



Developing Senior Leaders for the Reserve Components

Michael J. Mazarr

Developing leaders is one of the most important priorities for the U.S. military. To build a force that is agile, flexible, creative, and innovative, the Department of Defense (DoD) is rethinking how it develops talent, including senior leaders. This extends to the reserve components (RC) and their “critical bridge to the civilian population, infusing the Joint Force with unique skills and diverse perspectives” (DoD, 2015, p. 14).

Each of the services emphasizes the importance of leader development. The Air Force stresses the importance of “recruiting cutting-edge talent,” providing “a range of options for service,” and creating “agile developmental paths” (U.S. Air Force, 2015, pp. 13–14). The Army seeks to enhance its personnel and leader development approaches to create a more agile, adaptable force (Headquarters, U.S. Department of the Army, 2015). The Navy finds that “Leader development must be a concerted and deliberate

effort . . . viewed as an enduring investment” (Department of the Navy, 2013, p. 5).

Most services and agencies conceive of development in broadly similar ways, as some combination of experiences, education, and personal development. Each has an extensive concept of development—how they define it, what contributes to it—and can point to thousands of world-class, highly effective leaders who have risen through their ranks. In recent years, all have developed innovative ways to develop leaders. The services are committed to continually enhancing their approaches to development, both in general and specifically for senior leaders.¹

The services and DoD are also giving more attention to building an integrated Total Force. In the past 15 years, the role of the reserve component has evolved from a strategic to a true operational one, employed regularly to meet persistent operational needs.

¹ This report reflects the status of service leader development programs in the fall of 2015.

As major contingencies wind down, however, and operational tempo eases, it will become more challenging to preserve an operationally engaged reserve component. DoD leaders recognize the imperative in times of austerity to maintain a skilled, ready Total Force that achieves the best possible efficiencies of investments in both active and reserve components.

As part of a larger research effort on general and flag officer (G/FO) requirements in the reserve components, RAND researchers addressed two questions at the intersection of leader development and Total Force policy. First, in what ways can the development of RC senior leaders be improved? Second, in what ways can reserve component leader development policies serve the goal of an effective and integrated Total Force? RAND research on these questions, based on review of relevant literature, private-sector experience, and informal dialogues with senior military leaders, focused on the development of RC leaders with rank O-7 (Brigadier General or Rear Admiral Lower Half) to O-10 (General or Admiral). This perspective reviews challenges to defining and enhancing development, current practices in RC G/FO development, limitations of these approaches, and means to improve development with an eye toward improving the capabilities of the Total Force.

Defining Development

The concept of leader development has a wide and complex array of meanings. There is a fundamental distinction between individual leader development, designed to maximize the talents of specific leaders, and institutional leader development, the process of generating the best-qualified candidates for progressively more-

senior positions. These can overlap; organizations frequently use individual development as a means to further institutional goals (McCall, 2004).

Most assignments are not made strictly for grooming leaders. The military services send senior leaders to positions to achieve the designated mission while performing at a high level, and, like other organizations, can suffer when grooming leaders takes precedence over achieving the mission. Developing leadership is a critical but ancillary activity to an organization.

Still, job assignments are the most powerful and effective tool for developing leaders (McCall, 2004; Campion, Cheraskin, and Stevens, 1994; McGuire, 2002; McCall, Lombardo, and Morrison, 1988). Training, education, and mentoring can also be important, but most research suggests that their role should be to support and deepen the lessons learned from experience (McCauley and Brutus, 1998). Certain positions do appear to carry disproportionate value for development (McCall, Lombardo, and Morrison, 1988). Most learning and development of new conceptual capacity occurs when “leaders are pushed beyond their current frame of reference” (McGuire, 2002, p. 93), and the experiences with the most potential for development typically deal with new and unfamiliar issues, including working with other organizations and different cultures. They involve leading change, including dealing with crises or underperforming organizations, starting an initiative from scratch, or executing a turnaround. The most intense development comes from high-responsibility tasks with wide latitude and big stakes, and often requires working across organizational boundaries or with outside organizations and diverse individuals, using influence rather than authority. They tend to involve intellectually challenging issues with a substantial strategic component. In other words,

A given experience will be more developmental for some leaders than others; the key is not the job itself but the job as experienced by an individual.

broadening is integrally related to leader development. Positions that reflect a broadening experience can offer the greatest developmental value to organizations.

