ABSTRACT

Title of Dissertation: CIVILIANIZATION OF THE MILITARY: SOCIAL-
PSYCHOLOGICAL EFFECTS OF INTEGRATING
CIVILIANS AND MILITARY PERSONNEL

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The U.S. Federal government is increasingly civilianizing the military as a

manpower management strategy. Combining military personnel with civilians creates a

bifurcated work setting resulting in differential structural and environmental job

characteristic between service members and civilians.   Analyses of the process and

outcomes of Federal civilianization of the military have focused predominantly on

economic outcomes and have failed to confirm or refute its effectiveness as a

management strategy. In this study I argue that social-psychological outcomes must be

considered in evaluating the effects of military civilianization. Data gathered from case

studies of the Navy and Army are path analyzed to determine the direct and indirect

effects of two civilianization variables on retention intentions.

Sailors and soldiers report feeling relatively deprived compared to the civilians

with whom they work. For sailors, but not soldiers, these feelings of deprivation decrease

with level of contact with civilians. Soldiers and sailors report being satisfied with their

jobs, but less satisfied than their civilian co-workers. Civilians are significantly more

committed to their employers than service members are committed to the military. While

at least 75% of the civilians in each case study lean toward or plan to stay with their

current employer, just over a third of service personnel expressed positive intentions to

remain with the military. Social comparisons significantly and negatively impact sailors'

and soldiers' intentions to remain in military service past current enlistment obligations,

but this effect is only indirect through job satisfaction and organizational commitment.

Neither level of contact nor social comparisons with civilians have a significant direct

effect on intention to remain in service for military personnel. Consistent with prior

research, job satisfaction significantly increases organizational commitment, which, in

turn, significantly increases retention intentions. Civilian mariner data indicate that social

comparisons did not directly or indirectly affect retention intentions. Though sample size

limited the ability to path analyze the data from the Army civilian contractors, correlation

analysis suggests that similar patterns among variables are present in terms of direction

and magnitude of the partial correlation coefficients. Implications of these results and

recommendations for future research are discussed.

CIVILIANIZATION OF THE MILITARY: SOCIAL-PSYCHOLOGICAL
EFFECTS OF INTEGRATING CIVILIANS AND
MILITARY PERSONNEL

By

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LIST OF ACRONYMS

CIVMAR Civilian Mariner (employed by MSC)

DoD Department of Defense

GAO General Accounting Office

MSC Military Sealift Command

MSQ Minnesota Satisfaction Questionnaire (short form)

NSPS National Security Personnel System

OCQ Organizational Commitment Questionnaire

OCONUS Outside the Continental United States

OMB A-76 Office of Management and Budget Circular A-76

UCMJ Uniform Code of Military Justice

USS United States Ship

USNS United States Navy Ship

USN United States Navy

Chapter 1. Introduction: Civilianization of the Military

There has been a massive push in the past decade to transfer jobs formerly performed by military personnel to civilian Department of Defense employees or civilian contractors. This trend has accelerated with the U.S. military's global efforts to combat terrorism, most notably in Afghanistan and Iraq. The impact of integrating military and civilian personnel at all levels of the military organization is not well understood. This study addresses the impact that structural change brought on by civilianizing the military has on the attitudes and behavioral intentions of military and civilian personnel. Two military units, one Navy and one Army, are used as case studies to examine this question. This study uses level of contact, and social comparisons, between civilian and military personnel as two civilianization-related variables predicted to impact retention intentions directly, and indirectly through job satisfaction and organizational commitment.

The Civilian-Military Distinction

Military actions, and the individuals who carry out those actions, are often viewed as separate from the everyday, mundane procession of individuals' lives in the general populace. The culture that surrounds the military is distinct from that of its host (civilian) society. Military culture places a high priority on public service to the extent that normative pressures are placed on both service members and their spouses (generally wives) to engage in community activities (Harrel 2001). The military is intentionally and overtly formal and hierarchical, and uses uniforms, insignia, decorations, and prescribed language to express these highly valued aspects of their culture publicly. The military also has a separate legal and judicial system from civilian society: the Uniform Code of

Military Justice (UCMJ). The norms, rituals, rules, and expectations of life in the military are intentional social constructs that allow those in the military to plan for and execute actions that are directly antagonistic in many ways to those adhered to in its ambient society (Huntington 1957).

The balance between inclusion and differentiation between the military and its host society has been debated in the literature since the 1960s. Janowitz (1960) argued that the military should be tightly integrated into the fabric of its host society. For him, service members should not be separated from broader society. In the other camp, Huntington (1957) claimed that the progressively liberal society was weakening the traditional values and principles of the military that are necessary for its proper functioning. He argued for more clear and complete separation of military personnel from civilian society in an attempt to shield its members from the growing dysfunction of society.

