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This study investigates a possible correlation between operational tempo and Army Reserve unit personnel readiness. Operational tempo requires examination because previous studies have discounted the impact of operational tempo. Factors may increase the frequency of Army Reserve mobilizations. Future threats to national security in the post-Cold War era may increase reliance on the flexible manpower capacity that the Army Reserves provide. Budgetary pressure may increase the relative demand for cost-effective reservists.

The study examines the relationship between operational tempo and Army Reserve unit personnel readiness by focusing on training, retention, and recruiting. The study surveys economic and non-economic theories that explain variables influencing reservists' behavior. Deductions are then formed relating these variables to operational tempo and personnel readiness. Afterwards these deductions are compared with survey results. In conclusion, the study finds that there is a correlation between operational tempo and Army Reserve unit personnel readiness and finds concern over the impact of increased operational tempo on personnel readiness.

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OPERATIONAL TEMPO AND ARMY RESERVE UNIT PERSONNEL READINESS

A thesis presented to the Faculty of the U.S. Army Command and General Staff College in partial fulfillment of the requirements for the degree

MASTER OF MILITARY ART AND SCIENCE

by

JOHN S. PRITCHETT, LCDR, USN
B. A., University of Mississippi, Oxford, Mississippi, 1986

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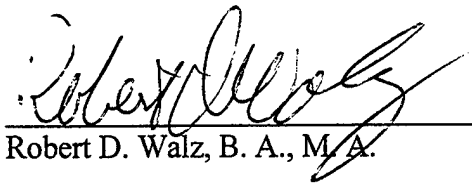

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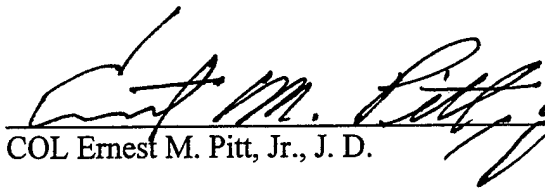

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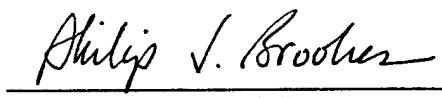

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

OPERATIONAL TEMPO AND ARMY RESERVE UNIT PERSONNEL READINESS
by LCDR John S. Pritchett, USN, 98 pages.

This study investigates a possible correlation between operational tempo and Army Reserve unit personnel readiness. Operational tempo requires examination because previous studies discount the impact of operational tempo.

Factors may increase the frequency of Army Reserve mobilizations. Future threats to national security in the post-Cold War era may increase reliance on the flexible manpower capacity that the Army Reserve provides. Budgetary pressure may increase the relative demand for cost-effective reservists.

The study examines the relationship between operational tempo and Army Reserve unit personnel readiness by focusing on training, retention, and recruiting. The study surveys economic and noneconomic theories that explain variables influencing reservists' behavior. Deductions are then formed relating these variables to operational tempo and personnel readiness. Afterwards these deductions are compared with survey results. In conclusion, the study finds that there is a correlation between operational tempo and Army Reserve unit personnel readiness and finds concern over the impact of increasing operational tempo on personnel readiness.

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CHAPTER 1

INTRODUCTION

> As we approach this century's end, many of the blocs and barriers that divided the world for fifty years largely have fallen away. All around the world, with America's help, nations are moving from conflict to cooperation. However, we still face challenges that have taken on new and dangerous dimensions: ethnic and religious violence, aggression by outlaw states, the illegal drug trade, and threats from international terrorism and weapons of mass destruction. The National Guard and Reserve play a vital role in the response of America's Armed Forces to this broad spectrum of challenges to our national security, and they are an indispensable part of the effort to promote peace and democratic values.[1]
>
> President William J. Clinton

Background

Throughout U.S. history the Army Reserve has grown in importance and is today a vital component of America's nation's military capability. Recent events serve to highlight this importance. Operation Desert Shield/Storm illustrates the increasing significance of the Army Reserve. Operation Desert Shield/Storm required the first major mobilization of the Army Reserve in over fifty years and was America's first major test of the total force policy. Experiences stemming from the Army Reserve's participation in Operation Desert Shield/Storm and other overseas operations must be assessed for future implications to the Army Reserve.

The drawdown of military forces following Operation Desert Shield/Storm is increasing the importance of the Army Reserve. The Army Reserve is an ever increasingly essential partner in the full spectrum of military operations, from the smallest

of smaller-scale contingency operations to a major theater war. "No major operation can be successful without them."[2] The importance of the Army Reserve is demonstrated by its increasing participation in operations. The Army Reserve's operational tempo has reached a point that is unparalleled in U.S. history. An Army Reserve that only mobilized ten times in the forty years from 1950 to 1989 mobilized twenty-five times in the seven years from 1990 to 1997,[3] an annual increase of 1400 percent. Future mobilizations promise to maintain or exceed this operational tempo. Understanding the potential impact of this increasing operational tempo on the personnel readiness of Army Reserve units is vital to ensuring that the Army Reserve can meet the challenges it faces in a post-Cold War global environment.

This thesis examines the potential impact of increasing operational tempo on the personnel readiness of Army Reserve units, which is further broken down into areas of: recruiting, training--specifically, duty military occupational specialty qualification (DMOSQ), and retention?

Army Reserve unit personnel readiness is defined in the sum of recruiting, training, and retention readiness. Recruiting provides the prerequisite pool of personnel to use as a training base. Training readiness, vis-à-vis DMOSQ, tends toward zero accomplishment without recruiting a pool of personnel to train. Conversely, retention maintains the established pool of personnel; and similar to recruiting, training readiness tends toward zero without a pool of trained personnel. Simply expressed, a shortcoming of flow in or an excessive flow out reduces the personnel readiness of Army Reserve units. This correlation among DMOSQ, recruiting, and retention is referred to as

sustentation--the ability to recruit personnel, train effectively, and maintain low levels of attrition.[4]

Imperative to an investigation of the potential impact of increasing operational tempo on the personnel readiness of Army Reserve units is an understanding of variables that affect unit personnel readiness, specifically, an understanding of variables which influence recruiting, DMOSQ, and retention. An evaluation of these variables enhances one's ability to identify areas of correlation between operational tempo and the Army Reserve unit's personnel readiness.

How did the United States military reach such a position of dependence on the Army Reserve? A profile of the history of the Army Reserve provides some answers. The historical beginning of the Army Reserve stems from the Spanish-American War. The then militia's lack of preparedness for the Spanish-American War in tandem with the United States' new station as a global power led to the birth of the forerunner of the Army Reserve, the Medical Reserve Corps in 1908. Following this, Congress passed the National Defense Act of 1916 creating the Officers' Reserve Corps, Enlisted Reserve Corps, and Reserve Officer Training Corps (ROTC).

Over eighty-nine thousand officers from the Officers' Reserve Corps and eighty-thousand soldiers from the Enlisted Reserve Corps served in World War I. Of these reservists, one-third of the officers and one-fifth of the soldiers served in medical units. After World War I, the Officers' Reserve Corps and Enlisted Reserve Corps were combined to create the Organized Reserve Corps. The newly formed Organized Reserve Corps would see only sporadic action until World War II and the Korean War.

World War II saw the mobilization of over two hundred thousand reservists from the Organized Reserve Corps. The Korean War led to the mobilization of over two hundred and forty thousand reservists from four hundred units. During the Korean War, the Organized Reserve Corps developed into the Army Reserve. From September of 1961 to August of 1962, sixty-nine thousand Army reservists mobilized in response to the Berlin Crisis.

Army reservists saw limited action during the Vietnam War, with only slightly fewer than six thousand Army reservists ordered to active duty. Only 60 percent of these six thousand Army reservists went overseas. This limited participation of Army reservists in the Vietnam War would significantly shape the future of the Army Reserve and thus warrants additional consideration.

The use of military force for a war that lacked public support concerned the senior leadership in the Department of Defense. They resented the use of military force for a war that lacked public support. These officials saw restructuring of the Army Reserve as a means by which to create a future apparatus for preventing the use of military force without public support.[5]

Senior officials of the Department of Defense felt that the Army Reserve had not been used during the Vietnam War because Americans would not have tolerated the mobilization of the reserves for an unpopular war. The mobilization of reservists was seen as cutting deep into the American fabric because these reservists had to be torn away from their civilian jobs and hometown families that were spread across the face of America.

Accordingly, when these same officials made subsequent decisions regarding the future structure of reserves, they chose a force structure that would increase the active forces' dependence on the reserves. They reasoned that if public support was a prerequisite to using the reserves and if the reserves could be made by structural change, a prerequisite of using the active force, then the Army would never be used for an unpopular war.[6] Therefore an underlying intent of the total force policy was that politicians would have to ensure public support "prior to committing U.S. ground forces because to fight a war other than a very small contingency would require mobilization of the two Reserve Components."[7]

Then Secretary of Defense James Schlesinger was fully aware that then Army Chief of Staff General Abrams was "deliberately integrating reserve forces and active forces in that manner."[8] General Abrams set out to intertwine the three components (Active Army, Army Reserve and Army National Guard) so completely that to fight a war a president would have to obtain congressional support and, in turn, as Clausewitz remarked, "the will of the people."[9]

After the close of the Vietnam War, the Armed Forces transformed from a draft force to an all-volunteer force. This transition demanded two goals of the Army Reserve. The first goal was to save money. A large Army Reserve was to be a cost-effective alternative to an expensive voluntarily recruited active duty force.[10] Today "with just 5 percent of the total Army budget, the Army Reserve provides 41 percent of the Army's total personnel, 43 percent of the Army's total combat service support, and 29 percent of the Army's total combat support."[11]

The second goal was for the Army Reserve to be the answer to maintaining a capable force size to meet the demands of a potential global conflict with the Soviet Union and the Warsaw Pact. The cost-effective solution determined by policymakers was to rely on the cheaper Army Reserve as the initial and primary source for expanding the armed forces. As a result of this total force policy "the Selected Reserve grew by 35 percent between 1980 and 1989"[12] while the active Army's size remained relatively constant. The trend toward an increasing emphasis on the Army Reserve was clear.

These policy goals evolved into the total force policy that exists today. "As a result of the total force policy, the Armed Forces have become heavily dependent on their reserve components."[13] "The Army is unquestionably the most dependent [of the services] on reserve augmentation."[14] The mobilization of over 124,500 reserve personnel from over 1,033 units during Operation Desert Shield/Storm illustrates this dependence.[15] Then Secretary of Defense James Schlesinger, one of the authors of the total force policy, could not have predicted a more certain future for the Army Reserve when he expressed, "If we're ever going to war again, we're going to take the reserves with us."[16]

The goal of creating an economical reserve force coupled with the goal of restructuring the Army Reserve to create a prerequisite of public support significantly altered the historical use and structure of the Army Reserve. Henceforth, the force structure of the Army Reserve was significantly changed. Critical combat support and combat service support units were positioned in the Army Reserve increasing the Army's

dependence on the Army Reserve and portending a future necessity of frequent mobilizations. Current Army Reserve contributions to the total force are reflected as:

Type Unit	Percent	Type Unit	Percent
Railway Units	100	Medical Groups	66
Enemy Prisoner of War Brigades	100	Chemical Battalions	64
Training & Exercise Divisions	100	Motor Battalions	60
Civil Affairs Units	97	Hospitals	54
Psychological Operations Units	85	Petroleum Groups	50
Judge Advocate General Units	81	Terminal Battalions	50
Medical Brigades	80	Transportation Commands	50
Transportation Groups	80	Public Affairs	42
Chemical Brigades	75	Theater Area Army Commands	40
Petroleum Supply Battalions	69	Water Supply Battalions	33
Theater Signal Commands	66		

Source: U.S. Department of the Army, Office of the Chief of the Army Reserve, *Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century.*[17]

Such significant portions of critical combat support and combat service support capabilities positioned in the Army Reserve have made them indispensable to the total force across the entire spectrum of warfare. In the period following World War II, the Army Reserve had been viewed as a force to be held in the background until mobilized in the later stages of a national military crisis. The total force policy changed this view dramatically. Now an Army Reserve once envisioned as only being required for a large-scale war was transformed into a force that would be required for small-scale conflicts because of the essential military capabilities it contained. This change would not only require the Army Reserve to be mobilized more frequently but also more rapidly. "Before

the total force policy, the reserves were viewed as late-deploying reinforcements for a protracted conflict. Today reserve forces are no longer considered to be forces of last resort; rather, they are now recognized as indispensable to the nation's defense from the earliest days of a conflict."[18]

The dependence on the Army Reserve will not decline in the future. United States military strategy is based on continued dependence on the Army Reserve. United States military strategy affirms this dependence when it expresses that "reserve components have become essential participants in the full range of military operations."[19] The *Report of the Quadrennial Defense Review* echoes this proclamation by stating that no major operation can be successful without the use of the reserves.[20] "The military operations that the Army could conduct without involving the reserve components appear to be extremely limited."[21]

In the post-Cold War era, reductions in the active Army have made the Army Reserve an ever-larger portion of the total force. When the force reductions envisioned by the *Report of the Quadrennial Defense Review* are complete "the Army Reserve components will have been reduced 32 percent from Cold War levels, compared with a 38 percent reduction in the active Army."[22] The current pressure in Congress to pursue additional peacetime dividends may lead to further reductions in the active Army causing an even greater dependence on the U.S. Army Reserve. In addition to the pressures added to the reserves from a decrease in the size of the active Army, U.S. participation in peacekeeping operations since the end of the Cold War only add to the importance of the U.S. Army Reserves.[23] Understanding the potential impact on Army Reserve unit

personnel readiness of this increasing dependence is indispensable to assuring the readiness and availability of the Army Reserve and thus leads to the research question of, is there a relationship between operational tempo and Army Reserve unit personnel readiness.

Assumptions

Terminology related to the reserves is frequently ambiguous. During the course of research, there were several occasions when the specific reserve element being reported on in the literature could not be assessed with certainty. To complete the research, it was sometimes required to infer from the context, the specific reserve element suggested. On occasions, when this inference could not be made with a measure of confidence, the material was discounted unless the information presented was of a general nature that tended to apply to all reserve elements.

Definitions

The following terms require definition. The definitions are formed from *Profile of the Army: A Reference Handbook*[24] and the Army web site.[25]

The Army Reserve Components include the Army Reserve and the Army National Guard and are commonly referred to as the RC. Within the RC are three reserve categories: the Ready Reserve, consisting of the Selected Reserve, the Individual Ready Reserve (IRR), and the Inactive Army National Guard; the Retired Reserve; composed of individuals who have completed twenty years of service for retirement; and the Standby Reserve; consisting of Army reservists who have completed their active duty and reserve training requirements or Army reservists who are temporarily unavailable for immediate

recall because they have been designated essential civilian employees or suffer from a temporary physical disability or hardship condition.

The Selected Reserve consists of drilling Army reservists assigned to reserve units, Individual Mobilization Augmentees (IMAs) assigned to active component commands, and Army reservists who are members of the Active Guard/Reserve (AGR) Program. The Selected Reserve is considered essential to initial wartime readiness.

The IRR consists of trained individuals who have previous active duty or Selected Reserve experience. Members of the IRR are not assigned to units and do not have specified mobilization assignments.

IMAs are Army reservists with specific assignments to fill in case of mobilization. These assignments include preassignment to an active component, Department of Defense (DOD) agency, Selective Service System, or a Federal Emergency Management Agency position that must be filled on or shortly after mobilization.

Within this complex Army Reserve component structure, two issues serve to characterize the components, the amount of annual training and the degree to which each is subject to mobilization.

In terms of annual training, the Selected Reserve, essential to wartime missions, receives the largest amount of annual training, participating in forty-eight drill periods annually in addition to at least two weeks of active duty annually. IMAs normally only train annually with their Selected Reserve unit. Individual Ready Reservist, Retired Reservist, and Standby Reservist usually do not receive any annual training. Inactive National Guardsmen are temporarily unable to participate in training.