Challenges to Enhancing Development

There are several important qualifications to the observation that some jobs are more developmental than others. Leader development turns out to be more situation-specific and contingent than it is universal. Ultimately, decisions about what is likely to be most developmental can be made only in the context of a specific leader's experiences, goals, skills, and gaps.

First, the relationship between experiences and development tends to be contingent rather than universal. A given experience will be more developmental for some leaders than others; the key is not the job itself but the job as experienced by an individual (McCauley and Brutus, 1998; McCall, 2004). Some individuals learn better from experience than others (McCauley and Brutus, 1998). As a result, even jobs with high developmental potential may not have the desired effect in practice (see, for example, Thie et al., 2001).

Second, experience of a position alone does not always produce the desired developmental results. Rather, a structured experience, including reflection, mentoring and ongoing education, and peer discussions, shapes how leaders develop in a position. Very little

effort is typically made to maximize development within a position. For example, reflection is critical to learning but is seldom required or even allowed (Dean and Shanley, 2006; McGuire, 2002). Our discussions with DoD personnel-management offices noted that G/FOs assigned to new posts are largely on their own to ensure they get the best possible learning from the experience.

Third, there is little evidence connecting specific leader development practices, whether in experiences, education, or mentoring, with particular outcomes. To put it simply, we do not know what development practices produce which outcomes, or why. Much current research consists of self-reporting surveys by leaders, which reflect perceptions of outcomes rather than objective evidence of outcomes. There have been few long-term studies measuring the actual impact of developmental practices.

Fourth, the nature of senior-leader selection limits the value of some developmental assignments. The assignment for senior leaders reflects a matching of leaders to jobs under the pressure of constraints, such as the need to fill positions, a leader's availability and interest, timing, and personalities. No static development framework will capture such a complex array of variables, and every process for senior leader assignment will have to be somewhat shielded, personalized, and idiosyncratic.

Fifth, there is tension in the emphases on command and staff responsibilities for senior leaders. Military officers gain senior rank through excellence in operational command. Nevertheless, the

more senior a military leader becomes, the more command jobs give way to staff responsibilities, such as running large organizations, project management, and budgeting. The development requirements of senior leaders evolve over time, and their focus must change as leaders rise through the ranks.

Sixth, the requirements for leader development are especially pressing in organizations with limited lateral or mid-career hiring. The military may be among the most extreme cases of this constraint. Military services must self-consciously build future senior leaders within their ranks, because they cannot hire them away from other organizations. Without such internal efforts to “build a bench” of future leaders, services will find that they have limited choices for senior leader positions.

In short, there is no straightforward avenue to leader development. Different activities will have diverse effects on different leaders. Any programs to enhance leader development must proceed with care, because the connection between development and outcomes is poorly understood.

Current Practices in Reserve Component General Officer Development

Each service has established concepts for developing senior leaders, particularly RC leaders. All are striving to move past informal networks of promotion, assignment, and development to more structured and standardized processes. While recognizing that some aspects of the process will remain personalized and sensitive, the services are aiming to generate more predictability and structure and to seek a more coherent approach to development.

The line between leader development as a general practice and the development of senior leaders is not always clear. Each service has developed broad concepts of and avenues to development that appear to apply all through the rank structure. In some cases, such as the Navy’s new leader development framework, services call out unique attributes required of specific levels and imply that development ought to be optimized to produce those attributes.

The services recognize that development is a combination of several components. The most important of these is experience, and the concept of “development through broadening assignments” (Serrano, 2015, p.3) lies at the core of all the services’ current conceptions of leader development. In some cases, such as the U.S. Air Force Reserve (USAFR), services have formally identified categories of assignments that will help to broaden senior leaders and produce the leaders the service wants.

To some extent, the services recognize that no specific job is generically developmental. They recognize that the development value in any assignment depends on the match between leader and job. Yet the lure of generic categories remains powerful: Senior leaders and their management offices sometimes talk about jobs that are developmental in broad and universal terms and assume that certain assignments will have a broadening effect.

The services see education as key to development. The emphasis on education appears to decrease in general officer ranks, however, especially for the reserve component. The services do not provide extensive educational experiences for officers who have passed the O-7 threshold. New O-7s may take the CAPSTONE course at National Defense University, but this course does not have an in-depth academic curriculum or many seats for RC G/FOs.