The debate over the nature, extent, and import of the civil-military gap witnessed renewed vigor in the 1990s (Ricks 1997). In terms similar to those used by Janowitz and Huntington, this debate centers on whether and to what extent a gap exists between those in military service and the rest of society on issues such as morals, religiosity, nationalism/patriotism, political ideology, and attitudes on a broad range of socio-political issues (Feaver *et al.*2001 ; Ricks 1997). At the core of these debates is the issue of differentiation between military personnel and civilians. A fundamental concern of those engaged with these debates is the tension between the two groups. While those in the Huntington (1957) camp argue that it is best for the military to be separate and distinct, others argue that separateness and distinctiveness between groups is unhealthy – even dangerous (Janowitz 1960; Ricks 1997).

What it Means to be Military

In the broadest sense, the military is the institutionalization of the state's monopoly on violence (see Weber 1958). Militariness may be measured by the probability of being injured or killed for the common good (i.e., one's country, or even abstract principles such as liberty or sovereignty) (Biderman 1967). If this is taken as the appropriate measure, then our current military is much less military than in prior eras. Technology is a primary reason for the reduced chances among service members of being killed or injured for the common good. Technology has affected this outcome in three ways. First, technology has improved the survivability of American service members through inventions such as Kevlar body armor, improved intelligence capabilities that can detect and monitor dangerous people and weapons, and advances in medical technology to treat injuries sustained by military personnel. Second, the U.S. military's technological sophistication has made deterrence a viable option in most instances, preventing service members from having to engage in conflicts that might otherwise erupt. Third, when conflict is inevitable, the technological sophistication that the U.S. military is able to bring to bear is unparalleled, and when combined with decisive battle tactics (Hanson 1989) it reduces the likelihood of injury and death for U.S. personnel by limiting the duration of conventional threats thatare the most taxin g in terms of the quantity of injuries and deaths among service members.

On the opposite side of the issue, the types of duties performed by civilians in support of military operations and the changed nature of warfare that effectively eliminates the distinction between front lines and rear positions (Avant 2004), civilians appear to be gaining in militariness. Civilians are being integrated with the U.S. military

in forward deployed locations and it is not uncommon for contractors presently in Iraq to have firearms for self-defense. Moreover, and more significant, is that the asymmetric threat presented by the insurgents in Iraq and terror networks worldwide do not discriminate between uniformed military personnel and civilians. In his open videotapes Osama bin Laden has stated unequivocally that he and his followers do not differentiate between military and civilian, they are all equally viable targets.[1] The general American public at home, and especially the civilians deployed overseas in support of the military missions, is at risk. This has been made patently clear by the attacks of September 11, 2001; the public desecration of four Blackwater civilian contract employees in Fallujah, Iraq in March of 2004; and the kidnapping and public beheading (via internet broadcast) of civilian contractors working in Iraq.

Alternately, if militariness is defined by the degree of sacrifice demanded by the institution of the service member (Biderman 1967), then there is a distinct difference between service members and civilians. Service members and civilians operate under separate legal and judicial systems. Failing to comply with directives from supervisors has very different consequences for the two groups. Whereas the military more or less owns the service member and can coerce physical tasks, extra duty, and even press criminal charges for failing to follow orders, supervisors and employers have much less latitude in dealing with civilian employees who fail to execute directives satisfactorily.

What is military, or militariness, is also influenced by similarities and differences between military personnel and civilians. Increased bureaucratization and rationalization

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[1] At the most extreme, the Cold War that continues in Asia represents the ultimate in equal opportunity risk of death and injury across the military-civilian spectrum should one of North Korea's nuclear bombs target Alaska.

within the military (and society) in the modern era has pushed workers toward specialization. Similarly, technological advances foster specialization among military and civilian personnel, and in this specialization the jobs of service members begin to mirror more closely jobs performed by civilians (Biderman 1967; Boëne 1990). Thus, it is not clear where the line is drawn between jobs that constitute inherently military work and those that are non-military, but support the military – or whether this distinction itself is arbitrary and outdated.

Building on Biderman's work, Boëne (1990) argued for understanding the military as two different components, the teeth (or combat component) and the tail (or the supply and support component). The actions of those operating in the teeth of the military – i.e., the taking of life and destroying things by military personnel in the name of freedom, democracy, sovereignty – are not rational (Boëne 1990). To counter this irrationality, there must be structural and normative boundaries surrounding military personnel and the actions they are called on to perform. Even those in the tail (i.e., supply and support), who are not expected to kill people and destroy things in the course of their daily duties, must be prepared to do so. Indeed, should the need arise, service members of all specialties are not only expected to perform such acts, they are duty bound to do so.