With respect to mobilization, the components most subject to mobilization are those components that are subject to Presidential Selected Reserve Call-Up (PSRC) authority. Under PSRC, the President may activate up to 200,000 reservists for up to 270 days involuntarily. Until recently, only Selected Reservists were subject to PSRC authority. The National Defense Authorization Act for Fiscal Year 1998 extends PSRC authority to include up to thirty thousand IRRs. The Retired Reservist may be ordered to active duty to fill specific manpower requirements by the Secretary of the appropriate military department. Other Army Reserve component reservists may volunteer for mobilization. Upon declaration of a national emergency by Congress, the activation ceiling increases to one million reservists for up to two years and Individual Ready Reservists and Standby Reservists become subject to mobilization.

Unfortunately, many writers and speakers did not make the distinction as to which specific element was being referred to. Throughout this thesis, care was taken to make the distinction clear. If in the interest of brevity, the term reserves was used in isolation, it should be understood as referring to the Army Reserve.

The following variables require definition. The definitions are formed, in part, from "Reenlistment Intentions of Citizen Soldiers in the United States Army," *Armed Forces & Society*.[26]

Hyder Lakhani, the author of "Reenlistment Intentions of Citizen Soldiers in the United States Army," *Armed Forces & Society*, suggests the terms economic, demographic, social, institutional, attitudinal, and effective variables with respect to variables forecasting the reenlistment intentions. The framework of reference these terms

afford is suitable with respect to variables forecasting the enlistment intentions of potential reservists and as well is suitable with respect to variables forecasting the impact on the Army Reserve's training.

Economic variables are those sets of elements concerning job participation and thus center on the Army reservists' choices between military and civilian employment and additional leisure. Additional economic variables include employment level and debt.

Demographic variables focus on educational characteristics of the reservists population.

Social variables focus on family specifics such as number of dependents.

Institutional variables center on characteristics of the reservists unique to military service, such as prior versus nonprior service, rank, and time in service.

Attitudinal variables define those arguments that influence reservists' attitudes. Primary variables include a reservist's perception of a spouse's or employer's attitude towards participation in the Army Reserve.

Effective variables define reservists' satisfaction derived from noneconomic benefits such as satisfaction with military life, camaraderie, and patriotism.

Limitations

The amount of specific studies that relate mobilization to personnel readiness is limited. Past studies on retention, training, and recruiting tend to focus on economic ramifications because the probability of mobilization was seen as low. The personnel accounting systems used by the various Army managers to account for personnel

readiness variables impose a limitation. Dissimilarities in personnel accounting system nomenclature make comparison of data across the various fields challenging. The lack of convention with regard to terminology referencing the reserves imposes a limitation. Additionally, the decision to limit research to unclassified sources presents a minor limitation. Although there is sufficient information available from unclassified sources to conduct the study, the use of classified information would have afforded unit specific reports.

An important limitation is survey data. The attributes of surveys are not timeless and may be influenced by variables that may not hold true to future relationships between operational tempo and Army Reserve unit personnel readiness. Indeed, the unique influence of Operation Desert Shield/Storm and the post-Cold War drawdown during the time periods under consideration may serve to render many of the conclusions as irrelevant and uncharacteristic of the future relationship between operational tempo and Army reserve unit personnel readiness.

Delimitations

Research is limited in both breadth and depth because of time constraints. In breadth, research into the effects of operational tempo is limited to personnel readiness. Research could expand to explore other relationships between operational tempo, such as material readiness, but does not because of time constraints. The research could also expand to include the relationship of operational tempo to the personnel readiness of the reserve elements of the other services but does not because of time constraints.

In depth, the research focuses on the period during and following Desert Shield/Storm because this period represents a time for which mobilization of the Army Reserve significantly increases. Additionally, this period is the focus owing to time constraints.

As a practical matter, the focus of the research is not limited to, but did naturally tend to focus on the Selected Reserves. This is because the Selected Reserve represents that element of the Army Reserves most susceptible to mobilization.

Research Methodology

This study supports the primary research question using a combination of an empirical investigation of historical literature and comparative analysis to historical surveys. To answer the primary question, the research methodology addresses two subordinate questions. The first question is, What do theoretical works estimate the influence of changes in operational tempo is on Army Reserve unit personnel readiness, especially in the areas of recruiting, training--specifically, duty military occupational specialty qualification (DMOSQ), and retention?

Because of the contemporary character of the research topic, most theoretical literature does not directly address the relationship between operational readiness and Army Reserve readiness and therefore the main value of almost all theoretical literature is to provide a basis from which inferences can be developed. Lacking immediate references to the relationship between operational tempo and Army Reserve unit personnel readiness, theoretical literature does allow for deductions to be made about the potential impact of increasing operational tempo on the personnel readiness of Army

Reserve units. For example, theoretical works predict that annual training time results in decreased retention because of the amount of time reservists spent away from their family. The logical conclusion from such theoretical work is that since increased operational tempo also causes an increased amount of time spent away from family; increased operational tempo also results in decreased retention and hence a corresponding decrease in Army Reserve unit personnel readiness. Therefore, despite lacking direct references to the potential impact of increasing operational tempo on the personnel readiness of Army Reserve units, theoretical literature does allow for deductions to be made regarding the potential impact of increasing operational tempo on the personnel readiness of Army Reserve units.

The second question goes further to compare these deductions derived from theoretical literature to the actual relationships between operational tempo and Army Reserve unit personnel readiness that are established from historical surveys. Are the relationships between operational tempo and Army Reserve unit personnel readiness predicted from a comparative analysis of historical literature reflected in historical surveys, such as the recently completed mobilization surveys? An affirmative answer tends to validate the empirical investigation of the historical literature and the comparative analysis of said historical literature and historical surveys. A negative or inconclusive answer tends to refute all or parts of the previously cited works and calls for conclusions as to why they are invalid.

Significance of the Study

Several recent events serve to highlight concerns over the relationship between operational tempo and Army Reserve unit personnel readiness. Foremost amongst these events is Operation Desert Shield/Storm. Operation Desert Shield/Storm not only represents the first major mobilization of the Army Reserve in almost fifty years, but also represents the first major mobilization of the Army Reserve under the All-Volunteer/total force policy. Until Operation Desert Shield/Storm the likelihood of Army Reserve mobilization was viewed as so remote that it had minimal measured influence in individuals decisions to join or remain in the Army Reserve, hence no impact on readiness. Manpower managers are uncertain about the impact that Operation Desert Shield/Storm will have on individual's views of the likelihood of mobilization and hence about how these views will affect decisions to join or stay in the Army Reserves.[27] Previous studies that indicate that increased training time results in increased attrition, only serve to intensify this doubt.[28]

An additional event that serves to increase uneasiness over the relationship between operational tempo and Army Reserve unit personnel readiness is the drawdown of the Armed Forces. Again, uncertainty over the impact that this event will have on individuals raises concerns about the influence the drawdown will have on readiness, especially in the areas of retention and recruiting.[29] A related concern of the drawdown is the heavier reliance the drawdown places on the Army Reserve because of the decreased size of the active Army force. A telling statistic of the degree to which the drawdown of the active Army force has resulted in increased reliance on the Army Reserve is that if the

Army were to conduct an operation similar to Operation Desert Shield/Storm again, it would require six times the number of Army Reserve personnel in the first seventy-five days, that is, 90,000 versus 15,000.[30] The potential repercussion on operational tempo is obvious.

Increasing operational tempo of the Army Reserves is at a point that is unprecedented in United States history. This position of "unprecedented dependence on the reserves"[31] and future indicators of continued dependence make understanding the relationship between operational tempo and readiness that much more important. Because mobilizations have not occurred with frequency until recently, current research does not sufficiently address this relationship.

Given the current environment and national military strategy, the availability and readiness of the reserve forces must be as certain as the availability of the active forces.[32] The answers developed in this thesis should help planners determine if any adjustments need to be made to policies to ensure the continued availability of the Army Reserve.

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[1]The White House, Office of the Press Secretary, "Proclamation of National Employer Support the Guard and Reserve" [Article on-line] (Washington DC: Publications-Admin, 1997, accessed 30 October 1997) available from http://pub.pub.Whitehouse.Gov

[2]U.S. Department of Defense, Office of the Secretary of Defense, *Report of the Quadrennial Defense Review* (Washington, DC: GPO, 1997), 5.

[3]U.S. Dept. of the Army, Office of the Secretary of the Army, Honorable Togo D. West, Jr., and General Dennis J. Reimer, *United States Army Posture Statement FY 98* (Washington, DC: GPO, 1997), 42.

[4]Sheila Nataraj Kirby and Richard Buddin, *Enlisted Personnel Trends in the Selected Reserve, 1986-1994: An Executive Summary*, (Santa Monica, CA: Rand Corp., 1996), 3.

[5]Katherine McIntire Peters, "In Reserve: Combat Troops Devour Funds Needed at Expense of Critical Needs, "*Army Times,* (Springfield, VA, 17 July 1995), 18.

[6]Philip A. Brehm, *Restructuring the Army: The Road to a Total Force* (Carlisle Barracks, PA: Strategic Studies Institute, February 1992), 3.

[7]Charles E. Heller, *The New Military Strategy and Its Impact on the Reserve Components* (Carlisle Barracks, PA: Strategic Studies Institute, December 1991), 12.

[8]Ibid.

[9]Ibid.

[10]Ibid., v.

[11]U. S. Dept. of the Army, Office of the Chief of the Army Reserve, *Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century* [book on-line] (Washington DC: GPO, 1997, accessed 5 December 1997) available from http://www.army.mil/usar/posture.htm/

[12]Beth J. Asch, *Reserve Supply in the Post-Desert Storm Recruiting Environment* (Santa Monica, CA: Rand Corp., 1993), 3.

[13]Force Planning Faculty, Naval War College, ed., *Fundamentals of Force Planning,* Vol. 2, *Defense Planning Cases* (Newport: Naval War College Press, 1990), 375.

[14]Ibid.

[15]U. S. Dept. of the Army. FM 100-5*: Operations* (Washington, DC: GPO, 1993), 12-2.

[16]Heller, 12; Ibid.

[17]U. S. Dept. of the Army, Office of the Chief of the Army Reserve, *Trained, Ready, Relevant*, 3.

[18]U. S. GAO, National Security and International Affairs Division, Report to the Congressional Committees, *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations* (Washington, DC: GPO, 1997.), 2.

[19] Joint Chiefs of Staff. *National Military Strategy of the United States of America: Shape, Respond, Prepare Now: A Military Strategy for a New Era* (Washington, DC: GPO, 1997), 21.

[20]U.S. Department of Defense, Office of the Secretary of Defense, *Report of the Quadrennial Defense Review* (Washington, DC: GPO, 1997), 5.

[21]Martin Binkin and William K. Kaufman, *US Army Guard and Reserves: Rhetoric, Realities and Risks* (Washington, DC: The Brookings Institute, 1989), 19.

[22]Ibid., 33.

[23]U.S. GAO, National Security and International Affairs Division, Report to Congressional Requesters, *Peace Operations: Reservists Have Volunteered When Needed* (Washington, DC: GPO, 1996), 21.

[24]Association of the U.S. Army, *Profile of the Army: A Reference Handbook* (Arlington, VA: Association of the U.S. Army, February 1997)

[25]U. S. Dept. of the Army, Office of the Chief of the Army Reserve, "*Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century* [book on-line] (Washington DC: GPO, 1997, accessed 5 December 1997) available from http://www.army.mil/usar/posture.htm/

[26]Hyder Lakhani, "Reenlistment Intentions of Citizen Soldiers in the United States Army," *Armed Forces & Society*, 22 (Fall 95): 118-120.

[27]Kirby, 5.

[28]Ibid.

[29]"Trends in the Enlisted Reserve," *Rand Research Brief*, (Santa Monica: CA Rand Corporation, 1996) 1.

[30]Peters, Ibid., 18.

[31]Binkin and Kaufman, 2.

[32]U.S. Department of Defense, Reserve Component Policy Board, *Reserve Component Report of the Quadrennial Defense Review* (Washington, DC: GPO, 1997), 2.

CHAPTER 2

LITERATURE REVIEW

> The Army has undergone some of its most dramatic changes in more than a half-century. The Army's focus has changed from fighting a major European war to ensuring the capability to protect vital U. S. national interests in worldwide contingencies. It has changed from a forward-stationed Army to a power-projection Army, and it is a much smaller Army. In fact, it is the smallest force since just prior to World War II. Since 1989, the Army has reduced its active forces by 275,000; reduced the Army National Guard by 84,000; reduced the Army Reserve by 89,000; reduced the civilian workforce by 135,000; cut active force structure by eight divisions and Army National Guard force structure by two divisions; and reduced the size of the force in Europe to approximately 65,000 soldiers.
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> Association of the United States Army, *Profile of the Army: A Reference Handbook.*[1]

Background

Two broad categories are used to divide sources of material relevant to the topic. The first of these broad categories of materials is strategy, doctrine, and reports that provide a historical, present, and future accounting of the development and environment of the Army Reserve. The second of these broad categories of materials is studies and surveys that reflect empirical investigations and historical surveys of attributes concerning Army Reserve unit personnel readiness variables, such as retention and recruiting.

A pronounced shortfall in earlier literature is a direct discussion of the impact of increasing mobilizations, on the Army Reserve. Later literature begins discussion on the impact of increasing mobilizations yet is restricted in its scope because of its tie to past

historical surveys as a basis of comparison. Unfortunately, since these past historical surveys did not develop research into the impact of mobilizations, current, and future research will continue to be limited until ties with past historical surveys are broken and fresh research is begun. In spite of this limitation, the body of literature offers sufficient insight into variables governing Army Reserve readiness to permit hypothesis of the impact of increasing mobilizations on Army Reserve unit personnel readiness, and historical surveys offer a means by which to test these hypotheses.

The theme of that broad body of literature pertaining to a historical, present, and future accounting of the development and environment of the Army Reserve is characterized as one that chronicles a growing importance of the Army Reserve to a total force and to the defense of the nation.

The more current the strategy, the doctrine, or the report, the more pronounced is its recognition of the importance of the position in national defense that the Army Reserve holds. A supplementary theme of the literature is the call for increased use of the Army Reserve. Consistently lacking from this call for expanded utilization of the Army Reserve is any deep concern over the impact of increased utilization of the Army Reserve.

Within the first broad category of materials, literature includes strategy, doctrine, and reports.

Strategy

To postulate the future direction of the utilization of the Army Reserve, strategic and doctrinal material provides insight. *The National Security Strategy for a New Century* presents the national security strategy of the executive branch. *The National*

Security Strategy for a New Century provides insight into the future direction of United States military strategy. The strategy portends continuing the use of a military force for overseas presence and power projection as instruments of promoting stability and thwarting aggression.[2] *The National Security Strategy for a New Century* affirms the importance of the total force, active and reserve components, in responding to crisis.[3]

A subordinate strategic source is Chairmen of the Joint Chiefs of Staff paper *The National Military Strategy of the United States of America--Shape, Respond, Prepare Now: A Military Strategy for a New Era.* This paper closely relates the chairmen's intentions for implementing the military strategy outlined in the national security strategy of the executive branch. National military strategy repeats the national security strategy of using military force for overseas presence and power projection as instruments to promote peace and defeat adversaries. Addressing the use of armed forces reserve components, the paper remarks that "Reserve Components, in addition to being essential participants in the full range of military operations, are an important link between the Armed Forces and the public."[4] The paper also highlights the use of Reserve Components to ease the operational tempo of the active component.[5]

Doctrine

Joint doctrinal sources discussing the Army Reserve are:

1. Joint Publication 1, *Joint Warfare of the Armed Forces of the United States*;

2. Joint Publication 3-0, *Doctrine for Joint Operation*; and,

3. Joint Publication 3-07, *Joint Doctrine for Military Operations Other Than War.*

Each of these joint doctrinal sources acknowledges the importance of the Armed Forces Reserve Components. Addressing dependence on the Armed Forces Reserve Components, the first source, Joint Publication 1, *Joint Warfare of the Armed Forces of the United States*, relates that Armed Forces Reserve Components have to be "available as needed."[6] The second source, Joint Publication 3-0, *Doctrine for Joint Operation*, reflects that Reserve Components provide "the Nation with unique and complementary capabilities in time of war or national emergency, or such other times as the national security requires."[7] The later source, Joint Publication 3-07, *Joint Doctrine for Military Operations Other Than War*, recognizes that military operations other than war "may require reserve component units and individuals not found in the active component or may require deployment of more units or individuals possessing a capability than are available in the active component force."[8]

Army doctrinal sources are:

1. Army Field Manual 100-1, *The Army*; and,

2. Army Field Manual 100-5, *Operations*.

Addressing Army Reserve participation, Army Field Manual 100-1, *The Army*, remarks that "reduction in Army strength and the accompanying shift from a forwarded deployed to a force projection Army demands increasingly active cooperation and affiliation between Active and Reserve Components."[9]

Army Field Manual 100-5, *Operations*, recognizes the dependence on the Army Reserve that a total force policy creates and similar to Joint Publication 3-07, *Joint Doctrine for Military Operations Other Than War*, recognizes that in military operations other than war, Reserve Components have to furnish forces.[10]

Three other related doctrinal documents are *Joint Vision 2010, Concept for Future Joint Operations, Expanding Joint Vision 2010,* and *Army Vision 2010.*[11]

The shared focus of each document is to articulate a doctrine for the future of Armed Forces at the operational level. Each comments on the likely future role of the Army Reserve. *Joint Vision 2010* states that responsive Reserve Components are required to fulfill a full range of military operations. *Concept for Future Joint Operations: Expanding Joint Vision 2010* acknowledges the importance of the total force and, as does *Joint Vision 2010*, recognizes that reductions in the active Army increase the importance of the Reserve Components. *Army Vision 2010* also acknowledges that reductions in the active Army serve to make the Army Reserve more relevant across the entire spectrum of conflict.

