residents has increased, although starting from a small number. In the past ten years, the number of Hispanic or Latino doctorate recipients increased from 1,842 to 2,851. As a result, the proportion of doctorates earned by this group relative to U.S. citizens and permanent residents grew from 6% to 8%. The number of Black or African American doctorate recipients increased from 1,939 in 2010 to 2,458 in 2020, and the proportion of doctorates they earned increased from 6% to 7% during this period. Between 2019 and 2020, however, the number of doctorates earned by Blacks or African Americans declined by 2%. Between 2010 and 2019, the number of doctorates earned by American Indian or Alaska Native doctorate recipients fluctuated slightly between a low of 103 in 2014 and a high of 131 in 2015. In 2020, it declined to 97 (from 119 in 2019), remaining under 1% of doctorate recipients awarded to U.S. citizens and permanent residents.

**Fields of study**

Doctorates in S&E fields account for the increased share of all doctorates awarded. Every broad S&E field, except psychology and social sciences, increased its number and percentage of all doctorates over the past two decades. Psychology and social sciences increased in the number of doctorate recipients, but their share of all doctorates declined. Engineering had the most significant growth among S&E fields, from 13% of all doctorates in 2000 to 19% in 2020. Within non-S&E fields, the number of doctorates awarded in education and humanities and arts declined between 2000 and 2020, leading to a significant, steady drop in the relative share of doctorates in those fields. The number of doctorates in other non-S&E fields, such as business management and communication, increased, but the percentage of these doctorates remained relatively stable.

Doctorate recipients of different racial or ethnic backgrounds are more heavily represented in some fields of study than others among minority U.S. citizens and permanent residents. In 2020, 69% of the 34,492 doctorate recipients who were U.S. citizens or permanent residents were White; 9% were Asian, 8% were Hispanic or Latino, 7% were Black or African American, and 3% identified as more than one race. The remaining doctorate recipients were either American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, or did not report their race or ethnicity. Blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives have been considered underrepresented in S&E. These groups make up a significant proportion of the adult U.S. population than the proportion of S&E doctorates earned.

- Asians earned a larger share of doctorates than other racial and ethnic minority groups in life sciences, physical and earth sciences, mathematics and computer sciences, and engineering.
Black or African American doctorate recipients were the largest minority population in education and other non-S&E fields, and

Hispanics or Latinos were the largest minority population in humanities and arts.

Hispanics or Latinos and Blacks or African Americans earned a more significant proportion of doctorates in psychology and social sciences and education than other minority groups.

In 2020, 49% or more of the doctorates awarded to women were in life sciences, psychology and social sciences, education, humanities and arts, and other non-S&E fields. However, in the same year, women were awarded only a quarter of total earned doctorates and a third of the doctorates in engineering, mathematics and computer sciences, and physical sciences and earth sciences. Nevertheless, women’s share of doctorates in these fields has grown over 20 years. From 2000 to 2020, the proportion of women doctorates increased considerably in life sciences (from 47% to 56%), engineering (from 16% to 25%), and physical and earth sciences (from 25% to 33%). In psychology and social sciences and mathematics and computer sciences, women’s share grew by 4 to 5 percentage points. The growth or decline in the share of women doctorate recipients in different fields does not necessarily track with the overall development of those fields.

Between 2010 and 2020, the number of doctorate recipients in all fields grew by 15%, while the share of women declined by nearly 1%. From 2010 to 2020, the proportion of women doctorate recipients increased between 3 and 6 percentage points in four fields. The overall number of doctorates increased:

- Industrial and manufacturing engineering
- Agricultural science and natural resources
- Mechanical engineering
- Aerospace, aeronautical, and astronautical engineering

The IPEDS data constitutes several relevant variables that include a summary of data on race and ethnicity, sex, and part- and full-time students. Similar to the data from SED, there has been an increase in the enrollment of graduate students pursuing a master’s degree, specifically a spike of those being in historically underrepresented groups. While slight, there has been an increase in the total number of graduate students pursuing a master’s degree by 6.9% from 2010 to 2019. There was an interesting decrease between 2012 and 2013; however, enrollment increased over time causing an average rise in total enrollment for graduate students. From 2010 to 2019, more women have been enrolled in graduate school compared to men; however, there was an increasing trend for men’s enrollment in 2019 after a slight decrease in 2017 and 2018. Nevertheless, there was an increase in both genders from 2010 to 2019 with the gap between the two widening as more women continue to enroll in graduate school.