Not only are these inherently military acts, killing people and destroying property in defense of freedom, democracy, sovereignty, they are *uniquely* military acts. This behavior is explicitly prohibited for civilian contractors and Department of Defense civilian employees. In fact, if they were to perform such acts they would forfeit their non-combatant status and any benefits and protections that status might convey.

Civilianization of the Military

The civilianization of the military is at the heart of the Institutional – Occupational Model of military organization (Moskos 1977). The institutional military is one in which Soldiers serve in response to a call to duty and honor. Traditional values and norms are paramount in manning the armed forces in an institutional military, shaping the service members into a distinct and cohesive group (Moskos 1977). By fostering internalization of these values by their constituent members, the military is able to elicit performance and dedication above what might otherwise be expected (Moskos & Wood 1988).

In contrast to the institutional military, individuals in an occupational military are driven by self-interest and the free market (Moskos 1977). They are externally motivated, especially by monetary compensation. These occupational qualities run counter to the institutional model's emphasis on the collective group's benefit as expressed via values, norms, and internal motivation.

The Institutional–Occupational Model asserts that, "the overarching trend within the contemporary military is the erosion of the institutional format and the ascendancy of the occupational model" (Mokos's 1977: 44). This trend is linked to the influence of civilian norms and values on the military. Until 1967 and the publication of the Gates Commission Report, the U.S. armed forces were characterized as an institutional military (Moskos 1977). The Commission recommended conversion from a conscription based military force in America to one based on volunteers, recruited through the dynamics of the labor market (see Segal 1989). Moskos observed the shift from conscription to an all-volunteer force as a departure from military personnel engaging in public service through civic obligation and toward military "service" as another of many alternative jobs.

The shift to an all-volunteer force in 1973 compelled the military to compete for personnel with the private sector. To be competitive, the military transformed its policies and manpower models. Changes included: adjustments in pay scales, the use of monetary and educational enlistment incentives, marketing campaigns highlighting the specialized training provided by the military, the development of more family friendly policies, and the increased recruitment and participation of women.

The degree to which the military can civilianize and still retain its distinctive organizational identity remains to be seen. The military currently engages in two forms of civilianization of personnel – DoD civilians and civilian contractors. Though distinct in their organizational position, both types of civilian employees are central to the military's strategy to increase efficiency and effectiveness.   These two categories of employees are best understood as variations of the same theme (i.e., civilianization), rather than categorically different forms of personnel within the total force. Further, the way these civilians are integrated into and used by the armed forces may affect the extent to which the organization is successful in this mission.

Department of Defense Civilian Employees

The Department of Defense employs roughly 700,000 civilians which makes it the second largest Federal employer after the U.S. Postal Service (General Accounting Office 2003, hereafter GAO). The DoD civilian workforce constitutes approximately 20% of the personnel working for the Department of Defense (Defense Manpower Data Center 2001). The Army employs roughly one-third of these civilians, the Air Force and Navy approximately one-fourth each, and the remaining 12-15% are divided between the Marines and the general DoD department offices (Defense Manpower Data Center 2001).

These employees are hired through the same processes as any other Federal employee. As civilians they are subject to the laws and procedures of the civilian legal and judicial system, as opposed to service members who fall under the laws and procedures of UCMJ. With few exceptions, pay for DoD civilians is set by the Federal general schedule (GS), the Federal wage system, or the Federal Senior Executive Service (SES) schedule.

The Department of Defense is in the midst of a major reorganization effort that includes fundamental changes in the type and allocation of personnel in the Department (GAO 2003; GAO 2004). In 2003 the Department of Defense began plans for the development of a new department-wide personnel strategy aimed at consolidating the various civilian workforce plans it currently had in place. The move to integrate the DoD civilian workforce was motivated by the goal of harnessing management resources to optimize the efficiency and effectiveness of allocating the scarce resources of the Department (Gruber 2003). The DoD reorganization effort, culminating in the authorization of the National Security Personnel System (NSPS) under the National Defense Authorization Act for fiscal year 2004, was mandated by the Defense Transformation for the 21st Century Act of 2003 (CHR 2004; GAO 2003). This reorganization of the DoD civilian workforce was designed to reduce redundancies in organizational management and centralize oversight of the workforce. Further, the NSPS is designed with the explicit goal of providing managers with the ability to manage their civilian workers in a more flexible and efficient manner to respond to changing conditions relating to national defense needs. To address the issue of attracting and retaining the highest quality personnel, the NSPS seeks to reduce the time and red tape associated with the hiring process, and to move to a promotion system based on merit as opposed to the historic precedent of promotion through tenure in the system. The

increased number of DoD civilians performing jobs previously done by military personnel should be understood in the context of this more general transformation of the DoD workforce.