Reports

Continuing to postulate the future direction of utilization of the Army Reserve, the following reports provide additional insight. The *Quadrennial Defense Review*, in its search for an answer to what the force structure of the United States military should be in the next century, provides valuable insight into the future of Armed Forces Reserve Components. With reference to utilization of these reserves, the *Quadrennial Defense Review* echoes even more strongly the view of the national military strategy by stating

that "in a post-Cold War era, the Reserve Components have become an ever-larger percentage of the Total-Force and are essential participants in the full spectrum of operations, from the smallest of smaller-scale contingency operations to major theater war."[12] "No major operation can be successful without them."[13] Addressing the force structure of the Army Reserve, the report highlights the importance of combat support and combat service support in the Army Reserve and encourages conversion of Army National Guard combat units to combat support and combat service support units to mitigate existing shortages of these units to meet the requirements of supporting two concurrent major theater wars.

A report of the National Defense Panel *Transforming Defense: National Security in the 21st Century--Report of the National Defense Panel* focuses "on the long-term issues facing U.S. defense and national security."[14] Addressing the use of Armed Forces Reserve Components, the panel's conclusion is that the Armed Forces Reserve Components "must be prepared and resourced for use in a variety of ongoing worldwide operations;" continuing on to assert that Reserve Components "will play an increasing role in a variety of these [ongoing worldwide operations] by relieving active units and reducing the operational tempos of frequent and lengthy deployments."[15] The report projects an increasing role for Reserve Components in what the report terms Homeland Defense, the chemical and biological defense of the United States. *Transforming Defense: National Security in the 21st Century--Report of the National Defense Panel* acknowledges the significant transition that the Army Reserve has recently undergone as the Army Reserve has shifted more toward combat service support and has increased

Army Reserve participation in peacetime missions. The report concludes that "steps--to include some restructuring of the Reserve--need to be taken now to reduce the Personnel Tempo (PERSTEMPO) problem for certain high demand units."[16]

In *U.S. Army Guard and Reserves: Rhetoric, Realities, and Risks*, Martin Binkin and William K. Kaufman of the Brookings Institute[17] examine the soundness of increasing dependence on Army Reserve Components. The report focuses on the structure and the readiness of Army Reserve Components. The authors recognize that "reserve components now bear not only a large responsibility for the Army's warfighting mission but early on as well."[18] The authors subsequently remark that "military operations that the Army could conduct without the reserve components appear to be extremely limited."[19]

A series of reports by the Strategic Studies Institute of the Army War College analyzes various aspects of the Reserve Components. *The New Military Strategy and Its Impact on the Reserves* by Charles Heller postulates that the current national military strategy did not keep to President Bush's intention of restructuring the military, choosing instead to just downsize the military.[20] Heller unquestionably favors a fuller integration of Active and Reserve Components. He relates that fuller integration would be in accordance with both past promises of total force policy and the promise of President Bush not to create a scaled-down force, but instead to restructure the force. *The New Military Strategy and Its Impact on the Reserves* also provides valuable information on the historical development of the Army Reserve.

A further Strategic Studies Institute report is *Restructuring the Army: The Road to a Total Force* by Philip A. Brehm argues that "the Active Component (AC) is best suited to conduct combat operations, particularly the contingency type we may expect in the future; the Reserve Components are best at providing combat support and combat service support (CS/CSS)."[21] Accordingly, Brehm argues that the Army Reserve should restructure to furnish more combat support and combat service support instead of just downsizing in equal proportion to combat, combat support and combat service support. He also repeats the frequent declaration that dependence on the Army Reserve is at historical levels.

Last in this series of Strategic Studies Institute reports is *Total Force: Federal Reserves and State National Guards* by Charles E. Heller.[22] The author surveys the Armed Forces Reserve Components, analyzes, and charts their present status, as well as future roles. Heller provides a historical summary on the development of the Army Reserve as well as the historical development of other Armed Forces Reserve Components. In the chapter on the Army Reserve, the report echoes the now familiar theme that dependence on the Army Reserve is significant.

The National Security and International Affairs Division of the United States General Accounting Office (GAO) produced several reports pertaining to the Army Reserve. These reports help to establish a clear understanding of the current, as well as future, role of the Army Reserve. *DOD Reserve Components: Issues Pertaining to Readiness* makes abundantly clear the significant capabilities that the Army Reserve provides. The report also focuses attention to the fact that "since the end of the Cold

War, new regional dangers have replaced the global Soviet threat, and reserve forces must meet these new challenges."[23]

Another GAO report *Peace Operations: Reservists Have Volunteered When Needed* highlights the increasing role of the Army Reserve and draws attention to the concerns of "reserve officials on the impact that increased military duty may have on the Army reservists' relationship with their civilian employers."[24] The report postulates that lacking employer support, Army reservists might elect civilian employment over their Army Reserve employment.

Another GAO report *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations* highlights the increasing role of the Army Reserve. Goals of total force policy are interpreted as, "to reduce cost and maintain as small an active peacetime force as possible, the Department of Defense (DOD) follows a total force policy that relies heavily upon reserve forces to augment active forces in wartime and peacetime operations and during national emergencies."[25]

The final GAO report *Force Structure: Army National Guard Divisions Could Augment Wartime Support Capability* argues that combat support and combat service support shortages in the Army Reserve could be eliminated, in part, by reorganizing the Army National Guard's CS/CSS units. In the course of this argument, the report provides an outstanding accounting of the current force structure of the Army. In developing the historical background of CS/CSS shortages the report makes a key point in differentiating the source of CS/CSS shortages. The report points out that divisional support CS/CSS

units are resourced over nondivisional support units, therefore shortages are more expected in the later type of unit than in the former.[26]

The *United States Army Reserve Long Range Plan: 1993-2003*[27] expectedly provides insight into the future of the Army Reserve. The report highlights the cost effectiveness of the Army Reserve and the importance of the Army Reserve to the total force and projects a dynamic future for the Army Reserve. The report raises concerns about future accessions because of a shrinking pool of prior-service soldiers and a shrinking population of young adults.[28]

Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century[29] discusses the posture of the Army Reserve providing current information on personnel contribution to the total force, as well as budgetary information. In the report, the Chief of the Army Reserve acknowledges that "the Army Reserve's soldiers have undergone a sea change in their professional outlook. The question in no longer 'whether' the president will call, but 'when.'"[30]

The theme of that broad body of literature pertaining to empirical investigations and historical surveys of attributes concerning Army Reserve unit personnel readiness variables, such as retention and recruiting, chronicles a shift from a view of underlying variables governing readiness dominated by economic attributes to a view of underlying variables governing readiness dominated by noneconomic variables. Along with this shifting view is--as was the case with literature that developed a historical, present, and future accounting of the Army Reserve--a growing recognition of the importance of the Army Reserve to the total force and to the defense of the nation.

Initial empirical investigations and historical surveys of attributes concerning Army Reserve unit personnel readiness variables are not concerned with noneconomic attributes and even less concerned with the impact of mobilizations. Investigations and surveys focus on the development of an economic model to explain Army Reserve readiness attributes and the subsequent application to Army Reserve policy and procedures of economic lessons offered by economic models. Similar to earlier themes of literature discussed, empirical investigations and to a lesser degree historical surveys increase as time passes in the recognition of the importance of roles served by the Army Reserve. Dissimilar to the earlier themes of literature discussed is a growing concern over the impact of expanded utilization of the Army Reserve. This concern is blanketed initially in terms of the economic impact to Army reservists and its resultant impact on Army Reserve unit personnel readiness and later develops into concerns over the noneconomic impact to Army reservists and henceforth the impact on Army Reserve unit personnel readiness.

Studies

Empirical investigations of economic variables lead to development of an economic theory to account for decisions Army reservists' make with regard to enlistment and retention. The Rand Corporation study *Attrition and Retention in the Army Reserve and Army National Guard: An Empirical Analysis* articulates the historical economic rationale, labeled as the moonlighting labor market theory. The moonlighting labor market theory explains reservists' participation decision as a decision to take a part-time or secondary job.[31] "The higher the primary wage and the greater the number of hours

worked, the lower would be the probability of moonlighting,"[32] hence the lower is the probability of participating in the Army Reserve. Variables included in the moonlighting labor market theory are "net reserve pay, net reserve time, civilian wage rate, and number of hours worked on the civilian job."[33]

One of the interesting points reflected in the study is the relatively minor impact that Army Reserve pay has on Army reservists' decisions. This minimal impact is attributed to the small amount of total family income represented by Army Reserve pay. Typical "net annual after-tax reserve income represented only 7 percent of the total after-tax income."[34] Noting a 1978 survey, the study states that the top three reasons given by Army reservists for separating were conflict with family or leisure time (31.6 percent), conflict with civilian job (30.8 percent), and general dislike of the military (11.4 percent).[35]

Interestingly, the 1978 survey notes that only 0.8 percent of Army reservists choose to separate from the Army Reserve owing to a fear of a call-up or mobilization,[36] a statistic that supports the assertion that in a pre-Desert Storm environment, mobilization probability is not viewed as adverse by Army reservists.

In *Improving Reserve Compensation: A Review of Current Compensation and Related Personnel and Training Readiness Issues,* Rand Corporation authors David Grissmer, Richard Buddin and Sheila Nataraj Kirby raise two engaging personnel readiness issues. First, the authors examine low levels of DMOSQ readiness in the Army Reserve. The authors report causes of low levels of DMOSQ readiness as "low rates of occupational matching for prior service personnel, high turnover of personnel in units, the

long process of occupational retraining, and promotion incentives encouraging occupational movement."[37] Quantifying these low rates of occupational matching, the study discloses that approximately 60 percent of prior-service Army reservists do not use their active-duty acquired DMOSQ upon joining the Army Reserve.[38] The magnitude of high turnover of personnel is demonstrated by the finding that approximately 50 percent of nonprior service Army reservists are still in their DMOSQ after one year.[39]

Another personnel readiness issue the study highlights is the impact of mobilization and income. Detailing results of a 1986 Survey of Army reservists, the study notes that when asked what the effect on their income would be if they were mobilized for thirty days or more, approximately one-half of the Army reservists surveyed relate that their income would decrease somewhat or decrease greatly.[40]

A further Rand Corporation study by David Grissmer and Sheila Nataraj Kirby is *Changing Patterns of Nonprior Service Attrition in the Army National Guard and Army Reserve*. The study analyzes attrition patterns of nonprior service personnel in Reserve Components determining that consistent determinants of attrition are gender, education and aptitude, race, age, and martial/dependency status--concluding that:

1. Gender is the highest consistent difference in attrition with women being at much higher risk of attrition than males;

2. Education and aptitude variables are the second highest consistent difference in attrition with more education and higher aptitude lending to lower attrition; and,

3. Race, age, and martial/dependency variables have a smaller impact on attrition concerning men, but a has larger negative impact concerning women.[41]

The study concludes that the aforementioned variables are insufficient to develop accurate attrition models owing to unmeasured influences of changing training and performance standards, changing service discharge policies, and changing employment levels.[42]

An additional Rand Corporation study also authored by David Grissmer and Sheila Nataraj Kirby *Enlisted Personnel Trends in the Selected Reserve: An Executive Summary* examines the personnel readiness of the Selected Reserve during the period fiscal year 1986 to 1994. The main focus of the study is on implications to Army Reserve unit personnel readiness stemming from availability of former active-duty personnel to the Army Reserve as a result of the active Army drawdown and concerns over the impact of the large reserve call-up represented by Desert Shield/Storm addressing:

1. Recruiting and retention of prior-service personnel from the active Army forces;

2. Efficient matching of DMOSQs of soldiers transferring from active duty to the Army Reserve;

3. Attrition levels for the Reserve Components; and,

4. Qualification levels in the Army Reserve.

Additionally, the study highlights some potential areas of concern regarding Army Reserve manning in the future. Commenting on projected manpower and readiness requirements for the Army Reserve, the study suggests that the combination of increasing roles and missions for the Army Reserve in conjunction with downsizing make personnel readiness of the Army Reserve a "critical issue."[43]

The manner in which the study measures Army Reserve unit personnel readiness is similar to the structure of this thesis. Specifically, Army Reserve unit personnel readiness is viewed as the aggregate measurement of recruiting training, and retention readiness.

Although the report details other personnel problems facing the Reserve Components including high attrition, turnover among personnel, to include both those reservists with and without prior service, and a low level of DMOSQ qualification; in summary, the study optimistically concludes that "Reserve Components have been remarkably successful in keeping quality high, attracting and retaining prior-service personnel, improving skill match rates at entry, and keeping attrition and skill-qualification rates fairly stable."[44] The study notes that attrition among non prior-service reservists is increasing but notes that this increase may be the result of Army Reserve policies that favor retention of prior-service personnel over non prior-service personnel and not a reflection of lower propensity to stay in the Army Reserve on the part of non prior-service reservists.

Another study authored by Kirby and Grissmer is *Reassessing Enlisted Reserve Attrition: A Total Force Perspective* in which the two authors detail attrition patterns of

Armed Forces Selected Reserves noting patterns of attrition to civilian life, active duty, or another Reserve Component.[45] The result of their collective work is to show that attrition loses as measured in aggregate are not that damaging because much of the losses from the reserves return to either active duty (25 percent) or another Reserve Component (25-50 percent).[46] The report also provides an examination of differences in attrition across components and an examination of factors that attribute to attrition.

Author Man-bing Sze joins Grissmer and Kirby in another Rand Corporation study *Factors Affecting Reenlistment of Reservists: Spouse and Employer Attitudes and Perceived Unit Environment.* The study focuses on reenlistment decisions of early to mid career Selected Reservists with four to six and seven to twelve years of service. The study represents a notable departure from other studies by not focusing on economically based moonlighting models variables and instead concentrating on attitudinal variables and unit environment "that are generally ignored or overlooked in the more traditional moonlighting models."[47] The study concludes that attitudinal variables and unit environment are more important determinants than economic variables[48] and critical to reservists' decisions to stay in the reserve.[49]

Attitudinal variables examined include perceived spouse attitude on reenlistment and perceived employer attitude. Unit environment variables examined include camaraderie, unit morale, and the usefulness of training during drills and active training.

Regarding attitudinal variables, conclusions are that perceived favorable:

1. Employer attitude increases reenlistment rates (69 vs. 68 percent); and

2. Spouse attitude significantly increases reenlistment rates (85 vs. 42 percent).[50]

Regarding unit environment variables, the report concludes are that dissatisfaction with unit:

1. Training, unit equipment, and unit morale lowers reenlistment rates 3-6 percent), and;

2. Morale has a more negative impact among those with 4-6 years of service versus those with 7-12 years of service (3-6 percent vs. 10 percent).