The USAFR and the U.S. Navy Reserve are among the most advanced in integrating reserve officers into holistic Total Force operations.

Nevertheless, the USAFR has undertaken some significant initiatives to boost development of reserve officers, including the optional Reserve Officer Development Plan. These individualized plans lay out a leader's goals, experiences, and skills and outline a program of development to help officers realize their goals—thus increasing the strength of senior leaders for the service. Leaders can also take advantage of Officer Development Teams, specialty-specific committees that give feedback on evolving career paths—although, because these cover hundreds of officers, they are not particularly individualized (Department of the Air Force, 2008).

The USAFR and the U.S. Navy Reserve are among the most advanced in integrating reserve officers into holistic Total Force operations. The USAFR has opened all general officer competitions to RC candidates, and Air Force leaders anticipate this will soon result in a reserve officer being selected for an active component (AC) three-star billet. The USAFR has an advantage in offering such openings because it emulates the active duty structure and operations more than reserves do in any other service. It also recognizes that RC G/FOs include large numbers whose civilian careers can contribute significantly to readiness for a senior military position.

The Navy's new Leader Development Strategy is among the most comprehensive statements of leader development for both active and reserve components. This strategy stemmed from recognition that the Navy was “on a course with no well-defined

plan” and had “no published strategy to guide” leader development (Carter, 2014, p. 14). While the Navy was producing fine leaders, there was an “expectation that leadership ‘just happens’” or occurs through simple “transference” without an “intentional process”—leaving “development of the Sailor to chance or opportunistic events based on career timing or availability” (Kelly, 2014, p. 8). The new development strategy creates a more formalized, lifelong approach to leader development based on experience, education, training, and personal development. It applies to all ranks, with each having development outcomes the Navy seeks. Even before adopting this strategy, the Navy invested in a combination of civilian programs (e.g., business- school courses) and an innovative program for building tailored preassignment courses at the Naval Postgraduate School.

The U.S. Army Reserve (USAR) has also been working to build leader development under the guidance of the Army Leader Development Strategy (ALDS) (Headquarters, U.S. Department of the Army, 2013a and 2013b). The new policy built on an awareness that RC promotion patterns tended to be somewhat narrow. Deputy commanders, for example, would often rise to commander positions in the same unit or region—an approach that brought depth but not breadth. The new approach seeks to give officers exposure to more experiences of the Army. While the USAR does not formally create a development plan for each officer, O-7 positions are being considered more specifically as develop-

Very few officers perceive a framework for deliberate career assignment, and G/FO management offices do not have the resources to develop such a framework for individual leaders.

ment assignments, with officers being given one command billet and one broadening experience. The USAR also makes a number of informational courses mandatory for all new general officers to provide familiarity with various institutional processes and operational issues. Officers may also attend advanced courses, but their opportunities are constrained by availability and resources.

The National Guard Bureau (NGB) is making progress toward a more formalized development system. The NGB has outlined a new development concept for building highly qualified leaders for its top positions. The process involves an elective set of general officers who commit to more structured career paths and assignments outside their state (National Guard Bureau, 2012). The NGB has also shown that the availability of new senior positions can transform the mindset of development within a service: The addition of the National Guard chief to the Joint Chiefs of Staff created new urgency within the NGB to develop a cohort of officers fully qualified to represent the Guard.

Limitations of Current Approaches

Even though each service has made progress in developing leaders, current practices have some limitations preventing leadership development from reaching its full potential.

First, as noted earlier, there is little evidence on the specific effects of leadership development practices. While anecdotal evidence demonstrates the value of many assignments for leadership development, there is no empirical evidence on this. The services cannot assume that particular experiences and education will produce desired outcomes.

Second, emerging development programs could be more consistent in application and design. Structured approaches exist, but, we found, officers may not be fully aware of them. Very few officers perceive a framework for deliberate career assignment, and G/FO management offices do not have the resources to develop such a framework for individual leaders. Educational experiences are uneven and incomplete, especially access to CAPSTONE, the defining professional military educational experience for new O-7s. Even the promising USAFR Officer Development Teams are responsible for such large numbers of officers that they have difficulty providing much individual feedback.