A number of reports voice concern over what has been called a crisis in the DoD civilian workforce (e.g., GAO 2003; GAO 2004). The primary concern is the "significant imbalance in the shape, skills and experience of [the DoD] civilian workforce" (GAO 2003: 4). More than half of the DoD civilian workforce is within five years of age-eligible retirement (GAO 2003; GAO 2004). This imbalance in experience and knowledge has serious implications for the transfer of institutional knowledge and the potential for a leadership/management and skills vacuum in the wake of the baby-boomer retirements. The NSPS was developed with the overt attempt to "more strategically manage [the DoD's] workforce and respond to current and emerging challenges" (GAO 2003: 4).

The Department of Defense recognizes the critical role that civilian employees play in the missions of the Department. Jobs that DoD civilian employees perform include, but are not limited to, air traffic control, law enforcement, intelligence gathering and analysis, managing finances, crewing maritime ships, acquiring and maintaining weapons systems, and ever expanding roles in combat support functions (GAO 2003; Gruber 2003). In the past decade the size of the DoD has been dramatically decreased. This has been a result of the general drawdown of forces as a result of the resolution of the European Cold War in the late 1980s and the recognition that cost savings are best achieved by reducing the number of workers on the payrolls (GAO 2001). While the number of military personnel is expected to continue to decline (especially with the Navy and Air Force looking to reduce their numbers further), in the first two years of the NSPS

alone (i.e., 2004 and 2005), the DoD is planning to transfer 20,000 military positions to civilian employees (GAO 2004). More civilianization conversions are anticipated in 2006 and beyond. The negative relationship between the number of military personnel and the number of civilians working for DoD is not a coincidence. The demands on the military and its service members have increased dramatically over the same time that the number of military personnel has decreased. In order to accomplish its missions, the Department of Defense, out of pure necessity if nothing else, was compelled to turn to civilians to pick up the slack. Even in instances where the Department of Defense is downsizing its Federal civilian personnel, in many cases this translates into the outsourcing of these jobs through Office of Management and Budget A-76 (hereafter OMB A-76) competitions[2] (GAO 2001).

The Department of Defense is increasingly relying on civilians to perform jobs that are critical to its mission success. The two ways in which civilians are brought into the DoD's total force are as civilian DoD employees and as DoD civilian contractors. I argue that these two categories of workers represent differences in degree of civilianization of the military. Conceptually, DoD civilians represent a less extreme form of civilianization of the military compared to the outsourcing of jobs via civilian contractors. At a basic level, the civilianization of military jobs through transferring them to civilian Federal employees maintains the positions as public domain and a public resource. Civilianizing jobs formerly performed by military personnel through contracting is a specific form of outsourcing: privatization. In this instance, the job shifts from public to private domain and becomes much less transparent and is more subject to

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[2] The OMB A-76 process will be discussed in more detail below.

the demands and constraints of the marketplace.

Another major issue is that Department of Defense employees may perform jobs that are inherently governmental – something that is not possible for civilian contractors. While certainly not all DoD civilians perform inherently governmental jobs, this distinction is a critical one differentiating these two groups of employees. Finally, the DoD has more control (and purportedly better oversight) over DoD civilians than they do over civilian contractors. Federal agencies do not engage in subcontracting as do civilian contracting firms. Subcontracting has become a major issue with firms that have been awarded military contracts to provide goods and services to the various military departments. Three major issues related to subcontracting include reduced quality of workmanship and products over what was expected having awarded the bid to a certain company, the use of foreign labor to execute the contract, and lack of oversight (Donahue 1989; GAO 1995; Singer 2003).

Federal Outsourcing: OMB Circular A-76

The federal mandate driving the movement of jobs performed by federal employees to the private sector is the Office of Management and Budget circular A-76 (OMB A-76) first issued in 1966. This mandate was born from the belief that government should not compete with its citizens. Rather, it should foster a free enterprise economy through contracting business to private industry based on identified needs (OMB 1999). Revisions in 1967, 1979, 1983, 1999, and 2003, and an updated supplemental handbook issued in 1996 have kept outsourcing in the eye of Congress and the Federal agencies responsible for its implementation.

OMB A-76 tasks the government with identifying any and all possible

government operated commercial activity, performing a cost-benefit analysis of all permissible jobs, and shifting the work to private industry whenever the work can be done as well or better at less cost (OMB 1999). The term "permissible jobs" refers to the constraint that some jobs are considered inherently governmental (i.e., intimately related to the public interest), and are thus not subject to consideration for privatization. Cost analyses and comparisons must be realistic and fair.[3]

There are four conditions under which governmental performance of commercial activities are expressly authorized: 1) no satisfactory commercial source is available, 2) issues of national defense, 3) patient care in government hospitals, and 4) when the government can provide the service at a lower cost than qualified businesses in the private sector (OMB 1999).