Additionally the study concludes that reservists in lower paygrades and with less experience have lower reenlistment rates.[51]

Noting decreasing employer and family positive attitudes, the study concludes that these attitudes are aggravated by extra time requirements represented by increasing annual training.[52] The authors suggest that the adverse influence of additional training time may arise not just from conflict of extra time but also from perceived lower compensation from annual training time as compared with drill participation compensation.[53]

Rand Corporation researcher Beth Asch examines Army Reserve recruiting supply in the Post-Desert Storm environment in Reserve *Supply in the Post-Desert Storm Recruiting Environment.* She makes an important point that "because mobilization risk has traditionally been small, almost all previous studies have been able to neglect its effects on reserve supplies."[54] This historical view of mobilization not only affected past studies on recruiting but also affected past studies on retention as well.

In hypothesizing a Post-Desert Storm recruiting environment, the study projects that the active Army drawdown will cause the pool of potential Army Reserve recruits to increase as they are denied entry into the active Army these potential recruits would seek subsequent service in the Army Reserve. Additionally, the pool of potential Army Reserve recruits will increase as the number of prior-service active Army members temporarily increase because of the drawdown, adding to the pool of potential Army Reserve recruits.

Propensity of Army prior-service soldiers to join the Army Reserve is the subject of another Rand Corporation report *Army Reserve Component Accessions from Personnel Completing Their First Active-Duty Enlistment.* The authors Richard Buddin and Stephen J. Kirin examine propensity of soldiers to join the Army Reserve after completing their first active-duty enlistment. The study notes that propensity of Army prior-service soldiers to join the Army Reserve is as high as 49 percent depending upon years of Army prior-service.[55]

Buddin and Kirin also conclude that soldiers completing a shorter enlistment have a higher propensity to join the Army Reserve than do soldiers who complete longer-term enlistments.[56] The authors also stress that force reductions in the active Army will affect the Army Reserve because of historically high levels of prior-service soldier participation in the Army Reserve; concluding that in the long-term as the number of prior-service active Army soldiers decreases as a result of the drawdown, the active Army will provide fewer prospective Army reservists. This is significant as historically, about 60 percent of Army reservists have served on active duty.[57]

The two authors suggests that programs similar to the 2+2+4 program, in which enlistees are offered a two-year active-duty tour followed by two years in the Selected Reserve and four years in the Individual Ready Reserve, could be used to meet manpower requirements of the Army Reserve[58] by not only mandating Army Reserve participation but by also causing the creation of a large pool of prior-service soldiers with a proven higher propensity to join the Army Reserve.

Commenting on projected requirements for Army reservists, the study suggests several attributes that may tend to increase Army Reserve recruiting demand. One of these attributes is "recent congressional appropriation decisions to support an increase in the number of Army reservists relative to the number of active-duty personnel."[59] Another attribute offered by the report is "expectations about future threats to national security in the post-Cold war era may increase the military's reliance on the flexible manpower capacity that the reserves provide."[60] The last attribute mentioned in the report is the traditional argument that budgetary pressure may increase demand for the cost effectiveness that the Army Reserve represents.

Buddin and Kirin also comment on Army reservists' mobilization expectations. The study points out that the possibility of mobilization has up until recently been held as superficial by Army reservists because of the infrequency of mobilizations in the past forty years. Noting preliminary analysis of a survey by United States Army Research Institute, the study notes that "33 percent of the individuals [Army reservists] surveyed never expected to be called to active duty before [Operation Desert Shield/Storm (ODS/S)]."[61] Preliminary data from the same study indicates that 75 percent of surveyed

Army reservists mobilized for ODS/S believe that operations like ODS/S are likely to occur in the next ten years and 54 percent thought that they would see additional combat if they remained the Army Reserve, concluding that Army Reserve mobilization expectations have changed.[62]

In assessing potential impact on recruiting because of an increasing expectation of mobilization, the study demonstrates that "to the extent that individuals view mobilization as a costly event on net, they will be less likely to join the reserves in the future."[63]

In *Reserve/Guard Retention: Moonlighting or Patriotism*, Hyder Lakhani and Stephen S. Fugita examine low retention in the reserves in comparison with the moonlighting model theory and the patriotism theory. Patriotism theory forwards that in addition to the economic impact offered by the moonlighting theory, "reservists obtain positive marginal utility from enjoying such sociopsychological values as a sense of national service, camaraderie, a taste for military life, and communitarianism."[64] Patriotism theory focuses on noneconomic determinants to predict and explain retention behavior. In the case of this study, the noneconomic determinant used is attitude of the spouse towards continued reserve participation as perceived by reservists. Using survey data from the 1987 United States Department of Defense Reserve Components Survey, the authors find "weak support" for the moonlighting theory and "significant" support for the patriotism theory.[65]

In a later work *Reenlistment Intentions of Citizen Soldiers in the U. S. Army*, Lakhani again focuses on shortcomings of the traditional moonlighting theory noting that

other noneconomic variables influence Army reservists' decisions. These noneconomic variables include patriotism, camaraderie, and "taste" for military life.[66] The study notes that "probability of reserve participation increased (instead of decreasing, as predicted by the pure moonlighting theory) with an increase in nonlabor income."[67] This conclusion indicates that variables other than economic variables play into Army reservists' decisions.

Continuing to report on noneconomic variables affecting Army reservists' decisions, the study comments that other noneconomic attributes, such as spouse's attitude towards Army Reserve participation and relationship between work and family, influence Army reservists' decisions. Similar to other noted studies, this study discounts the accuracy of the traditional moonlighting labor market theory.

Author Ellissa T. Adod joins author Hyder Lakhani in a subsequent study *The Effectiveness of Economic Incentives for Career Commitment of Peacekeepers in the Sinai.* The study examines economic incentives in relationship to Active and Reserve Component soldiers' decisions to stay in the Army and in relationship to soldiers who have served as peacekeepers in the Sinai.

The study presents an excellent review of literature with respect to retention of Reserve Component soldiers in which several important points are cited:

1. Reserve Component soldier participation in Operation Desert Shield/Storm led to "lost civilian income, health and other benefits, as well as reduced promotional opportunities in their civilian occupations;

2. Marital status does not significantly correlate to reenlistments intentions;

3. Financial benefits, age at entry, school, and retirements benefit positively correlate to reenlistment intentions;

4. Multiple deployments impact negatively on retention intentions; and,

5. Demographic, attitudinal, and economic variables explain important aspects of the reenlistment decision.[68]

Since the objective of the study is to determine the economic correlation between civilian earning and active duty military earnings, the study statistically isolates effects of noneconomic variables. The study concludes that a positive relationship exists between increasing financial gains represented by peacekeeping operations and intentions to stay in the Army Reserves.[69]

Another study that examines the economic cost of mobilization is *Insuring Mobilized Reservists Against Economic Losses* by David W. Grissmer, Sheila Nataraj Kirby, Man-bing Size, and David Adamson. In the study the authors summarize the economic losses to reservists from mobilizations offering as one solution mobilization insurance. The report documents that during Operation Desert Shield/Storm "approximately 55 percent of officers and 45 percent of enlisted personnel reported that they had income losses."[70] Subsequently, the report documents that losses were not confined to income noting that "70 percent of enlisted personnel and 80 percent of officers indicated that they incurred additional expenses."[71] The study concludes that the increased relative seniority of those deployed for Operation Desert Shield/Storm as well as the higher proportion of combat service and combat support service personnel led to

increased personnel income losses because these two groups typically earned higher civilian incomes than less senior and combat personnel.[72]

Another study by the Rand Corporation is *Ensuring Personnel Readiness in the Army Reserve Components*. The study examines Army Reserve unit personnel readiness shortfalls experienced during Operation Desert Shield/Storm (ODS/S). The study finds that of Army Reserve units activated for ODS/S, the average percentage of Duty Military Occupational Specialty Qualification (DMOSQ) readiness was 63 percent.[73] This shortage in readiness is attributed to:

1. A decrease in Army Reserve units of personnel with past active duty experience;

2. Mismatching of DMOSQs with regard to soldiers that transferred from active duty to the Army Reserve; and,

3. Job turbulence because of job turnover and attrition.[74]

The solution reported as having been employed for ODS/S to achieve the preferred 85 percent DMOSQ readiness rating was to cross-level qualified personnel among Army Reserve units. Relating DMOSQ personnel readiness to future use of the Army Reserve, the study forecasts that "given the continued reliance on the RC in wartime and the drawdown in Active and Reserve units, the personnel readiness shortfalls of ODS/S give rise to concerns for the future."[75]

A significant study is the Rand Research Corporation investigation *Costs and Benefits of Reserve Participation: New Evidence from the 1992 Reserve Components Survey* authored in partnership by Sheila Nataraj Kirby, David W. Grissmer, Stephanie

Williamson, and Scott Naftel. This study focuses on the impact of mobilizations on the attitudinal variables of perceived spouse attitude toward reenlistment and perceived employer attitude, as well as examining work environment attitudes. Additionally the study investigates Reserve Components reservists' perception of problems they will face if mobilized. In accomplishing these goals, the study's authors conduct a comparative analysis between survey data collected from reservists in 1986 and 1992 and a comparative analysis between mobilized and nonmobilized Reserve Component reservists.[76] Although the study hypothesizes that any resultant changes in perceptions are likely the result of Operation Desert Shield/Storm and to a lesser extent the result of the active and reserve force drawdown, this hypothesis is not expressly tested.[77]

The study concludes "the attitudes, characteristics, and family and work environments of reservists in 1992 are remarkably similar to those reported in the 1996 survey."[78] Yet, important differences are noted, specifically:

1. Less emphasis on pay and promotion and more emphasis on education, patriotic and job satisfaction motives (among officers);

2. A small increase in dissatisfaction with military pay and education/training opportunities.

3. An increase in employer support,

4. Stable perceived attitudes of spouse support and,

5. Equal or less conflict with family owing to time spent away. [79]

With respect to differences between mobilized and nonmobilized Reserve Component reservist important findings include:

1. A higher proportion of unfavorable perceived spouse and employer support among mobilized officer reservists;

2. A higher proportion of unfavorable perceived spouse support among enlisted mobilized reservists;

3. No difference in perceived employer support;

4. Higher difference among junior ranks;

5. Higher dissatisfaction with pay and benefits among mobilized junior officer and enlisted reservists; Minimal or no difference in retention rates between mobilized and nonmobilized reservists; and

6. Overall satisfaction with reserve service showed little difference between mobilized and mobilized and nonmobilized personnel. [80]

With respect to Reserve Components reservists' perception of problems they would face if mobilized, the study comments that:

1. The risk of lost income is the highest concern (35-40 percent);

2. The strain on spouses and increased family problems is the second highest concern (20-30 percent);

3. The concern over potential loss of civilian health benefits is 20 percent, and;

4. A mix of employer-related concerns account for 5-20 percent.[81]

The study finds that Reserve Component reservists' perception of problems they will face if mobilized differs little between mobilized and nonmobilized reservists. Interestingly, "nonmobilized reservist were more concerned with income loss and loss of

civilian health care benefits than were mobilized reservists."[82] A contrast to the outcome predicted by economic theory.

Surveys

The Office of the Chief, Army Reserve (OCAR), commissioned three major studies, the executive summary of which are available.

The first survey the "Impact of Mobilization" is an appraisal of mobilization experiences of reservists at various stages of mobilization to include assessments at pre-mobilization, the mobilization station, during deployment, and post-mobilization. Mobilizations under consideration are Operation Joint Endeavor/Guard in Bosnia and Operation Uphold Democracy in Haiti.

The overall findings of the "Impact of Mobilization" survey reveal that the majority of Army reservists view mobilization as a positive experience and view mobilization as having a "neutral effect" on their personnel live and that mobilization is not a major influence governing reservists' propensity to reenlist.[83] Less encouraging findings include:

1. A general lower satisfaction among junior enlisted;
2. Frustrations relating to communication, leadership, and administration; and
3. A negative impact on students owing to affects on graduation such as lost time, and class rescheduling difficulties.[84]

Of note, the survey finds no differences in mobilization experiences between prior-service and non prior-service reservist and no differences in mobilization

experience among reservists regardless of whether or not they mobilized as individuals, entire units, or as derivative units.

The "1996-1997 Survey of Troop Program Units (TPU)" details general satisfaction levels of Army reservists focusing on their intentions to remain in the Army Reserve. The majority of Army reservists (75.3 percent) are satisfied with the Army Reserve, a slight decline from 1994 levels.[85] Similarly, the majority of Army reservists express intentions of reenlisting (78.8 percent).[86] Similar to findings of the "Impact of Mobilization" the study finds that junior enlisted levels of satisfaction are lower than other Army reservists yet the survey notes that junior enlisted satisfaction levels represent an increase from 1994 survey levels climbing from 57 percent to 65 percent.[87]

The Survey of Reserve Physicians reports that the majority of Army Reserve doctors (69.5 percent) are either "somewhat" or "very satisfied" with their overall Army Reserve experiences.[88] Addressing why physicians join the Army Reserve, responses frequently noted are altruistic such as "service to country or patriotism, professional satisfaction, and a change of pace or environment."[89] Money does not significantly influence the decision to stay or leave the Army Reserve until physicians' financial security is threatened.[90]

In conclusion, the literature shows:

1. The increasing importance of the Army Reserve;

2. Noneconomic variables are more important than economic variables in determining reservists' decisions regarding enlistment and retention with a resultant impact on personnel readiness; and,

3. To date, Army Reserve unit personnel readiness is not impacted as the result of increasing mobilizations.

The literature also shows that increased research is warranted to understand more fully relationships between both economic and noneconomic variables as they relate to Army reservists' decisions. Additionally, the focus of this future research has to include as its primary aim a fuller accounting of the impact of mobilizations on reservists attitudes and how these attitudes affect decisions to join or stay in the Army Reserves and how these decisions subsequently affect Army Reserve unit personnel readiness.

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[1]Association of the United States Army, *Profile of the Army: A Reference Handbook*, (Arlington, VA: Association of the U.S. Army, February 1997), 1.

[2]Charles E. Heller, *The New Military Strategy and Its Impact on the Reserve Components*, (Carlisle Barracks, PA: Strategic Studies Institute, December 1991), 13.

[3]The White House, *A National Security Strategy for a New Century*. (Washington, DC: GPO, 1997), 12.

[4]Joint Chiefs of Staff, *National Military Strategy of the U.S. of America--Shape, Respond, Prepare Now: A Military Strategy for a New Era*, (Washington, DC: GPO, 1997), 23.

[5]Ibid., 24.

[6]Joint Chiefs of Staff. Joint Publication 1, *Joint Warfare of the Armed Forces of the U.S.* (Washington, DC: GPO, 1995), I-2.

[7]Joint Chiefs of Staff. Joint Publication 3-0, *Doctrine for Joint Operations*. (Washington, DC: GPO, 1995), I-6.

[8]Joint Chiefs of Staff. Joint Publication 3-07, *Joint Doctrine for Military Operations Other than War*, (Washington, DC: GPO, 1995), 42.

[9]U.S. Department of the Army. Field Manual (FM) 100-1, *The Army*. (Washington, DC: GPO, 1994), 22.

[10]U.S. Department of the Army. Field Manual (FM) 100-5, *Operations.* (Washington, DC: GPO, 1993), 12-6.

[11]Joint Chiefs of Staff, *Joint Vision 2010*; Joint Chiefs of Staff, *Concept for Future Joint Operations: Expanding Joint Vision 2010*, and *Army Vision 2010*, U.S. Department of the Army, Office of the Chief of the Army, [Books on-line] (Washington DC: GPO, accessed 07August 1997) available from http://www.dtic.mil/doctrine

[12]U.S. Department of Defense, Office of the Secretary of Defense, *Report of the Quadrennial Defense Review* (Washington, DC: GPO, 1997), 5.

[13]Ibid.

[14]National Defense Panel, Department of Defense, *Transforming Defense: National Security in the 21st Century--Report of the National Defense Panel* (Washington, DC: GPO, December 1997), iv.

[15]Ibid.

[16]Ibid., 55.