Third, the coaching and mentoring that take place remain uneven. In most cases, there is no formal expectation other than rudimentary dialogues on career paths. Some senior leaders are superb mentors, but this appears to be a result of the personality and leadership style of particular officers rather than a formalized requirement or training process. Most RC G/FOs report that they conceive and map out their career futures for themselves with relatively little guidance.

Fourth, the civilian skills and experiences of RC senior leaders are not adequately captured in development plans or assignment decisions. This reflects a significant lost opportunity, especially given the blurring boundaries between military and civilian skills in areas such as governance, policing, health, and others. Existing civilian skill inventories tend to be limited, inflexible exercises not designed to support holistic development.

Fifth, large institutions such as the military often emphasize leader development programs but give less attention to human resource (HR) professionals or others charged with being stewards of development. Data and broad concepts of development are not enough. Institutions need to enhance the development competency of staff responsible for designing and executing development programs.

The services have made important strides in leader development, including at the G/FO level. Yet room remains for improvement to better achieve two core goals of the process: (1) producing the best-prepared and most talented slate of candidates for progressively more senior positions, and (2) contributing to a more integrated Total Force that makes best use of the talents of all its senior leaders.

Toward Enhanced Development and a More Integrated Force

Our recommendations for how the military can achieve the core goals of the leader development process fall into two categories. The first focuses on accelerating movement toward a system of deliberate development, and the second on managing G/FO assignments for maximum development and Total Force impact.

A first step toward a more formalized process could involve building evidence-based theories of success and then analyzing in detail what works.

Our study concentrated on RC G/FO leader development, and these recommendations apply to that set of positions. Some of them may also be relevant to broader leader development programs.

Accelerate Movement Toward a System of Deliberate Development

To bring greater intentionality and coherence to the leader development process, the services should consider a more formalized system for what is referred to as a process of deliberate development. This would involve a number of steps that, together, would represent a structured program for senior leader development. While such a program would differ by service and could include varied approaches, a number of initial and common steps could provide the foundation for such an effort.

First, DoD should conduct empirical analysis to better understand the effects of specific development actions. Many leader development programs rely on intuitive ideas of what contributes to development without validating those assumptions through empirical research. A first step toward a more formalized process could involve building evidence-based theories of success and then analyzing in detail what works. This will take time—a great deal of such research will have to follow individual officers as they progress

through their careers—and not all initiatives should wait on such research. But it will be critical to creating analysis-based reforms and innovations built around concepts proven to make a difference.

Second, each service should work toward a system of individualized career plans beginning at O-4 or O-5 levels. These plans should sketch out career objectives, existing skills and experiences, and the steps needed to support a comprehensive development plan. The goal would be to prepare the highest proportion of officers for G/FO responsibilities and broaden the range of officers available for G/FO ranks. The programs could offer a detailed plan for the development of each officer and provide the basis for dialogue between officers and their immediate superiors as well as with G/FO management offices. Such a program need not assume all O-4s are being groomed to become G/FOs. Because of the constrained service and development time after O-7 promotion, however, much of the broadening and educational foundation for senior leadership must be laid beforehand. A precondition for success of such a program is the ability of HR systems and managers to think beyond career path management toward the holistic development of individual officers.

Third, each service's G/FO management office should build a more formal system for feedback and mentoring. Such a process could supplement individual development plans. This already occurs to some degree in each service, but the process can be inconsistent and depend on the personalities and preferences of specific supervisors. Micromanaging an individualized and informal process like mentoring can be counterproductive, but some modest feedback for expected mentoring discussions, as well as resources and senior-level attention to these expectations, could complement individual development plans and structured learning from experi-

ence. Such a program might be especially important for RC senior leaders, some of whom have more limited opportunities for ongoing informal mentoring than their AC counterparts.

Fourth, each service should build an integrated picture of civilian and military experiences, education, and skills for RC G/FOs. The development theories and plans for RC senior leaders should include details on their civilian skills and experiences. A senior RC leader may be highly qualified for military positions because of a civilian leadership history, but there is limited appreciation for such history in current development paths and assignment processes.

Fifth, the services should invest in structured learning from experience. Leaders learn best from assignments when they can process and reflect on the experience. Initiatives supporting this goal can include dialogues during assignments, end-of-tour reflection sessions, the use of peer networks to encourage an ongoing dialogue on the lessons of the experience, and short post-tour learning labs in which officers share experiences.