The goals of outsourcing mandated through OMB A-76 include increased effectiveness and efficiency of an organization's operations, and increased cost savings. In order to achieve these goals, the following objectives are identified:

1. Identify potential jobs for outsourcing
2. Perform a competitive cost analysis comparing in-house completion versus outsourcing for a given job.
3. Monitor contracts to evaluate the degree to which they achieve the program's goals.

A thorough analysis of the effects of military outsourcing should also identify potential unanticipated outcomes. A weakness of OMB A-76 is that if focuses on economic outcomes to the exclusion of social outcomes. Social outcomes may indirectly

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[3] New guidelines that take effect in 2005 will allow A-76 competition evaluators to use best value as a criterion in determining the best proposal. Currently, the process rewards contracts to the cheapest bid – which is often not the best value. This change is expected to increase the proportion of A-76 competitions won by civilian contracting organizations (Hill 2005).

affect the dependent variables of interest, and should be of concern to stakeholders.

Akerlof and Kranton (2003) examined the effects of pecuniary versus social identity

motivators in military and civilian settings. They found that increasing employees'

identification with the organization (and thereby internalizing its goals and practices) has

positive effects on employees' production, net of pecuniary incentives. This work is in

the relatively new, but rapidly expanding tradition on transaction cost economics. This

field of economics focuses on the costs of "making exchange or the indirect production

expenses" through motivation (i.e., motivating specialized interest agents to align their

interests) and coordination (e.g., obtaining and coordinating production input,

measurement costs) of expenses (Encycogov 2005). In short, transaction cost economics

focuses on the social-psychological factors affecting production costs. The fact that

Akerlof received the 2001 Nobel Prize in economics for his work in this area suggests

that analyses of the military's organizational outcomes should include social-

psychological as well as economic outcomes. Thus, an additional objective should be

added to those expressly identified by the federal mandate:

4. Evaluate the outsourcing program for potential unintended social-psychological
   consequences that might positively or negatively affect the program's success.

The revised OMB A-76 (1999) states that it is U.S government policy to achieve

economy and enhance productivity in providing federal services for the American people.

Competition through free markets, it argues, improves quality of goods and services,

increases economy, and enhances productivity. Though not stated in the OMB A-76

circular explicitly, Bush's (2002: 13) FY2002 management plan recognizes that social

consequences should be considered as part of the outcome goals. In his management

plan, Bush's first priority is to "make government citizen centered" by reducing the layers

of government through the dual processes of restructuring and downsizing. Bush

highlights the following short and long term goals.

> Short Term Goals: "Agencies will determine their 'core competencies'
> and decide whether to build internal capacity, or contract for services
> from the private sector. This will maximize agencies' flexibility in
> getting the job done effectively and efficiently" (Bush 2002: 14).

> Long Term Goals: "The workforce will adapt quickly in size,
> composition, and competencies to accommodate changes in mission,
> technology, and labor markets; Government employee satisfaction will
> increase; Civil service system will attract and retain talented people who
> will demand and deliver sustained excellence and high levels of
> performance; and Agencies will meet and exceed established
> productivity and performance goals" (Bush 2002: 14).

The Effect of Contractors

Contractors are hired to increase the flexibility, effectiveness, and efficiency of an

organization by streamlining the full-time workforce and allowing it to focus on the core

mission or specialty of the organization (Edwards 2002). In the federal government, the

use of private industry contractors is desirable whenever possible for the simple reason

that the government should not compete with its citizens in producing products and

performing services. Despite these motivations, assessments of contractors, both

objective and subjective, reveal that employing contractors is not necessarily achieving

the intended goals (GAO 1995; GAO 2000; Singer 2003).

Incorporating contractors into an organization's structure may negatively impact

social-psychological, structural, and economic outcomes. Some full-time employees see

the loss of jobs due to downsizing and/or contracting as a source of instability (Baron &

Kreps 1999; Wong & McNally 1994). The ambiguity of contractors' status can also

foster unease among full-time employees, as well as tension between full-time employees

and contractors (Callan 1993; Nelson *et al.*1995). For example, with regard to the

military, to whom does the civilian contractor answer and take directives (not orders!)?

Will a given civilian contractor remain with his/her military peers when they are deployed

(especially to a war zone)? What are contractors' job descriptions and can they perform

duties not specifically itemized therein? Depending on how questions such as there are

answered, organizational effectiveness, efficiency, cost saving, and even morale may be

negatively impacted.