[17]Martin Binkin and William K. Kaufman, *U.S. Army Guard and Reserves: Rhetoric, Realities and Risks* (Washington, DC: The Brookings Institute, 1989)

[18]Ibid., 12-13.

[19]Ibid., 19.

[20]Heller, iii.

[21]Philip A. Brehm, *Restructuring the Army: The Road to a Total Force* (Carlisle Barracks, PA: Strategic Studies Institute, February 1992), 1.

[22]Charles E. Heller, *Total Force: Federal Reserves and State National Guards* (Carlisle Barracks, PA: Strategic Studies Institute, December 1994)

[23]U.S. GAO, National Security and International Affairs Division, Testimony Before the Subcommittee on Readiness, Committee on Armed Services, U. S. Senate, *DOD Reserve Components: Issues Pertaining to Readiness--Statement of Richard Davis, National Security Analysis, National Security and International Affairs Division* (Washington, DC: GPO, 1996), 1.

[24]U.S. GAO, National Security and International Affairs Division, Report to Congressional Requesters, *Peace Operations: Reservists Have Volunteered When Needed* (Washington, DC: GPO, 1996), 6.

[25]U.S. GAO, National Security and International Affairs Division, Report to the Congressional Committees, *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations* (Washington, DC: GPO, 1997), 1.

[26]U.S. GAO, National Security and International Affairs Division, Report to the Secretary of the Army, *Force Structure: Army National Guard Divisions Could Augment Wartime Support Capability* (Washington, DC: GPO, 1996), 1.

[27]U.S. Department of the Army, Office of the Chief of the Army Reserve, *U.S. Army Reserve Long Range Plan: 1993 -2003*, (Washington, DC: GPO, 1993).

[28]Ibid., 93.

[29]U. S. Dept. of the Army, Office of the Chief of the Army Reserve, "*Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century* [book on-line] (Washington DC: GPO, 1997, accessed 5 December 1997) available from http://www.army.mil/usar/posture.htm/

[30]Ibid., 5.

[31]Beth J. Asch, *Reserve Supply in the Post-Desert Storm Recruiting Environment*, (Santa Monica, CA: Rand Corporation, 1993), 34.

[32]David W. Grissmer and Sheila Nataraj Kirby, *Attrition and Retention in the Army Reserve and Army National Guard: An Empirical Analysis* (U. S. Army Manpower Economics Conference held by the U. S. Army Research Institute and Office of the Deputy Chief of Staff for Personnel, 1984), 5.

[33]Ibid., 16.

[34]Ibid., 22.

[35]Ibid., 23.

[36]Ibid.

[37]David W. Grissmer, Richard Buddin, and Sheila Nataraj Kirby, *Improving*

Reserve Compensation: A Review of Current Compensation and Related Personnel and Training Readiness Issues (Santa Monica, CA: The Rand Corporation, 1989), viii-ix.

[38]Ibid.

[39]Ibid.

[40]Grissmer, Buddin and Kirby, Ibid., 80-81.

[41]David W. Grissmer and Sheila Nataraj Kirby, *Changing Patterns of Nonprior Service Attrition in the Army National Guard and Army Reserve* (Santa Monica, CA: The Rand Corporation, 1988), 53-54.

[42]Grissmer, Buddin, and Kirby, 59.

[43]Sheila Nataraj Kirby and Richard Buddin, *Enlisted Personnel Trends in the Selected Reserve, 1986-1994: An Executive Summary* (Santa Monica, CA: Rand Corporation, 1989), 3.

[44]Ibid., iii.

[45]Sheila Nataraj Kirby and David W. Grissmer, *Reassessing Enlisted Reserve Attrition: A Total Force Perspective* (Santa Monica, CA: Rand Corporation, 1993), v.

[46]Ibid., v-vi.

[47]David W. Grimmer, Sheila Nataraj Kirby, and Man-bing Sze, *Factors Affecting Reenlistment of Reservists: Spouse and Employer Attitudes and Perceived Unit Environment*, (Santa Monica, CA: The Rand Corporation, 1992), vi.

[48]Ibid.

[49]Sheila Nataraj Kirby, David W. Grissmer, Stephanie Williamson, and Scott Naftel, *Costs and Benefits of Reserve Participation: New Evidence from the 1992 Reserve Components Survey* (Santa Monica, CA: The Rand Corporation 1997), 2.

[50]David W. Grimmer, Sheila Nataraj Kirby, and Man-bing Sze, Ibid., x.

[51]Ibid., ix.

[52]Ibid., 55.

[53]Ibid.

[54]Asch, Ibid., xii.

[55]Richard Buddin and Stephen J. Kirin, *Army Reserve Component Accessions from Personnel Completing Their First Active-Duty Enlistment* (Santa Monica, CA: Rand Corporation, 1993), xiii.

[56]Ibid.

[57]Ibid., 1.

[58]Ibid., xii.

[59]Ibid., 1.

[60]Ibid.

[61]Ibid., 4.

[62]Ibid.

[63]Ibid., 40.

[64]Hyder Lakhani and Stephen S. Fugita, "Reserve/Guard Retention: Moonlighting or Patriotism," *Military Psychology*, 5, no. 2 (1993): 117-118.

[65]Ibid., 113.

[66]Hyder Lakhani, "Reenlistment Intentions of Citizen Soldiers in the U. S. Army," *Armed Forces & Society*, no. 22 (Fall 95): 119-120.

[67]Ibid.

[68]Ibid.

[69]Ibid.

[70]David W. Grimmer, Sheila Nataraj Kirby, Man-bing Sze, and David Adamson, *Insuring Mobilized Reservists Against Economic Losses* (Santa Monica, CA; The Rand Corporation, 1995), xiv.

[71]Ibid.

[72]Ibid., 17.

[73]Bruce R. Orvis, Herbert J. Shukiar, Laurie L. McDonald, Michael G. Mattock. M. Rebecca Kilburn, and Michael G. Shanley, *Ensuring Personnel Readiness in the Army Reserve Components* (Santa Monica, CA: The Rand Corporation, 1996), xii.

[74]Ibid., i-xii.

[75]Ibid., iii.

[76]Kirby, Grissmer, Williamson, and Naftel, xxi.

[77]Ibid., xix.

[78]Ibid.

[79]Ibid., xix-xx.

[80]Ibid., xxi.

[81]Ibid., xxii-xxiii.

[82]Ibid., xxv.

[83]U.S. Department of the Army, Office of the Chief of the Army Reserve, "1996-1997 Office of the Chief of the Army Reserve Survey Summary Introduction" [Article on-line] (Washington DC: GPO, 1997, accessed 30 September 1997) available from http://www.army.mil/usar

[84]Ibid., 1-2.

[85]Ibid., 2.

[86]Ibid.

[87]Ibid.

[88]Ibid., 3.

[89]Ibid., 2-3.

[90]Ibid., 3.

CHAPTER 3

ANALYSIS

The Reservist is twice the citizen.[1]

Source: Office, Chief of Army Reserve, Department of the Army, *USAR Long Range Plan: 1993-2003.*

Outcome

This chapter shows that there is a relationship between operational tempo and Army Reserve unit personnel readiness and that this relationship is detrimental as operational tempo increases. Increasing operational tempo reduces Army Reserve unit personnel readiness. Several factors exist that mitigate the destructive effects of increasing operational tempo on Army Reserve unit personnel readiness. Without these mitigating factors, the negative impact of increasing operational tempo on Army Reserve unit personnel readiness is more severe.

The majority of theoretical works do not specifically address a direct relationship between operational tempo and Army Reserve unit personnel readiness. They do, however, offer information regarding theories and variables that explain reservists' actions. It is from these theories and variables that one is able to deduce the impact of operational tempo on Army Reserve unit personnel readiness.

Recent survey data affords the opportunity to test these deductions to establish their validity. Testing shows that these deductions accurately predict a negative impact on Army Reserve unit personnel readiness because of increasing operational tempo.

However, it is not as easy to predict the magnitude of the impact because mitigating factors dampen the expected negative influences of increasing operational tempo.

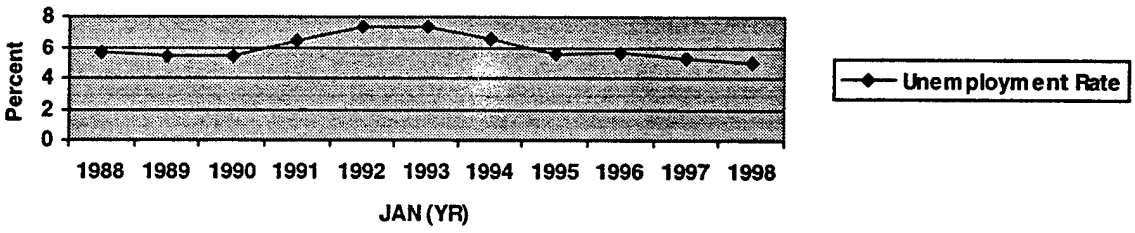
This chapter discusses the impact of operational tempo in the areas of recruiting, training, and retention. Each area presents economic and noneconomic theoretical information and analysis. In addition, each area presents demographic, social, institutional, attitudinal, and effective variables. Where applicable, each area presents mitigating factors that influence the affects of increasing operational tempo on Army Reserve unit personnel readiness. Deductions from each area show the relationship between operational tempo and Army Reserve unit personnel readiness. Recent survey data confirms these deductions.

Recruiting

A salient point to address early on concerns potential reservists who have had no prior military service. These potential reservists have limited information about the Army Reserve from which to form expectations. While it may be tempting to relate many of the actions of reservists who have had military service to the actions of those potential reservist who have had no military experience, one must avoid the temptation because a potential reservist with prior service takes actions based on different information and experiences from those actions taken by potential reservists who have had no military service.

Economic Theory

Sparse theoretical and variable evidence is available regarding recruiting. Economic theory is one area where information is available.



Unemployment Rates from 1988 to 1998

Source: Bureau of Labor Statistics--cpsinfo@bls.gov

In theory, unemployment levels influence recruiting. Potential Army reservists' propensity to enlist is directly proportional to unemployment levels. Lower unemployment levels decrease participation propensity because opportunity costs of participation mean forgoing higher civilian wages and overtime pay opportunities.

Conversely, higher unemployment levels increase participation propensity because opportunity costs of participation mean forgoing lower civilian wages and less overtime pay opportunities. Higher unemployment rates decrease available civilian wages and decrease opportunities for overtime pay making "military service more attractive relative to alternative opportunities."[2]

Unemployment levels and operational tempo are not directly related. Unemployment levels can mitigate the negative impact of increasing operational tempo if they serve to increase participation propensity. This is true in the case of high unemployment levels. Senior recruiting officials attribute increasing supplies of recruits following Desert Shield/Storm in part to increased unemployment levels.[3] As the above

chart shows, recent unemployment levels are in decline and with them any mitigation they offer to the negative effects of increasing operational tempo.

An additional economic variable is reservists' expectations regarding mobilizations. As a recent phenomenon, information about potential non-prior service reservist's expectations regarding mobilizations is not available. As previously mentioned, the ability of potential non-prior service reservists to form expectations with respect to mobilizations is assumed to be limited.

In the case of potential reservists with prior service, economic theory can include the expected personal economic costs of mobilizations because these potential reservists should have sufficient information regarding the personal cost of mobilizations to influence their decisions. Reservists view mobilizations as costly.[4] "To the extent that individuals view mobilizations as a costly event on net, they will be less likely to join the reserves in the future."[5] While no literature relates prior service reservists' expectations regarding mobilization costs, literature shows that that those reservists on duty today do view the cost of mobilizations as negative. These same reservists also see the probability of mobilizing as increasing.[6]

Operational tempo obviously relates to mobilizations. Increasing operational tempo increases mobilizations and mobilizations increase costs. Those potential reservists who have the ability to be aware of these costs will be less likely to join the Army Reserve. Therefore, increasing operational tempo decreases the Army Reserves' ability to recruit reservists who are aware of these mobilization costs, subsequently decreasing Army Reserve unit personnel readiness.

Noneconomic theory offers that noneconomic satisfaction, derived from such influences as patriotism, camaraderie, and taste for military life, influences reservists' decision-making and that this influence is unaccounted for by economic theory.[7]

Variables

No literature on noneconomic theory is at hand regarding potential reservists and no information is at hand relating demographic, social, or effective variables to recruiting.

There is a relationship between institutional variables and recruiting. One institutional variable is years of completed active service. Years of completed active service influence the propensity of prior service Army personnel to join the Army Reserve. The participation propensity of reservist with prior service is inversely proportional to years of completed active service. Participation propensities for two years of prior service, three years of prior service, and four years of prior service are 49 percent, 34 percent, and 30 percent respectively.[8] Given these high rates of participation propensity, it is not surprising to find that 60 percent of Army reservists have prior active service.[9] The levels of personnel in the Army Reserve with prior active service continue to increase.[10]

Years of completed active service and operational tempo are not directly related. Years of completed active service mitigates the negative impact of increasing operational tempo on recruiting because it is associated with the high participation propensity of those soldiers separating from the active Army as a result of the drawdown. The active Army is 32 percent smaller today than it was during the Cold War period.[11] The active force drawdown increases the supply of potential reservists and reduces the difficulty of

recruiting for the Army Reserve.[12] The pool of potential Army reservists increases in two ways. First, the active Army drawdown increases the pool of potential reserve recruits because of the flow of personnel leaving the active Army.[13] As is shown, these prior active service soldiers have a high propensity to serve in the Army Reserve. Secondly, the active Army drawdown increases the pool of reserve recruits because a shrinking active Army drives people towards the Army Reserve.[14] These supply effects mitigate negative effects on recruiting due to increasing operational tempo.

Attitudinal variables influence recruiting. Chief amongst these attitudinal variables is reservists' attitude towards family and work. The bulk of the literature argues that since increasing operational tempo causes major disruptions in the "lives of the reservists, their families, and their employers"[15] this increasing operational tempo "could adversely affect the ability of the military to recruit . . . the quality of people needed to achieve desired readiness levels in the reserve components."[16] No substantive literature addresses this claim about potential Army reservists.

It is difficult from the scanty information available to make any overall deductions regarding the impact of increasing operational tempo and recruiting. It appears that to the degree that potential Army Reservists are aware of the negative effects of increasing operational tempo in terms of the negative costs of mobilizations and in terms of disruption to family and to work they would be less inclined to participate in the Army Reserve. Positive influences owing to noneconomic factors such as patriotism and camaraderie serve to offset negative effects. Given the high level of personnel who join the Army with prior service, it is reasonable to assume that they have some level of

awareness of the aforementioned factors and therefore increasing operational tempo decreases the Army Reserve's ability to recruit these persons. The resultant impact on Army Reserve unit personnel readiness is detrimental.

Recent surveys do not support this detrimental assertion. Surveys demonstrate that recruiting has not been a problem area for the Army Reserve during the post Cold War period. The Reserve Components are successful in attracting personnel in a period of increasing operational tempo.[17] The explanation this study offers for this contradiction between deduction and observation is that mitigating factors mask the predicted negative effects.

Training

The information base available regarding training is limited. Because researchers view training readiness as a derivative of recruiting and retention, recruiting and retention receive more focus than training. No data is available relating economic or noneconomic theories or social, attitudinal and effective variables to training.

Variables

Institutional variables offer insight into the training component of Army Reserve unit personnel readiness. Duty Military Occupational Specialty Qualification (DMOSQ) is one such institutional variable. Lower DMOSQ levels in the Reserve Components are "much more prevalent among prior service personnel and among noncombat skills."[18] Only approximately 40 percent of prior service Army reservists use their active-duty acquired DMOSQ upon joining the Army Reserve.[19] No evidence relates low DMOSQ levels in the Army Reserve directly to operational tempo. A review of the DMOSQ

levels of mobilized units may have shown a correlation between low DMOSQ levels and operational tempo but was not pursued due to the classified nature of the data involved.