Finally, the DoD should build an integrated framework to lay out the basic elements of leader development at the G/FO level. This should complement and build on service-specific plans and policies. Services and communities within them differ in their development requirements, and a joint framework could become onerous. But some common definitions, understandings, and baseline practices would be helpful.

Manage Assignments for Maximum Development and Total Force Impact

The recommendations below address the structure of specific assignments and the assignment process to maximize the role of experience-based development. While no leadership position is

inherently developmental for all candidates, several approaches to the use and assignment of RC G/FOs could have greater developmental impact.

First, the services should continue expanding the roles and responsibilities of three- and four-star officers in the reserve component and work to open AC jobs to RC candidates. Creating even a small number of “target jobs” can transform views of development. Because the number of three- and four-star positions in the reserve component will always be tightly constrained, the services should accelerate current efforts to open active-duty G/FO positions to competition from RC leaders.

Second, the services should expand RC access to joint, combatant command, or foreign G/FO slots. To preserve the hard-won operational experiences built in the last 15 years, RC G/FOs could benefit from continued access to senior jobs with significant responsibilities in joint and expeditionary contexts. Many RC G/FOs have benefited from such assignments since 2001, but there is a risk such opportunities will decrease as operational tempo decreases. Indeed, some notable RC-designated billets have already been returned to the active component. Of course, AC G/FOs also require developmental assignments and will have fewer billets to choose as tempo decreases. While the services need to balance assignment opportunities between the two components, they should strive to preserve or enhance opportunities for RC G/FOs to keep their operational readiness as high as possible—and to create opportunities for very highly qualified RC officers to bring their experience and leadership acumen to these jobs.

Third, the Joint Staff should expand CAPSTONE slots for RC G/FOs. This simple action could have a significant developmental impact and contribute to a more unified and integrated

Total Force. Those who have participated in CAPSTONE speak highly of its value for building relationships with other new O-7s or for reinforcing interpersonal networks they uniformly describe as essential to their success. Adding 25 to 30 additional RC-designated slots each year would make a significant difference in access and be a major contribution to development.

Conclusion: Enhancing Development, Building a Total Force

Each service has undertaken important steps to improve the development of senior RC leaders. They can build on these initiatives to address some of the limitations and constraints of existing programs. For a relatively modest investment of resources and changes to some policies and habits, all services could achieve important improvements in leader development and Total Force integration.

There should be broad support for the idea that specific RC G/FOs, especially those with significant active-duty time in their careers, can make important contributions to specific AC jobs and, in some cases, be the most qualified candidates. Improving the interplay between G/FOs in the active and reserve components could help increase Total Force integration at low cost.

Recent DoD efforts have renewed attention given to goals of officer development and Total Force efficiencies. Senior leaders are looking for ways to create a 21st-century personnel structure and build on the momentum of the past 15 years in developing and employing a more fully integrated and holistic Total Force. Some of the proposed reforms to do so are expensive, controversial, and challenging. Our research suggests that a number of modest changes to

RC G/FO development could offer important advantages in creating a new personnel structure and in developing and employing a Total Force. Such reforms are achievable goals in the emerging campaign

to transform personnel policies and officer development and to deepen the Total Force mentality in the services.