The Hispanic or Latinos population enrolled in a graduate program increased by 83.6% from 2010 to 2020, with a specific increase from 2019 to 2020 by approximately 11%. The number of Blacks or African Americans enrolled has also increased from 2010 to 2020. There was a specific spike from 2019 to 2020 from 164,885 to 154,049, a 7.86% increase, in the Blacks and African American population. Additionally, there was an increase in enrollment for the Asian population by 35% in the past ten years, with a significant increase from 2019-to 2020 by 7%. For American Indian or Alaska Native and Native Hawaiian, and Other Pacific Islanders, there was a decrease in enrollment from 2010-to 2020; however, a slight increase from 2019 to 2020. The White population has gradually decreased by 2.76% from 2010-to 2020; however, with a slight increase from 2019 to 2020 by three percentage points. There is an increase in total enrollments of graduate-level students, with a continuous rise in Hispanics or Latinos, Blacks or African Americans, and Asians.
While the ABA data was limited to institutions from first year (FY) students from 2019 to 2021, there is a consistent theme among the institutions regarding the total enrollments and the total enrollment for minorities. In 2019 and 2020, Georgetown University, Harvard University, and George Washington University were the top three institutions for the total enrollment of FY students; however, in 2021, Rutgers University ranked number one for the total enrollment of FY students. To accurately represent the minority student population in an institution, the team calculated the total percentage of minority students in the top 20 institutions from 2019 to 2021, presented in the complete data collection document. The leading institutions for minorities were Inter American University of Puerto Rico, Howard University, University of Puerto Rico, and Texas Southern University; each ranked in the top four in the last four years.

**CRS Options**

*Maintain updated workforce data*

Knowing available labor force and applicant pool data is essential for the hiring process. The data in this report identify demographic characteristics of the labor market that fulfill application requirements and qualifications for positions within CRS as identified by the Library of Congress Merit Selection Plan (MSP). Other important information, such as citizenship status and fields of study, are also provided. By following the methodology detailed in this report, the Office of Equal Employment Opportunity and Diversity Programs (EEODP) can maintain a reliable workforce information database for CRS to hire and recruit qualified, diverse employees. As a part of MSP, a recruitment plan is created for each vacancy which identifies current underrepresentation within the department of the vacant position. Maintaining updated workforce data will enable CRS subject matter experts (SMEs) and interview panelists to identify qualified candidates within the underrepresented groups available to fill the vacancy.

*Workforce planning and recruitment*

Internal data collection performed by CRS, performed in conjunction with workforce data maintenance, will enable CRS to make critical, well-informed workforce planning decisions. This data can be utilized by the Director of EEODP as a reliable, accurate source of workforce information for use in recruitment plans and for coordinating with the Chief Human Capital Officer for Human Resources Services (HRS) and Service Units to perform diversity analysis at CRS. Additionally, the data in this report can be used by OIC, HRS, EEODP, and HCD staff to identify potential job candidates from underrepresented groups and external recruitment sources designed to attract qualified applicants to job vacancies.

There are several key takeaways from the 2020 SED data: a decline in doctorate recipients, a decline in U.S. citizens and permanent residents, a decline in the number of doctorate recipients of all races, excluding Hispanics and Latinos, and a decline in those reporting more than one race. While there is a decline in doctorate recipients, IPEDS data indicated an increase for students enrolled in a master’s program with a rise in some minority populations. The ABA data demonstrates the increase in the number of students enrolled in law schools and the institution to which minority students are attending.
Additional Topics Reviewed

**CRS Application Process**

The job application process CRS utilizes is straightforward. Directions on both the USA Jobs and Monster.gov portions make sense. However, the required documents section was difficult to understand. This could be an area of improvement in the application process moving forward. Otherwise, there were no concerns, and the knowledge, skills, and abilities (KSA) applications question provided ample space to write a unique and comprehensive response.

**Intelligence Community D&I**

The Intelligence Community’s (I.C.) Equal Employment Opportunity and Diversity Office (EEOD) has published an in-depth report on diversity and inclusion by examining workforce concerns within the intelligence community. The 2017 report is structured by six key findings and recommendations that challenge the concerns from historically underrepresented groups built upon prior data analysis and annual reports conducted within the Office of the Director of National Intelligence (ODNI) and the sixteen agencies across the I.C. Additionally, external consultants completed the report for neutral results. The findings can aid CRS in enhancing a diverse workforce.

The study from the report highlights six significant themes to eliminate the hurdles of hiring and retaining a diverse workforce: leadership, organizational culture/work environment, recruitment and selection, advancement, work/life integration, and accommodating PWDs. More specifically, the report finds that a lack of representation for minorities in leadership positions leads minority employees to examine an agency’s commitment to diversity. The I.C., additionally, is unsuccessful at promoting diversity amongst senior level and middle management, lacking empathy for non-majority cultural experiences. While the pool of diverse applicants has increased for women, minorities, and persons with disabilities, the I.C. fails to retain these populations in leadership positions, ultimately leading to less representation. A common concern for minority groups is the limited access to premium job assignments, mentoring, and performance feedback. The report further describes several employment practices that could lead to inequitable outcomes, particularly with respect to promotion opportunities that affect these burdens amongst underrepresented groups. Employees within the I.C. report that supervisors are inflexible and reluctant to change in their management approach. These specific issues are more experienced by underrepresented groups, specifically with women. Finally, there is a lack of transparency regarding how agencies are accommodating to PWD.