Even with their associated prevalence of low level of DMOSQ-matching, the flow of former active Army soldiers to the Army Reserve mitigates any negative impact on training due to increasing operational tempo. Prior-service personnel enhance readiness by enriching the experience base of the force and saving training resources. These savings are particularly large if the recruit is assigned a reserve position in his/her active-duty skill, since this job match maximizes the return on his/her experience and obviates the delay and cost associated with retraining.[20]

Factors in addition to prior service DMOSQ-matching also lower DMOSQ levels in the Army Reserve. These factors include high turnover of personnel in units, the long process of occupational training, and promotion incentives that encourage occupational movement.[21]

Low DMOSQ levels are not unique to prior service Army reservists. Low DMOSQ levels also exist amongst those Army reservists without prior service as well. Only approximately 50 percent of Army reservists without prior service are in their initial DMOSQ after one year of service in the Army Reserve.[22]

In support of the deduction that the flow of former active Army personnel into the Army Reserves mitigates any negative effects to training as a result of increasing operational tempo, recent survey results demonstrate that training is not a growing problem area for the Army Reserve. The Reserve Components have been successful in improving skill match rates and keeping skill-qualification rates stable.[23] Army Reserve

qualification rates amongst non-prior service personnel increased 15 percent in the period from fiscal year 1986 to 1996 while qualification rates amongst prior service personnel remained stable.[24]

Like recruiting, it is difficult from the limited information available to make any overall deductions regarding the impact of increasing operational tempo and recruiting. While the flow of former active Army soldiers into the Army Reserve mitigates negative effects to training as a result of increasing operational tempo, no specific factors relate increasing operational tempo to decreasing in training readiness. In fact, that training readiness has been stable in a period of increasing operational tempo seems to suggest that increasing operational tempo is not harming Army Reserve unit personnel readiness. However, being unable to compare and contrast mitigating factors against any other evidence leads to the conclusion that the impact of increasing operational tempo on training is unknown.

Retention

Economic Theory

Moonlighting models and mobilization cost models present two common economic points of view concerning retention.

Moonlighting models examine a reservist's decision to participate in the Army Reserves as a choice between the reserves as a secondary job and a civilian job as a secondary source of income.[25] Moonlighting models also encompass civilian overtime pay decisions. The simple thesis of moonlighting models is that reservists will choose

that secondary source of income that maximizes income, be it a reserve job, a second civilian job, or overtime income at the primary civilian job.

Cost of mobilizations relate the economic cost of mobilizations, both in terms of potential economic cost and in terms of potential economic benefit, to the reservists' participation decision. Similar to moonlighting models, the thesis is that reservists make participation decisions that maximize their income.

Addressing moonlighting models' view of economic variables, data from the Department of Defense 1986 Reserve Components Survey, offers the conclusion that increasing reserve wage results in an increasing propensity to reenlist.[26] "Military policymakers can increase retention by increasing the pay [Reserve Component] of both officers and enlisted personnel." "A 10 percent increase in average drill pay reduces attrition by 9.5 percent in the Army Reserve." Also, increasing reserve pay offsets the negative retention effects of increasing civilian wage. The correlation between increasing reserve income and increasing retention is strongest for reservists with six years or less of service.[27]

Evidence to support the thesis of moonlighting models from the civilian side comes from evidence that demonstrates that reservist' retention propensity decreases as civilian moonlighting wage increases.[28] Reservist's retention propensity decreases as more civilian overtime hours become available and reservist's retention propensity decreases when reservists lose civilian overtime pay opportunities because of reserve duty.[29]

It is not difficult from the information present to conclude that increasing operational tempo, in the form of increasing mobilizations, results in loss of income opportunities at the civilian job. As a result, retention propensity decreases and with it, Army Reserve unit personnel readiness.

Additional economic knowledge expands the discussion beyond secondary job choices to include the economic variables of debt levels and unemployment levels. The hypothesis in the first case is that high debt levels increase the probability of reenlistment because there is a need for reserve work to help to reduce debt. The hypothesis in the second case is that higher unemployment rates increase retention probability because reservists are risk-adverse. They will stay in the reserves rather than face the risk of not finding a civilian part-time job.[30] There is theoretically a positive correlation between high debt levels and retention and a positive correlation between high unemployment levels and retention.[31]

The deduction with respect to retention and debt levels is also similar to the previous deductions relating unemployment levels and recruiting and retention. Debt levels and operational tempo are not directly related. Debt levels can mitigate the negative impact of increasing operational tempo if they serve to increase retention propensity. This is true in the case of high debt levels. High debt levels increase retention propensity because reservists continue reserve participation to reduce debt levels. Debt levels have been increasingly steadily and are at historically high levels. Therefore is it reasonable to assume that high debt levels offer mitigation to negative effects of increasing operational tempo.

That pay is not a dominant factor in reservist's decisions runs counter to the importance that the moonlighting theory attributes to pay.[32] For typical reservists, net annual after-tax reserve income represents "only 7 percent of total after-tax income"[33] and for the typical reservist a "25 percent increase in reserve pay would raise total family income by only 2 percent."[34] In a 1978 survey of the Reserve Component, insufficient pay concerns represent only 2 percent of responses[35] leading to the conclusion that "nonmonetary considerations may dominate the reenlistment decision" and that "small increases in pay are unlikely to alter a decision not to reenlist."[36]

Several studies discussed in chapter two represent mixed conclusions. One study supports the conclusion of moonlighting theories, noting a correlation between increasing civilian pay and decreasing retention propensity, but also note that the correlation is weak.[37] Another study shows, while supporting the conclusion of moonlighting theories, that there is a correlation between increasing civilian pay and decreasing retention propensity, also notes that the correlation is weak and a stronger correlation exists between noneconomic considerations and retention.[38] In a reversal of the hypothesis of the moonlighting theory, statistical evidence from a single study cites a negative correlation between increasing civilian pay and retention, increasing civilian pay increases retention.[39] This reversal leads to the development of the patriotism theory, a noneconomic theory, to explain reservist retention behavior and, this paper explores this topic more fully later under the discussion of effective variables.

A second economic view relates the economic impact of mobilizations to potential economic costs and/or benefits. Analysis of the average economic impact of

mobilization on Army peacekeepers in the Sinai (predominantly Army reservists, 96 percent of enlisted, 57 percent of NCOs and officers)[40] lead to the conclusion that the impact was positive to the sum of $163.74.[41] However, closer examination of the data gives cause for concern. Fifty-five percent of the Army Reservists in the survey "were either unemployed, underemployed (employed for 20 hours or less per week), or attending school.[42]" It is clear that for fully employed Army Reservists, the net economic impact of mobilization is negative.[43]

Reservists responding to the 1986 Survey of Reserve Forces perceived mobilization as economically unfavorable. In the survey, approximately half of the Army reservists state that that their income would decrease somewhat or decrease greatly if mobilized for thirty days or longer.[44] A later mobilization, Operation Desert Shield/Storm, clearly shows that reservists' perceptions of mobilizations as economically unfavorable are correct. Reservists mobilized for Operation Desert Shield/Storm "lost civilian income."[45] Fifty-five percent of reserve officers and 45 percent of reserve enlisted lost income and 80 percent of reserve officers and 70 percent of reserve enlisted reported additional income losses outside of lost civilian income.[46] Losses were more pronounced amongst senior personnel, combat support and combat service support personnel.[47]

Increasing annual training periods or increasing extra time spend at the reserve job, decreases retention because of the increased loss of civilian job income.[48] Increased annual training periods is more of a source of frustration because it results in a higher loss of civilian job pay because the pay rate reservists receive during annual training is lower

than the pay rate reservist receive from drills.[49] Reservists loss of income from annual training is in some instances offset by employers who "provide full pay for reservists for military leave during annual training," while other employers provide no compensation for military leave during annual training.[50]

As was the conclusion with regard to moonlighting models, it is not difficult from the information present to conclude that increasing operational tempo, vis-à-vis increasing mobilizations or increasing training time, results in lost income due to loss of civilian job income opportunities or due to additional costs and that retention propensity decreases as a result. It is also therefore reasonable to conclude increasing operational tempo reduces Army Reserve unit personnel readiness.

Variables

Factors that influence reservist's retention propensity, include demographic, social, institutional, attitudinal, and effective variables.

Education levels, a demographic variable, indicate retention propensity. Increasing education levels increase retention propensity. Reservists with education levels above the high school level have a higher retention propensity because higher education leads to greater advancement opportunities.[51]

Documentation indicates that the Reserve Components experience, on average, 30 percent lower retention at the six years of service point among reservists without a high school degree than among reservists who have a high school degree.[52]

Documentation also indicates that the Reserve Components experience, on average, a 16 percent higher retention rate from reservists with an above high school

education than from those reservists with just a high school degree.[53] More education increases retention.

Not all evidence universally supports the conclusion that higher education levels increase retention. Statistics show that "higher enlistment quality did not reduce attrition to civilian life; attrition actually increased significantly in higher-quality cohorts, particularly for the Army Reserve."[54] However, the study quickly notes that changes in service policies with respect to discharges, training, and performance standards, as well as civilian unemployment levels, could make the previous conclusions inaccurate.[55]

Aptitude scores, as a demographic variable, also indicate retention propensity. Higher aptitude scores increase retention propensity. Reservists with higher aptitude scores have a higher retention propensity because higher aptitude scores lead to greater advancement opportunities. Reservists with higher aptitude scores have a 20 to 30 percent higher retention rate than those reservists in lower aptitude categories.[56] Other studies offer similar conclusions.[57] Higher aptitude scores increase retention.[58]

Age is also a demographic variable that influences reservists' retention propensity. Older personnel reenlist at a higher rate.[59] Age is one of the strongest predictors of retention propensity.[60] Reservists thirty-six years and older have retention rates that are 30 to 40 percent higher than reservists who are younger.[61] Even after controlling for other factors associated with age such as seniority and family structure, older reservists still have a retention rate that is equal to a 2.2 percent increase in retention propensity for a 10 percent increase in age.[62]

Demographic variables and operational tempo are not directly related. Demographic variables can mitigate the negative impact of increasing operational tempo on retention if they serve to increase retention propensity as is the case when the Army Reserve is more educated, has a higher aptitude, and is older. This is exactly the case that the Army Reserve is undergoing. The Army Reserve is shifting to a force made up of higher educational quality, higher aptitude quality, and a force that is older and more senior. Fifteen-year projections dating from 1991 forecast "strong increases in the number of Reservists with 10-20 years of service."[63] Analysis of the 1992 Reserve Components Survey supports this conclusion.[64] The net effect of this seasoning of the Army Reserve is an increase in the portion of personnel with the highest demonstrated propensity for continued service. Hence, the seasoning of the Army Reserve serves to enhance retention and as such consequently lessens any negative effects on retention because of increasing operational tempo.

One social variable that influences retention comes from a correlation between the number and age distribution of children a reservist has and the reservist's associated retention propensity. The number of children under age eighteen increases retention propensity because of the value reservists place on the availability of family services.[65] While some literature shows that the correlation between the number and age distribution of children under age eighteen is weak,[66] other literature offers that the presence of children increases retention by 10 percent.[67]

Relating this to operational readiness, the conclusion is that while the number and age distribution of children under age eighteen does not directly relate to operational

tempo, it serves as a mitigating influence to any negative impact to retention due to increasing operational tempo. Furthermore, the recent increase of the seniority of reserve personnel intensifies this influence.

As an institutional variable, DMOSQ, influences retention rates. In instances of DMOSQ mismatch, retention rates decline.[68] Army Reserve DMOSQ mismatch is decreasing amongst non-prior service personnel and is stable amongst prior service personnel.[69] Given that instances of the DMOSQ mismatching are declining in the Army Reserve, there seems to be no reason to offer DMOSQ mismatching as an aggrevating factor to any negative impact to retention owing to increasing operational tempo.

However, if a review of the DMOSQ mismatching in mobilized units shows that increasing operational tempo reduces opportunities to resolve DMOSQ mismatching, then the argument that increasing operational tempo reduces retention becomes valid. While the classified nature of the data involved did not allow an exploration between DMOSQ levels and operational tempo, it is not difficult to imagine how increasing operational tempo would prevent resolution of DMOSQ mismatching. Only formal schooling can resolve DMOSQ mismatching. It is difficult to imagine that deploying Army Reserve units increases their propensity to send soldiers to formal schooling to resolve DMOSQ mismatching. Of course, this argument is speculative.

There is an institutional variable correlation between combat units and combat support and combat service support units and retention. Combat units have the lowest retention rates while combat support and combat service support units have the highest retention rates.[70] The difference between units is slight, with only a 10 percent difference

between combat units and combat support and combat service support units. Age and experience demographics differences most likely account for the retention variation between the units.[71]

Indications are that the distinction between prior service and non-prior service serves as a measurable institutional variable that influences retention. The hypothesis is that reservists with prior service have higher retention propensity because they do not have to attain qualifications owing to their past training, hence advance more rapidly.[72] Prior service reservists also have more of a personal stake in retirement.[73] There is a strong correlation between an increasing stake in retirement and increasing retention. Retention rates exceed 90 percent for personnel with twelve years or more of service.[74]

Correlations between prior service and non-prior service are attributable to differences between age and experience demographics differences. Studies also note that differences in policies regarding recruiting, retention, and training standards create differences in retention rates between prior service and non-prior service reservists.[75] No additional deductions concerning retention or operational tempo are evident from this information other than those already noted for age and experience levels. In summary, after taking into account the influence of demographic variables on institutional variables, institutional variables do not correlate to retention and do not correlate retention to operational tempo.

Attitudinal variables affect retention. Research consistently notes reservists' attitude towards work and family has an importance influence on retention propensity. "Calls to active duty can cause major disruptions in the lives of the reservists, their

families, their employers . . . for this reason, the increased use of reserve forces could adversely affect the ability of the military to . . . retain the quality of people needed to achieve desired readiness levels in the reserve components."[76]

Increasing operational tempo intensifies disruptions to work and family and decreases retention. During the 1983-1985 period, the Army National Guard increased the annual training time for selected Army National Guard units by one week. Associated with this extra week at the National Training Center was an intensified train-up during the preceding year requiring several extra drill periods. The retention rates of these Army National Guard units decreased 25 percent.[77] Surveys from these units shows that "increased family conflicts and employer problems" results in lower retention.[78] Surveys also note that extra drills or longer annual training reduces retention rates by seven to 13 percent and similar to other findings, the main contributing factor is disruption of work and family life.[79]

Examining for the moment, just reservists' attitude toward their relationship with their civilian employer, the hypothesis is as "the military places more demands on reservists, employers will become less supportive of their need to take time off work. If reservists come to feel they must choose between civilian jobs and their reserve jobs, many may leave the military."[80] The 1978 Survey of Army Reserve and National Guard members demonstrates this concern by noting that slightly over 30 percent of the Reserve Component members cite conflict with civilian job as the reason for separating.[81] "Reservists with more favorable employer attitudes have significantly higher retention rates (79 percent) than those with unfavorable attitudes (68 percent).[82]"

Concerns similar to those of a reservist's attitude about work are present regarding a reservist's attitude toward their family relation. Namely, as the Army Reserve places more demands on reservists, families will not support reserve participation and thereby reserve participation will be a source of conflict. The 1978 Survey of Army Reserve and National Guard members demonstrates this concern by noting that slightly over 31 percent of the Reserve Component members cite conflict with family or leisure time as the reason for separating.[83] Noting that 1978 represents a time before the operational tempo of the Army Reserve begins to accelerate leads one to conclude that recent increases in operational tempo only exacerbate these conflicts.