Bibliography

- Campion, Michael A., Lisa Cheraskin, and Michael J. Stevens, "Career-Related Antecedents and Outcomes of Job Rotation," *Academy of Management Journal*, Vol. 37, No. 6, December 1994, pp. 1518–1542.
- Carter, Walter E., "President's Forum," *Naval War College Review*, Vol. 67, No. 1, Winter 2014, pp. 13–15. As of January 30, 2016: <https://www.usnwc.edu/getattachment/4e57cdf8-f82b-4397-8b6a-22dde55949e8/President-s-Forum.aspx>
- Dean, James W., Jr., and Jim Shanley, "Learning from Experience: The Missing Link in Executive Development," Chapel Hill, N.C.: University of North Carolina, Kenan-Flagler Business School, August 2006. As of January 30, 2016: <http://www.kenan-flagler.unc.edu/executive-development/custom-programs/-/media/Files/documents/executive-development/learning-from-experience.ashx>
- Headquarters, U.S. Department of the Army, "Army Leader Development Strategy," Army Combined Arms Center, 2013a.
- , "Army Leader Development Program," Pamphlet 350-58, Washington, D.C., March 8, 2013b.
- , *The Army Vision: Strategic Advantage in a Complex World*, Washington, D.C., 2015.
- Kelly, James, "Strengthening Our Naval Profession Through a Culture of Leader Development," *Naval War College Review*, Vol. 67, No. 1, Winter 2014, pp. 7–11.
- McCall, Morgan W., Jr., "Leadership Development Through Experience," *Academy of Management Executive*, Vol. 18, No. 3, August 2004, pp. 127–130.
- McCall, Morgan W., Jr., Michael M. Lombardo, and Ann M. Morrison, *The Lessons of Experience: How Successful Executives Develop on the Job*, New York: Lexington Books, 1988.
- McCauley, Cynthia D., and Stéphane Brutus, *Management Development Through Job Experience: An Annotated Bibliography*, Greensboro, N.C.: Center for Creative Leadership, 1998.
- McGuire, Mark A., "Senior Officers and Strategic Leader Development," *Joint Force Quarterly*, No. 29, January 2002, pp. 91–96. As of January 30, 2016: <http://ndupress.ndu.edu/portals/68/Documents/jfq/jfq-29.pdf>
- National Guard Bureau, "U.S. Army National Guard Leader Development Strategy," Washington, D.C., November 6, 2012.
- Serrano, Edwin, U.S. Army FA 50 Personnel Development Chief, "Teammates: Talk to Me," *The Oracle*, Vol. 11, 2015.
- Thie, Harry J., Margaret C. Harrell, Clifford M. Graf II, and Jerry M. Sollinger, *General and Flag Officer Careers: Consequences of Increased Tenure*, Santa Monica, Calif.: RAND Corporation, MR-868-OSD, 2001. As of January 30, 2016: http://www.rand.org/pubs/monograph_reports/MR868.html
- U.S. Department of the Air Force, Air Force Instruction 36-2640, "Executing Total Force Development," December 16, 2008. As of January 30, 2016: [http://static.e-publishing.af.mil/production/1/af_a1/publication/afi36-2640/afi36-2640_\(certified_current\).pdf](http://static.e-publishing.af.mil/production/1/af_a1/publication/afi36-2640/afi36-2640_(certified_current).pdf)
- , *Strategic Master Plan 2015*, Washington, D.C., 2015.
- U.S. Department of Defense, *The National Military Strategy of the United States of America*, Washington, D.C., U.S. Joint Chiefs of Staff, June 2015. As of January 30, 2016: http://www.jcs.mil/Portals/36/Documents/Publications/2015_National_Military_Strategy.pdf
- U.S. Department of the Navy, "The Navy Leader Development Strategy," Newport, R.I.: U.S. Naval War College, January 2013.

About This Perspective

Leader development is one of the most important priorities for the U.S. military. Most of the services and agencies conceive of development in broadly similar ways—a combination of experiences, education, and mentoring. RAND researchers explored in what ways development of senior leaders in the reserve component can be improved, and in what ways reserve component leader development policies can serve the goal of an effective and integrated Total Force. This research is part of a larger research effort focused on general and flag officer requirements in the reserve components.

This perspective reviews current practices in reserve component general officer development and surveys some of the innovative approaches the services are taking. It also explains some limitations to these approaches and offers recommendations for building a more formal system of deliberative development and making maximum use of general and flag officer assignments to achieve both developmental and Total Force objectives.

This research was conducted within the Forces and Resources Policy Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community.

For more information on the Forces and Resources Policy Center, see <http://www.rand.org/nsrd/ndri/centers/frp.html> or contact the director (contact information is provided on the web page).

About the Author

Michael J. Mazarr is the acting director of RAND Arroyo Center's Strategy, Doctrine, and Resources Program, and a senior political scientist at the RAND Corporation. He comes to RAND from the U.S. National War College where he was professor and associate dean of academics. He has also worked in research institutes, on Capitol Hill, and as a special assistant to the Chairman of the Joint Chiefs of Staff. His primary interests are U.S. defense policy and force structure, East Asian security, nuclear weapons and deterrence, and judgment and decisionmaking under uncertainty. Mazarr holds a Ph.D. in public policy from the University of Maryland.

Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.html.

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. **RAND**® is a registered trademark.

For more information on this publication, visit www.rand.org/t/PE194.



www.rand.org