The benefit most often cited in using contractors is cost effectiveness. Assessments

of contracting-out work by the federal government indicate that anticipated cost savings

have not been clearly achieved. For example, citing a multitude of hidden costs in

employing contractors, Robbert (2003) states that the military's reliance on civilian

contractors is essentially as expensive as hiring service men and women, and could

actually increase project costs. While civilian contractors may "cost less as a rule, some of

the savings are wiped out by the need for more oversight of contractor performance,"

(Robbert 2003: 11) as well as overhead charges to execute the contracts. The fact that the

monetary impact of introducing contractors into the federal work force is not well

understood is reflected in the GAO conclusion:

> *We cannot convincingly prove nor disprove that the results of federal*
> *agencies' contracting out decisions have been beneficial and cost-effective.*
> *GAO (1995: p.i)*

One obvious example of the ambiguous relationship between contractors' costs and

benefits is the alleged contribution of poor contract oversight and lack of emphasis on

contractor performance outcomes by NASA to the Columbia space shuttle disaster (Broder 2003; Smith & Stephens 2003; Smith *et al.*2003).

The Effect of Outsourcing on Contractors

While many observers of the civilian contracting system in the military may view contractors as having more advantages than disadvantages in comparison to their military peers, the relationship between full-time employees and contractors is not as clear-cut in other arenas. Contractors working for federal agencies other than DoD, as well as state agencies, may have some advantages in salary and flexibility; however, they do not have the job security, retirement benefits, and health benefits that their full-time peers enjoy. Private industry too has had a proliferation in the use of contracting. Employees of private companies enjoy many of the same advantages as government full-time employees, with additional potential benefits such as stock options and bonuses (FindLaw 2004; Moody 1997). Some contractors are enticed by the flexibility and salary of contracting in the private sector. Others resent the double standards set by some companies that disadvantage contractors relative to the full-time employees.

Perhaps the most well-known of such instances were the successful lawsuits filed in early 1990s by contract IT workers against Microsoft claiming unfair discrimination in the workplace based on employment status (Levin 2002; Moody 1997). Examples of differential treatment of contractors at Microsoft included providing contract workers with different color ID badges than regular employees, excluding contractors from company picnics, and banning contractors from using company social and recreation facilities (Levin 2002). Levin (2002) argues that a company may intentionally use contractors as a way of signaling to those "employees" that they are not interested in a

long-term commitment. An extension of this argument would suggest that contractors, by their very nature, are not committed to any given organization for which they perform work on behalf of their employer (i.e., their contracting firm). For many organizations and job specialties this difference in commitment is not problematic. For normative and safety reasons that will be discussed in more detail in later sections, this difference in commitment can be perceived negatively in the military, even to the extent that it may pose a physical threat to uniformed service members.

At its foundation, hiring employees as contractors (independent or via a contracting firm) institutionalizes a separateness among employees; this separateness by its very nature precludes equality. In addition to tangibles like benefits, office space and the like, unequal status lends itself to coloring perceptions about those in the "other" group. Natural comparisons between group members fuelled by ambiguity and potential threats to one's own status, performance, job security, or physical safety can lead to segregation by worker status and generalized negative attitudes toward the "other" group. Thus, while introducing contractors into an organization inevitably has an impact on workers of both statuses, context matters with regard to which category of employees appear more advantaged or disadvantaged by the structural arrangement.

Military Outsourcing

> *If we look at …the Department of Defense we would see…a reduced official*
> *work force where we know how many people are employed and in what*
> *function, and what their salaries are in addition to a private contractor work*
> *force that has grown dramatically and at alarming rates. Their influence and*
> *impact is becoming more and more significant.*
> *David Pryor (2003, P. 45)*

Historical Context

The employment of civilians to enhance military strength has its roots in European and Middle Eastern practices of war. Examples of military outsourcing include: mercenaries serving in the army of King Shulgi of Ur (2094-2047 B.C.E.); private warriors fighting for Greek and Roman city-states; Condottieri - from the Italian "contract" - selling their skills around Europe in the middle ages; and privateers sailing for the European colonial powers (e.g., British East India Company) (Howard 1976; Singer 2003; Thomson 1994). Historically, outsourcing military functions has been the rule rather than the exception. In the modern era the practice fell into disfavor, only to resurface as an open and legitimate convention of military organization within states in the late 20th century.

The use of civilian contractors by the U.S. military has been an integral part of the American war-making capacity since before the Civil War (Avant 2001; Robinson 2002; Schwartz 2003). Indeed, the history of outsourcing military functions in the U.S. parallels the history of national defense itself. The multitude of contractors serving with the U.S. military in Afghanistan and Iraq is a continuation of this trend. However, this increased reliance on contractors in recent times should not be mistaken for a linear trend. To the extent that reliance on civilian contractors varies over time, the use of contractors is best understood as a continuous variable that ebbs and flows with the socio-political changes within and among states (Thomson 1994).