Focusing in on how a spouse's attitude toward reserve participation can affect retention, more information is available. The 1986 Reserve Components Survey supports the positive correlation between positive spousal attitude and retention propensity[84] and shows that positive spousal attitude correlates to a retention rate of 85 percent while an unfavorable spousal attitude correlates to a retention rate of only 42 percent.[85] A spouse's positive attitude toward reserve participation increases with time. Unfavorable spouse attitude drops from 22 percent at the four to six years of service mark to approximately 12 percent at the seven to nine years of service mark and drops slightly more at the ten to twelve years of service mark.[86]

Reservists' attitudes toward education and reserve participation also raise concerns. Similar to concerns regarding family and employers, the concern is that as the Army Reserve places more demands on reservists, education goals come into conflict with reserve participation goals. The Impact of Mobilization Study demonstrates the

negative impact mobilizations can have on a reservist's education desires. Negative responses from students who note "delays in their graduation, a wasted seminar or quarter, and difficulty rescheduling missed courses" are the most frequently cited negative responses in the survey.[87] This increasing concern over education represents an increase from earlier levels. Survey data from 1978 shows that only slightly less than 2 percent of reservists separate from service due to conflict with education.[88]

Surveys are beginning to uncover Reservists' expectations regarding mobilizations. A 1978 survey, offers that only slightly less than 1 percent of reservists separate from service due to mobilization concerns.[89] Clearly, in 1978 concern over mobilizations was low. This low concern directly supports the conclusion that Army reservists in 1978 saw the possibility of mobilization as minuscule. This view is attributable to the infrequent use of the Army Reserve prior to 1989. Since 1989 the view has changed. Reservists who participated in Desert Shield/Storm shows that 33 percent of Army reservists did not expect to have to mobilize before Operation Desert Shield/Storm.[90] After, Desert Shield/Storm, 75 percent of the Army reservists mobilized believed that similar operations were likely to occur in next ten years and 54 percent of these reservists believed that they would see additional combat if they remained the Army Reserve.[91]

There is a demonstrated correlation between mobilization and retention. A study of Operation Desert Shield/Desert Storm concludes that the retention of participating reservists declined from 26 percent before the operation to 18 percent after the operation.[92] Looking outside of the experiences of Desert Shield/Storm, an examination

of the effects of multiple deployments shows that multiple deployments decrease retention intentions.[93]

Yet more recent evidence does not support the assertion that mobilizations yield negative effects. A 1996 study on the impact of mobilization reveals that the "impacts of mobilization on reservists' personal lives is minimal. Most ratings indicate "neutral" effects" and the common view is that mobilization is a "somewhat positive experience."[94] It is important to note that these conclusions are preliminary in nature, as the study is a work in progress.

It is clear that increasing operational tempo aggravates attitudinal variables. It is also clear that applying pressure to attitudinal variables results is lower retention. Attitudinal variables are not mitigating factors; they directly relate to operational readiness and correspondingly relate to retention. Increasing operational tempo results in reservists perceiving less support from family and work and as a result lowers reservists' retention propensity and eventually lower Army Reserve unit personnel readiness. Adding to this negative effect is that reservists expect mobilization to increase in the future and as a result must expect that they will continue to face by lower support from family and work.

The last variables that correlate to retention are effective variables, noneconomic variables that indicate satisfaction. Noneconomic satisfaction comes from effective variables such as patriotism, camaraderie, and taste for military life.[95] Patriotism theory offers that noneconomic satisfaction such as work in one's area of training,[96] "unit morale and the usefulness of training," "play a large role in attracting and keeping reservists in

the Selected Reserve."[97] The Department of Defense 1986 Reserve Components Survey supports the conclusion that satisfaction with military life and job satisfaction increases retention.[98] Also, dissatisfaction with unit morale lowers retention propensity. Reservists who are not satisfied with unit morale have a 10 percent lower retention rate than those who are satisfied with unit morale.[99] Dissatisfaction with unit training or equipment leads to a similar affect. These reservists have retention rates that are 3 to 6 percent lower.[100]

Addressing overall satisfaction, the 1996-1997 Survey of Troop Program Units shows that a the majority of Army reservists (75.3 percent) are "satisfied with their USAR experiences," a slight drop from 1994 levels, and that a majority of Army reservists (78.8 percent) intend to reenlist.[101]

No information relates effective variables to operational tempo. The thought that this paper offers is that increasing operational tempo increases reservists' noneconomic satisfaction. Mobilizations offer the opportunity for increasing patriotism, camaraderie, and taste for military life. Mobilizations offer the opportunity for increasing satisfaction with unit, training, equipment and job. The sum of this increasing satisfaction is increasing retention and with it, increasing Army Reserve unit personnel readiness.

In conclusion, there is a relationship between operational tempo and Army Reserve unit personnel readiness. On balance, the overall impact of this relationship between operational tempo and Army Reserve unit personnel readiness is negative.

The destructiveness of increasing operational tempo comes by two means. First, from the direct correlation relating the harmful effects of increasing operational tempo to

recruiting and retention. Secondly, from several prevalent factors that mitigate the negative impact of increasing operational tempo on Army Reserve unit personnel readiness, thereby masking its detrimental effects.

Not all of the effects of increasing operational tempo are harmful. Effective variables offers that increasing operational tempo positively influences retention by demonstrating the effectiveness of training and equipment, by giving the individuals the opportunity to see the benefit of their skills, and by increasing one's view of country, unit, and self. That the majority of Army reservists are satisfied and intend to stay in the reserves is a testimony to the powerful influence effective variables have in the minds of reservists.

However, the strength of other evidence indicates that the power of effective variables is not enough to overcome the noted negative influences and in the end increasing operational tempo decreases overall Army Reserve unit personnel readiness.

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[1]Office, Chief of Army Reserve, Department of the Army, *USAR Long Range Plan: 1993-2003.* (Washington, DC: GPO, 1992), 8.

[2]Beth J. Asch, *Reserve Supply in the Post-Desert Storm Recruiting Environment* (Santa Monica, CA: Rand Corporation, 1993), 41.

[3]Ibid.

[4]David W. Grissmer, Richard Buddin, and Sheila Nataraj Kirby, *Improving Reserve Compensation: A Review of Current Compensation and Related Personnel and Training Readiness Issues* (Santa Monica, CA: Rand Corporation, 1989), 80-81.

[5]Asch, 40.

[6]Ibid.

[7]Hyder Lakhani and Stephen S. Fugita, "Reserve/Guard Retention: Moonlighting or Patriotism," *Military Psychology*, 5, no. 2, (1993): 117-118.

[8]Richard Buddin and Stephen J. Kirin, *Army Reserve Component Accessions from Personnel Completing Their First Active-Duty Enlistment* (Santa Monica, CA: Rand Corporation, 1993), xiii.

[9]Ibid., 1.

[10]Sheila Nataraj Kirby, David W. Grissmer, Stephanie Williamson, and Scott Naftel, *Costs and Benefits of Reserve Participation: New Evidence from the 1992 Reserve Components Survey* (Santa Monica, CA: Rand Corporation, 1997), xix.

[11]National Defense Panel, Department of Defense, *Assessment of the May 1997 Quadrennial Defense Review* (Washington, DC: GPO, 1997), 33.

[12]William Matthews, "Nine-month Call-Up Too long for Troops," *Army Times* (Springfield: VA, 13 May 1996), 24.

[13]Asch., xii-xiii.

[14]Ibid.

[15]United States General Accounting Office, National Security and International Affairs Division, Report to the Congressional Committees, *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations* (Washington, DC: GPO, 1997), 3.

[16]Ibid.

[17]Sheila Nataraj Kirby and Richard Buddin, *Enlisted Personnel Trends in the Selected Reserve, 1986-1994: An Executive Summary* (Santa Monica, CA: Rand Corporation, 1996), iii-14.

[18]Ibid.

[19]Ibid.

[20]Kirby, 12.

[21]Grissmer, vii-ix.

[22]Ibid.

[23]Kirby, iii.

[24]Ibid., 25.

[25]Hyder Lakhani, "Reenlistment Intentions of Citizen Soldiers in the United States Army," *Armed Forces & Society*, 22, (Fall 95): 120.

[26]Ibid., 124.

[27]Ibid., 120-121.

[28]Ibid., 121.

[29]Lakhani, Ibid., 119.

[30]Ibid.

[31]Ibid., 125.

[32]David W. Grissmer and Sheila Nataraj Kirby, *Attrition and Retention in the Army Reserve and Army National Guard: An Empirical Analysis* (United States Army Manpower Economics Conference held by the United States Army Research Institute and Office of the Deputy Chief of Staff for Personnel, 1984), 18-22.

[33]Ibid.

[34]Ibid.

[35]Ibid., 23.

[36]Ibid., 18-22.

[37]David W. Grimmer, Sheila Nataraj Kirby, and Man-bing Sze, *Factors Affecting Reenlistment of Reservists: Spouse and Employer Attitudes and Perceived Unit Environment* (Santa Monica, CA: Rand Corporation, 1992), 16.

[38]Lakhani and Fugita, 120.

[39]Lakhani, 119-120.

[40]Hyder Lakhani, and Elissa T. Abod, "The Effectiveness of Economic Incentives for Career Commitment of Peacekeepers in the Sinai," *Armed Forces & Society*, 23, (Spring 97): 401.

[41]Ibid., 403.

[42]Ibid., 401.

[43]Ibid., 402.

[44]Grissmer, Buddin and Kirby, 80-81.

[45]Lakhani and Abod, 395.

[46]David W. Grimmer, Sheila Nataraj Kirby, Man-bing Sze, and David Adamson, *Insuring Mobilized Reservists Against Economic Losses* (Santa Monica, CA: Rand Corporation, 1995), xiv.

[47]Ibid., 17.

[48]Grimmer, Kirby, and Sze, viii.

[49]Ibid.

[50]Ibid.

[51]Lakhani, 122.

[52]Sheila Nataraj Kirby and David W. Grissmer, *Reassessing Enlisted Reserve Attrition: A Total Force Perspective* (Santa Monica, CA: Rand Corporation, 1993), 14.

[53]Ibid.

[54]Ibid.

[55]David W. Grissmer and Sheila Nataraj Kirby, *Changing Patterns of Nonprior Service Attrition in the Army National Guard and Army Reserve* (Santa Monica, CA: Rand Corporation, 1988), vi.

[56]Ibid., vi-vii.

[57]Kirby, 15.

[58]Grimmer, Kirby, and Sze, 15.

[59]Kirby, 15.

[60]Grimmer, Kirby, and Sze, 15.

[61]Ibid., 16-17.

[62]Ibid.

[63]Ibid., 45.

[64]Grimmer, vi.

[65]Kirby, xix.

[66]Lakhani, 119.

[67]Ibid.

[68]Grimmer, Kirby, and Sze, 13.

[69]Lakhani, 122.

[70]Kirby, iii.

[71]Grimmer, Kirby, and Sze, xi.

[72]Ibid., 37-39.

[73]Lakhani, 122.

[74]Grimmer, Kirby, and Sze, 9.

[75]Ibid.

[76]U.S. GAO, National Security and International Affairs Division, Report to Congressional Committees, *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations* (Washington DC: GPO, 1996), 3.

[77]Kirby and Buddin, 5.

[78]Ibid.

[79]Ibid.

[80]U.S. GAO, National Security and International Affairs Division, Report to Congressional Requesters, *Peace Operations: Reservists Have Volunteered When Needed* (Washington, DC: GPO, 1996), 6.

[81]Grissmer and Kirby, 23.

[82]Grimmer, Kirby, and Sze, 35.

[83]Nataraj Kirby and David W. Grissmer, *Reassessing Enlisted Reserve Attrition: A Total Force Perspective* (Santa Monica, CA: Rand Corporation, 1993) 23.

[84]Grimmer, Kirby, and Sze, 35.

[85]Ibid.

[86]Ibid., 29.

[87]U.S. Department of the Army, Office of the Chief of the Army Reserve, "1996-1997 Office of the Chief of the Army Reserve Survey Summary Introduction" [Article on-line] (Washington DC: GPO, 1998, accessed 30 September 1997) available from . http://www.army.mil/usar

[88]Sheila Nataraj Kirby and David W. Grissmer, *Reassessing Enlisted Reserve Attrition: A Total Force Perspective* (Santa Monica, CA: Rand Corporation, 1993), 23.

[89]Ibid.

[90]Asch, 4.

[91]Ibid.

[92]Lakhani, 118.

[93]Lakhani and Abod, 118.

[94]U.S. Department of the Army, Office of the Chief of the Army Reserve, "1996-1997 Office of the Chief of the Army Reserve Survey Summary Introduction" Ibid.

[95]Lakhani, 119-120.

[96]Ibid., 123.

[97]Grimmer, Kirby, and Sze, viii.

[98]Lakhani, 123.

[99]Grimmer, Kirby, and Sze, xi.

[100]Ibid.

[101]U.S. Department of the Army, Office of the Chief of the Army Reserve "1996-1997 Office of the Chief of the Army Reserve Survey Summary Introduction" Ibid.

CHAPTER 4

CONCLUSIONS

Outcome

Introductory and literature review materials demonstrate that the Army Reserve is indispensable to America's ability to execute successfully its current military strategy. The materials also highlight the increasing call to service for the Army Reserve. The concern that rises from this combination of indispensability and increasing employability is one of cause and effect. If there is a relationship between operational tempo and Army Reserve unit operational readiness, then what is the relationship and what is its effect? Can the Army Reserve continue to serve as an indispensable force for the execution of America's military strategy, or does increasing operational tempo jeopardize the vitality of the Army Reserve? Can the Army Reserve continue to answer the call to service, or will the call fall on ears deafened by the stampeding tempo of current operations? Are these concerns valid now, tomorrow, or never? If not now, when? How will defense planners know?

To the first question, an examination of the personnel readiness factors of recruiting, training, and retention reveals that there is a clear negative relationship between operational tempo and recruiting and retention. Less clear is a negative relationship between training and operational tempo. As operational tempo increases, recruiting and retention decrease.

The negative relationship between operational tempo and Army Reserve unit personnel readiness answers the next question. Detrimental effects of increasing operational tempo can jeopardize the vitality of the Army Reserve as an indispensable force for the execution of America's military strategy and can jeopardize the ability of the Army Reserve to answer increasing calls for service.

Mitigating influences serve to mask the current validity of these concerns. Yet, it is an understanding of these mitigating influences that affords part of the answer to the question of when concerns should increase. Knowing that mitigation comes from, for example, the increasing age of Army reservists, provides a standard of measure by which to predict when that mitigating influence will diminish or increase.

The other part of the answer comes from an understanding of and measurement of the factors that cause increasing operational tempo to be negative. A keener understanding of, for example, the relationship of operational tempo and the impact it has on reservists' attitudes toward work and family is an important step. The ability to gauge these attitudes is a pivotal step towards the ability to predict accurately when concerns should increase. Most important is a knowledge of factors that is sufficient to guide the Army Reserve towards policies that lessen the impact of increasing operational tempo.

Literature Review--Outcome

A review of the literature related to operational tempo and Army Reserve unit readiness shows that several factors combine to make the likelihood of increasing Army Reserve operational tempo a reality. America's national strategy continues to depend on the frequent use of military power. Military downsizing and force structure changes

between the active and reserve Army increases the requirement for access to the capabilities present in the Army Reserve. Lastly, budgetary constraints increase the call for use of an Army Reserve perceived by national policymakers as a cheaper option than the maintenance of a large active force structure.

An issue of note amongst literature that addresses current as well as projected operational tempo is a consistent lack of concern over the impact of increasing Army Reserve operational tempo. It is disconcerting to hear a continuous call for an increasing role for the Army Reserve without some reflection on the impact that this call has or will have.

Secondly, a review of the literature related to operational tempo and Army Reserve unit readiness shows that the issue of operational tempo is not receiving sufficient attention. The ability to understand and predict reservists' behavior either through economic factors, such as income or employment levels, or through noneconomic factors, such as reservists' attitude toward work or family, is paramount. The end goal of such literature must be to offer adjustments to Army Reserve policies regarding operational tempo to minimize the negative impact of increasing operational tempo on recruiting, training, and retention.

In spite of the scant attention given by literature to the issue of operational tempo, literature's examination of economic and noneconomic factors relating to retention, and to a lesser degree to training and recruiting does offer sufficient insight into issues governing Army Reserve readiness to permit hypothesis of the impact of increasing operational tempo on Army Reserve unit personnel readiness.

Analysis--Outcome

Recruiting

While information available on the relationship between increasing operational tempo and recruiting is limited, it is apparent if potential Army Reservists are aware of the negative effects of increasing operational tempo in terms of the negative costs of mobilizations and in terms of disruption to family and to work they would be less inclined to participate in the Army Reserve. In addition, it is apparent if potential Army reservists are aware of the positive influences owing to noneconomic factors such as patriotism and camaraderie, they would be more likely to participate in the Army Reserve. It is reasonable to assume personnel who come to the Army Reserve from active duty have some level of awareness of the aforementioned factors. It is also reasonable to assume that since prior-service personnel make up a significant portion of the Army Reserve, their level of awareness brings a significant impact.