Based on the findings, six recommendations are posed for the I.C.:

1. Leadership: Promote diversity and inclusion at the highest levels of leadership and empower employees to take the initiative on diversity practices.
2. Organizational Culture: Do not brand these efforts as “diversity initiative”; instead, use existing management tools to increase diversity.
3. Recruiting: Relationship-building and long-term investments must foster trust with specific demographic groups.
4. Advancement: Create active mentoring relationships for professional development to increase exposure to opportunities.

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133 Ibid.
134 Ibid.
5. Disability Accommodations: Increase transparency and address inconsistencies in the reasonable accommodations process.

The report was intended to be a foundation for I.C. agencies in 2017 to identify the lack of representation of minority groups in the workforce. There is an increasing need for a more diverse workforce in the public sector to represent the country’s needs effectively. The team identified similar recommendations for CRS; however, many factors are included in this report that can further alleviate the challenges of hiring and retaining a diverse workforce. The suggestions for the I.C. can be helpful for many agencies to understand the impact and importance of diversity.
Conclusion

A diverse and highly qualified staff at CRS can help ensure that the agency includes these perspectives in its interactions with Congress. By refining CRS’ current approach to diversity and inclusion within hiring, retention, measurement and evaluation, and candidate pool data, they can better promote diversity within CRS’ mission. This report lays out the current research and actionable options for CRS to best enhance their diversity and inclusion within the organization. By implementing the suggested options and using the data collected, CRS will be able to optimize its hiring pool and strategically target desired applicants. In addition, CRS can create a more robust organization from within through new retention practices that grow and maintain a diverse and inclusive culture. Such actions will be measurable and allow CRS leadership to evaluate organizational diversity and inclusion changes. The following steps could consist of CRS reviewing current practices and designing an implementation framework for the options suggested in this report. It is essential to have a continual review of the new processes and procedures implemented to see growth and areas of improvement.

Executive Level Suggested Action Items

These action items can help improve diversity and inclusion at CRS. Executive leadership involvement in setting and implementing D&I\textsuperscript{135} goals is essential for CRS to achieve these goals. All suggestions are based on research detailed within the report.

1. The commitment of executive leadership to diversity and inclusion initiatives results in increased achievement of diversity and inclusion goals.\textsuperscript{136} CRS executive commitment to D&I goal setting could be demonstrated by more promotion of current D&I efforts to job applicants. Executive commitment can also be demonstrated to employees by regularly sharing information in meetings or sending electronic messages about the importance of the CRS guiding principles, promoting initiatives, and encouraging education about D&I issues.

2. Increased executive leader involvement in implementing diversity and inclusion initiatives leads to increased organization-wide commitment.\textsuperscript{137} The more that CRS executive leadership is involved with implementing and evaluating diversity and inclusion goals and strategies, the greater the chance they have of achieving positive results.\textsuperscript{138} Executive support for changes in the hiring process and retention efforts are critical to their success.

3. Update or create a new position to capture formal organizational authority of the diversity manager to help guide and implement different diversity and inclusion initiatives like tracking diversity, tracking inclusion, conducting training, and measuring the impact of diversity and inclusion initiatives.\textsuperscript{139}

\textsuperscript{135} The literature uses the terminology diversity, equity, and inclusion (DEI), but this report uses D&I.


Suggested Action Items

Below are action items for CRS to implement immediately in order to take steps towards improving diversity and inclusion at CRS. All suggestions are based on research within the report.

1. Maintain a position of diversity manager with formal organizational authority to help guide and implement diversity and inclusion initiatives like tracking diversity, tracking inclusion, conducting training, and measuring the impact of diversity and inclusion initiatives.¹⁴⁰

2. Ensure managerial job descriptions include diversity and inclusion responsibilities to highlight managerial accountability for D&I initiatives. This would identify the manager’s responsibility to conduct stay interviews, monitor the mentorship program, and track diversity and inclusion initiatives.¹⁴¹

3. Improve evaluation efforts by gathering data related to various initiatives. CRS managers and leaders can leverage available data from the applicant pools to measure the effectiveness of recruitment efforts.

4. Review the Merit Selection plan and adjust the use of assessment tools, using them prior to the interview process. This helps reduce bias in the selection process.¹⁴²

5. Improve D&I messaging to external candidates by adding guiding principles and more detailed statements about the CRS commitment to diversity on the CRS career website and in job announcements. Research shows that this message can help attract and review the qualifications of a more diverse pool of individuals.¹⁴³

6. Promote manager use of the Library's Selective Placement Program to improve the hiring of persons with disabilities.

7. Expand the mentoring program opportunities to include staff at all levels and create a more structured program and implementation guidance.

¹⁴¹ Ibid
For Additional Reading


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