The end of the Cold War in Europe in the late 1980s brought about an organizational change in the U.S. military. The armed forces shifted from a large standing professional force that had been dictated by the Soviet Union's challenge as a world super power, to a smaller, more specialized fighting force. Since the number of

missions and frequency of deployments have continued to rise in the wake of the European Cold War resolution, increasing numbers of civilian contractors have been hired to compensate for the reduction in military personnel (Avant 2002; Brooks 2001; Lee 2002; Light 1999; Moskos 2000; Singer 2003).

Total Force

The movement to streamline the military as part of the "peace dividend," is part of the larger "total force" concept. The total force notion conceptualizes all military assets (i.e., regular forces, National Guard and Reserve forces, Coast Guard, DoD civilian employees, and civilian contractors) as part of an interdependent force, mustered when needed and stood down when possible. This organization of defense forces is consonant with the pre-Cold War model of force structure and is expressly designed with flexibility, efficiency, effectiveness, and economy in mind.

The notion of total force is one of great interest and import given the organizational changes in the military currently underway. This organizational conceptualization raises a number of questions. To what extent are contractors and DoD civilian employees truly part of the military organization? When service members leave the military and join private military firms or return as DoD civilians, is it best understood as an issue of retention or a lateral move within the same organization? Alternatively, is the total force concept simply a marketing technique to build cohesion and solidarity among the various components of the "total force"? Since civilian contractors and DoD civilians are already defined by the military as part of the total force should the government consider taking steps that would allow the military to deputize or conscript these individuals in times of national crisis for the sake of effectiveness,

efficiency, and cohesion? While these questions are indeed important to contemplate, and will likely emerge as more central discussions among military, political, and academic leaders in the coming years, they are not central to this study. The brief discussion of total force is intended to serve as part of the motivation for the current study as another example of the blurring of lines between what is *military* and what is not.

Civilianization of the Military in Practice

This study focuses on the effects of civilianization of the military on attitudes and behavioral intentions of military and civilian personnel that have the potential to impact the dynamics and structure of the military. Regardless of the conceptualization or categories applied to the actors involved, I am interested in how the integration of structurally distinct groups of workers affects the attitudes and intended behaviors of employees within a specific organizational context. Thus, the structure of the organization provides the context in which military and civilian personnel become explicit employment reference groups for each other, and as a result produces favorable or unfavorable views of one's employment situation.

Unfavorable social comparisons may lead to reduced satisfaction for some while maintaining high levels of commitment. Alternatively, even though satisfaction may be high as a result of some aspects of one's work, other aspects may trump such satisfaction and promote reduced commitment and/or the intention to separate from the organization. For military personnel, decreased satisfaction and commitment may prompt separation from the military for a multitude of other employment options (contracting being only one), or with no other specific option in mind – only that employment with the military is

not desirable. Contractors and DoD civilians may or may not have similar patterns of attitudes and behaviors as their military co-workers.

Jobs transferred to civilians may take the form of either product or service related jobs. In addition to performing menial jobs such as grounds maintenance and various mess hall duties, the increased reliance on civilians "is due to the military's greater reliance on technically complex weapons systems, with the corresponding need for technical experts, both contract and direct hires, to work in the field and at sea" (Robinson 2002: 21, see also Avant 2002 and Moskos 2000). Light (1999) argues that if the service contract work force for DoD followed the same downward shift in numbers as the product-related contract work force from 1984 to 1996, the combined contract work force would have been reduced by approximately 3.4 million. As it happened, the service contract work force increased 14% from 1984 to 1996. In relative terms, the service contract proportion of the total DoD contract work force (i.e., product and service contracts) increased more than 50 percent from 1984 to 1996. In actual numbers, this increase in service contractors accounted for approximately three quarters of the total DoD contract work force by 1996. High-tech related jobs (e.g. installation, maintenance, integration, and operation of weapons and surveillance systems) account for nearly the entire 14% increase in civilian contractors employed by the Department of Defense over this time period.

The increasing technological sophistication required of many military specialties has resulted in a greater reliance on private sector support in order to maintain a cutting edge military. Light (1999) notes that outsourcing is motivated by a desire to increase flexibility by targeting qualified labor for specific project goals without carrying long term costs for training and maintaining personnel (and their families). Economic

constraints and personnel caps have also motivated force reductions and base closures. Thus, aside from soldiers, sailors, airmen, and marines perhaps becoming more "occupation" oriented themselves (Moskos 1977), there has been a conscious effort to infuse into the military a pure form of occupationally oriented personnel via civilian contractors. Indeed, today America's military cannot function effectively without these contractors.