At this conjuncture the essential question is which influence is dominant. The answer that stems from both literature review and analysis is that negative influences dominate and therefore increasing operational tempo decreases the Army Reserve's ability to recruit and consequently decreases Army Reserve unit personnel readiness. The mitigating effects of the drawdown of the military and high unemployment levels from 1990 to 1992 and high consumer debt levels mask the predicted negative effects and explain why recent surveys do not fully support this last assertion.

Training

Like recruiting, the information base available regarding training is limited. Additionally, classification of unit readiness information precluded its incorporation into the study. Because of these information restraints, it was not possible to deduce the relationship between operational tempo and training and it was not possible to conclude what the relationship between increasing operational tempo and training was.

Retention

Economic theories predict and evidence supports the conclusion that increasing operational tempo decreases retention. Economic competition between civilian employment and reserve employment is won or lost based on the relative income advantage of one form of employment over the other and is won or lost on the based on the ability of reserve employment to interfere with civilian employment. Adding to the economic information available is the cost of mobilizations, which are shown to be negative.

Employment levels and consumer debt levels factor into reservists' decisions to stay or leave the service and as such are deduced to be a positive mitigating factor offsetting any negative influences from operational tempo.

The majority of noneconomic variables either demonstrate a negative relationship between increasing operational tempo and retention or offer mitigation of the effects of increasing operational tempo. One field of noneconomic variables, effective variables, present evidence that increasing operational tempo is a positive influence that favors increased retention. The challenge is again to conclude which influence dominates,

positive or negative. Overall, negative influences dominate and therefore the impact of increasing operational tempo on retention and Army Reserve unit personnel readiness is negative. Furthermore, if one accepts the new theory this chapter offers, one will conclude that these negative influences are even more pronounced.

A New Theory

Economic theories such as the moonlighting model and noneconomic theories such as the patriotism model miss in their ability to accurately model reservists' retention behavior. The discontinuity between predicted reservist behavior and actual reservist behavior serves to accent the inadequacy of current theory. What then is required to bring theory into balance with practice is a new theory of reservist behavior.

A theory that takes into account the inability of reservists to regulate their decisions incrementally better explains reservists' behavior. Many of the decisions reservists face are absolute. Decisions such as to participate or not to participate, or to retire or not to retire, or to depart the service or not to serve are absolute decisions. A proposed theory that accounts for the behavior of reservists borne out of the reality of these absolute decisions is describable economically in terms of sunk-costs.

In a sunk-costs model of reservists' decision making, apparent discontinuities between the moonlighting model and the patriotism model are addressable by the realization of the effects of sunk-cost to reservists. Why, for example, would reservists elect to continue service if increasing operational tempo causes a negative effect to reservists in terms of family and job conflict? The patriotism model offers that increased noneconomic incentives from the positive effects of patriotism or camaraderie overcome

any negative economic effects predicted by the moonlighting model, and this accounts for the net decision to continue service. A model based on sunk-costs would account for the reservist's decision as a choice between the negative effects of increasing operational tempo, the positive effects of patriotism collectively measured against the sunk-costs for example of retirement. An extreme example of the mitigating effects of sunk-costs is the proposition that a reservist within one year of retirement must accept full-time mobilization without pay for one year to realize the economic benefits of retirement.

The value of a model based on sunk-costs is that it represents a more accurate measurement of the variables affecting reservists' decisions because it tends to unmask any mitigating effects hidden by sunk-costs.

Retirement is not the only potential sunk-cost. Moving costs and reenlistment bonuses also represent sunk-costs. The challenges in exploring this model are threefold. First, identifying the sunk-cost variables, secondly designing surveys that measure these variables, and lastly analyzing the impact of these variables relative to those identified in existing economic, and noneconomic models. Research using the sunk-cost model is required to more adequately explain and predict reservists' behavior.

Future Research

An area open for future research is the question of using contracted services for combat support and combat service support. As noted in *Concept for Future Joint Operations: Expanding Joint Vision 2000* "if further reductions in the active forces are required, we [the Army] will depend more heavily on Reserve and National Guard forces, as well as on contracted services."[1]

An additional area open for future research is the question of a declining military age male population.[2] By the year 2000, the U.S. census bureau predicts smaller numbers in the population most eligible for military service. Among those age 15-24, a 9.1 percent decline is anticipated; in the age bracket 25-34, a 12.5 reduction is predicted.[3] It is important to note that these declines are projected to occur during a period in which the requirement for non-prior service personnel is projected to increase to fifty-percent due to the smaller pool of prior-service personnel from a downsized active Army.[4] An additional concern is the impact of an aging reserve force. Adding this are concerns caused by declining a military age population which clearly demonstrates that availability of personnel for service in the Armed Forces needs to be addressed.

Conclusion

This thesis set out to address the question of whether or not a relationship exists between operational tempo and Army Reserve unit personnel readiness. The introduction demonstrates the growing importance of the Army Reserve to the Total Force. The literature review establishes that the effect on Army Reserve unit personnel readiness borne out of increasing operational tempo is largely unanswered. In answering affirmatively that a relationship does exist between operational tempo and Army Reserve unit personnel readiness, this work highlights the continuing importance of examining and understanding that relationship in order to effectively address, via policy, the issues examined.

[1]Joint Chiefs of Staff, *Concept for Future Joint Operations: Expanding Joint Vision 2010*, [Books on-line] (Washington DC: GPO, accessed 07August 1997) available from http://www.dtic.mil/doctrine

[2]Charles E. Heller, *The New Military Strategy and Its Impact on the Reserve Components* (Carlisle Barracks, PA: Strategic Studies Institute, December 1991), 32.

[3]Office, Chief of Army Reserve, Department of the Army, *USAR Long Range Plan: 1993-2003* (Washington, DC: GPO, 1992), 93.

[4]Ibid.

BIBLIOGRAPHY

Books

Asch, Beth J. *Reserve Supply in the Post-Desert Storm Recruiting Environment.* Santa Monica, CA: Rand Corporation, 1993.

Association of the United States Army. *Profile of the Army: A Reference Handbook.* Arlington, VA: Association of the United States Army, February 1997

Binkin, Martin, and William K. Kaufman. *US Army Guard and Reserves: Rhetoric, Realities and Risks.* Washington, DC: The Brookings Institute, 1989.

Brehm, Philip A. *Restructuring the Army: The Road to a Total Force.* Carlisle Barracks, PA: Strategic Studies Institute, February 1992

Buddin, Richard, and Stephen J. Kirin. *Army Reserve Component Accessions from Personnel Completing Their First Active-Duty Enlistment.* Santa Monica, CA: Rand Corporation, 1993.

Force Planning Faculty, Naval War College, ed. *Fundamentals of Force Planning*, Vol. 1, *Concepts.* Newport: Naval War College Press, 1990.

Force Planning Faculty, Naval War College, ed. *Fundamentals of Force Planning,* Vol. 2, *Defense Planning Cases.* Newport: Naval War College Press, 1990.

Grissmer, David W., and Sheila Nataraj Kirby. *Attrition and Retention in the Army Reserve and Army National Guard: An Empirical Analysis.* United States Army Manpower Economics Conference held by the United States Army Research Institute and Office of the Deputy Chief of Staff for Personnel, 1984.

_____. *Changing Patterns of Nonprior Service Attrition in the Army National Guard and Army Reserve.* Santa Monica, CA: Rand Corporation, 1988.

Grissmer, David W., Richard Buddin, and Sheila Nataraj Kirby. *Improving Reserve Compensation: A Review of Current Compensation and Related Personnel and Training Readiness Issues.* Santa Monica, CA: Rand Corporation, 1989

Grimmer, David W., Sheila Nataraj Kirby, and Man-bing Sze. *Factors Affecting Reenlistment of Reservists: Spouse and Employer Attitudes and Perceived Unit Environment.* Santa Monica, CA: Rand Corporation, 1992.

Grimmer, David W., Sheila Nataraj Kirby, and Man-bing Sze, and David Adamson. *Insuring Mobilized Reservists Against Economic Losses*. Santa Monica, CA: Rand Corporation, 1995.

Heller, Charles E. *The New Military Strategy and Its Impact on the Reserve Components*. Carlisle Barracks, PA: Strategic Studies Institute, December 1991.

_____. *Total Force: Federal Reserves and State National Guards*. Carlisle Barracks, PA: Strategic Studies Institute, December 1994.

Kirby, Sheila Nataraj, and Richard Buddin. *Enlisted Personnel Trends in the Selected Reserve 1986-1994*. Santa Monica, CA: Rand Corporation, 1996.

Kirby, Sheila Nataraj, and Richard Buddin. *Enlisted Personnel Trends in the Selected Reserve, 1986-1994: An Executive Summary*. Santa Monica, CA: Rand Corporation, 1996.

Kirby, Sheila Nataraj, and David W. Grissmer. *Reassessing Enlisted Reserve Attrition: A Total Force Perspective*. Santa Monica, CA: Rand Corporation, 1993.

Kirby, Sheila Nataraj, David W. Grissmer, Stephanie Williamson and Scott Naftel. *Costs and Benefits of Reserve Participation: New Evidence from the 1992 Reserve Components Survey*. Santa Monica, CA: Rand Corporation, 1997.

Orvis, Bruce R., Sastry Narayan, and Laurie L. McDonald. *Military Recruiting Outlook: Recent Trends in Enlistment Propensity and Conversion of Potential Enlisted Supply*. Santa Monica, CA: Rand Corporation, 1985.

Orvis, Bruce R., Herbert J. Shukiar, Laurie L. McDonald, Michael G. Mattock, Rebecca Kilburn, and Michael G. Shanley. *Ensuring Personnel Readiness in the Army Reserve Components*. Santa Monica, CA: Rand Corporation, 1996.

Schwarzkopf, Norman H., and Peter Petre. *The Autobiography: It Doesn't Take a Hero*. New York: Bantam Books, 1992.

Periodicals and Articles

Lakhani, Hyder. "Reenlistment Intentions of Citizen Soldiers in the United States Army," *Armed Forces & Society*, 22, (Fall 95): 117-130.

Lakhani, Hyder and Elissa T. Abod, "The Effectiveness of Economic Incentives for Career Commitment of Peacekeepers in the Sinai," *Armed Forces & Society*, 23, (Spring 97): 401.

Lakhani, Hyder, and Stephen S. Fugita. "Reserve/Guard Retention: Moonlighting or Patriotism." *Military Psychology*, 5, no. 2 (1993): 113-125.

Matthews, Williams. "Nine-month Call-Up Too long for Troops," *Army Times*, Springfield, VA: 13 May 1996, 24.

Peters, Katherine McIntire. "In Reserve: Combat Troops Devour Funds Needed at expense of Critical Needs," *Army Times.* Springfield, VA: 17 July 1995. 18.

"Trends in the Enlisted Reserve," *Rand Research Brief.* Santa Monica: CA Rand Corporation, 1996. 1.

Government Documents

Cheney, Dick. Secretary of Defense, Department of Defense, Office of the Secretary of Defense. *Annual Report to the President and Congress.* Washington, DC: Government Printing Office, 1990.

Joint Chiefs of Staff. *Concept for Future Joint Operations: Expanding Joint Vision 2010*, [Books on-line] (Washington DC: GPO, accessed 07 August 1997) available from http://www.dtic.mil/doctrine

Joint Chiefs of Staff. Joint Publication 1, *Joint Warfare of the Armed Forces of the United States.* Washington, DC: Government Printing Office, 1995.

Joint Chiefs of Staff. Joint Publication 3-0, *Doctrine for Joint Operations.* Washington, DC: Government Printing Office, 1995.

Joint Chiefs of Staff. Joint Publication 3-07, *Joint Doctrine for Military Operations Other than War.* Washington, DC: Government Printing Office, 1995.

Joint Chiefs of Staff. *Joint Vision 2010*, [Books on-line] (Washington DC: GPO, accessed 07 August 1997) available from http://www.dtic.mil/doctrine

Joint Chiefs of Staff. *National Military Strategy of the United States of America--Shape, Respond, Prepare Now: A Military Strategy for a New Era* Washington, DC: Government Printing Office, 1997.

National Defense Panel, Department of Defense *Assessment of the May 1997 Quadrennial Defense Review.* Washington, DC: Government Printing Office, 1997.

National Defense Panel, Department of Defense *Transforming Defense: National Security in the 21st Century--Report of the National Defense Panel.* Washington, DC: Government Printing Office, December 1997.

Reserve Component Policy Board. Department of Defense, *Reserve Component Report of the Quadrennial Defense Review.* Washington, DC: Government Printing Office, 1997.

The White House, Office of the Press Secretary, "Proclamation of National Employer Support the Guard and Reserve" [Article on-line] (Washington DC: Publications-Admin, 1997, accessed 30 October 1997) available from http://pub.pub.Whitehouse.Gov

The White House. *A National Security Strategy for a New Century.* (Washington, DC: Government Printing Office, 1997.

United States Department of the Army. *Army Vision 2010,* [Books on-line] (Washington DC: GPO, accessed 07 August 1997) available from http://www.dtic.mil/doctrine

United States Department of the Army. Field Manual (FM) 100-1, *The Army.* Washington, DC: Government Printing Office, 1994.

United States Department of the Army. Field Manual (FM) 100-5, *Operations* Washington, DC: Government Printing Office, 1993.

United States Department of the Army, Office of the Chief of the Army Reserve. *Trained, Ready, Relevant: The Army Reserve Positioned for the 21st Century* [Book on-line] (Washington DC: GPO, 1997, accessed 5 December 1997) available from http://www.army.mil/usar/posture.htm/

United States Department of the Army. Office of the Chief of Army Reserve, *United States Army Reserve Long Range Plan: 1993-2003.* Washington, DC: Government Printing Office, 1992.

United States Department of the Army. Office of the Chief of the Army Reserve. "1996-1997 Office of the Chief of the Army Reserve Survey Summary Introduction" [Article on-line] Washington DC: GPO, 1997, accessed 30 September 1997) available from http://www.army.mil/usar

United States Department of Defense. Office of the Secretary of Defense. *Report of the Quadrennial Defense Review.* Washington DC: Government Printing Office, 1997

United States General Accounting Office. National Security and International Affairs Division, Report to the Congressional Committees. *Reserve Forces: Proposals to Expand Call-Up Authorities Should Include Numerical Limitations.* Washington, DC: Government Printing Office, 1997.

United States General Accounting Office. National Security and International Affairs Division. Report to Congressional Requesters. *Peace Operations: Reservists Have Volunteered When Needed.* Washington, DC: Government Printing Office, 1996.

United States General Accounting Office. National Security and International Affairs Division. Report to the Secretary of the Army, *Force Structure: Army National Guard Divisions Could Augment Wartime Support Capability.* Washington, DC: Government Printing Office, 1996.

United States General Accounting Office. National Security and International Affairs Division, Testimony Before the Subcommittee on Readiness, Committee on Armed Services, United States Senate. *DOD Reserve Components: Issues Pertaining to Readiness--Statement of Richard Davis, National Security Analysis, National Security and International Affairs Division.* Washington, DC: Government Printing Office, 1996.

West, Togo, D., Jr., and General Dennis J. Reimer. Department of Defense, *United States Army Posture Statement FY 98, February 97.* Washington, DC: Government Printing Office, 1995.

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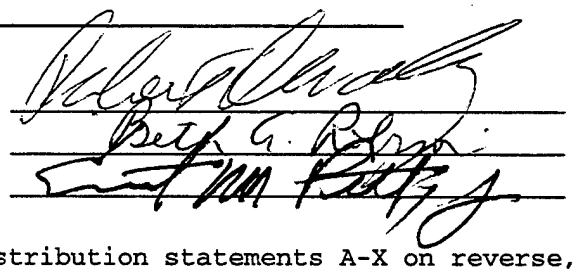

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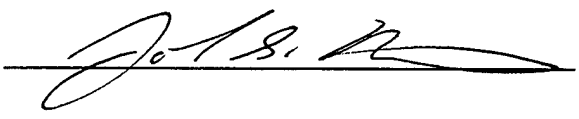
7. MMAS Thesis Author's Signature: 

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