Singer (2003) calculates the total number of full-time equivalent jobs generated by military contracts with private companies in 1996 at over 5.6 million. A recent report indicates that DoD plans to competitively source an additional 67,800 jobs, which constitutes approximately 17 percent of the department's 410,700 commercial jobs (Phinney 2003). Continued commitment to the wedding of civilian contractors with uniformed service members is witnessed in President Bush's call for further increases in the use of contractors in the future. The extent of civilian contractors employed for the current military operations in Afghanistan and Iraq testify to this ongoing commitment to outsource some formerly military functions. For example, the number of civilian contractors used in the invasion of Iraq is estimated to be ten times that used in the first Gulf War (Singer in Van Dongen 2003). Moskos (2000, 22) argues that is it "more than a historical footnote that the first American casualty in Operation Provide Comfort in Somalia was an Army civilian employee who died when the vehicle in which he was traveling hit a mine." Further, in February 2004 DoD announced that another 230,000 military jobs would be considered for either outsourcing or transfer to the civil service (Barr 2004).

Yet with all the administrative, legal, and normative support for outsourcing of government functions, there has not been a systematic study of the non-monetary (i.e.,

social-psychological) effects of such programs for the military. Given that the military is responsible for national defense and protecting national interests abroad, in addition to the vast monetary sums allocated to the Department of Defense, an examination of the social-psychological and concomitant behavioral effects of a program of this magnitude is warranted.

The OMB A-76 Process in the Military

The OMB A-76 directive has met with varying levels of support and execution by presidential administrations over the years. The Reagan administration used OMB A-76 extensively, whereas the Clinton administration invoked it only sparingly (Light 1999: 148-49). The George W. Bush administration is again pushing for increased privatization of government jobs via OMB A-76. This push is especially evident in the DoD.

To implement OMB A-76 administrators in the Department of Defense are required to identify non-core military jobs that are then subjected to cost comparison with bids from private contractors. When a job currently being performed by military personnel is found to be appropriately and more economically performed by civilian contractors the job gets outsourced (OMB 1999). Since the jobs performed by civilian contractors are necessary for the efficient and effective operation of the military, the civilians contracted to perform these jobs are effectively, if not conceptually, integrated into the Total Force (Ehab *et al.* 1999; Robinson 2002; Singer 2003). Indeed, the military often refers to civilian contractors as force multipliers (Ehab *et al.*1999; McAllister 1996).

Examples of defense related commercial activities targeted by OMB A-76 competitions include, but are not limited to: engineering, installation, operation,

maintenance, and testing for communications systems, missile ranges, satellite tracking and data acquisition; radar detection and tracking; and operation of motor pools, vehicle and aeronautical operation and maintenance, and air/sea/land transportation of people and supplies (OMB 1999). Civilian contractors are employed in stateside locations, overseas maintenance depots, on ships deployed in the naval fleet, and in forward deployed positions during peacekeeping and combat operations.

Despite the ubiquity of civilian contractors on America's military posts and ships the impact of outsourcing on the military is not well understood. Evaluation criteria in OMB A-76, and those criteria implied by the current Bush administration, focus almost exclusively on the economic aspects of the policy. However, it is likely that any policy with such far-reaching structural and economic impacts will have significant social-sociological impacts. Preliminary studies support this. As noted previously, the typical pattern in turning to contractors is to reduce the full-time work force, hire contractors to fulfill non-core duties, and transfer the remaining full-time employees to positions aligned with core duties of the organization. Deavel (1998) and Wong and McNally (1994) suggest that downsizing and/or outsourcing of military jobs has significant negative effects on the organizational commitment and satisfaction of those remaining in service (see also Baron & Kreps 1999; Levin 2002).

Kennedy *et al.*(2002) argue that outsourcing can result in the remaining full -time employees becoming disenfranchised or simply disenchanted and leaving the organization. Consequently, precisely those employees counted on most to carry out the organization's core missions separate from the organization, leaving behind a problematic (and most likely unanticipated) skill and leadership vacuum. In addition, Moskos (1977) and Kim *et al.*(1996) argue that increases in occupational orientation of the military and

transferability of skills to the civilian sector lead to recruitment and retention challenges. Job satisfaction is also linked to retention intentions directly and indirectly through organizational commitment (Kim *et al.*1996).

There is a clear sense that military leaders are looking to utilize contractors so that uniformed personnel can increase their time and energy focusing on the core mission of the military: fighting and winning America's wars. Lt. Col. Bill McNight (2003: 1), Chief of the 9th Reconnaissance Wing Manpower and Organization Office, voices this goal of the U.S. military: "We want to apply our resources most directly to war fighting because that's what we do."

Donahue (1989) identifies three broad indictments against civilian contracting agencies, and contractors by extension. First is that the services and material supplied by contractors cost too much. Historically there has been little competition in the military contracting business, but as the number and types of jobs being contracted out by the military increases (combined with increasing numbers of ex-military due to downsizing and other factors) there has been a rush in the past decade to set up businesses to compete for the billions of dollars aimed at contracting firms. Yet, even with increased competition the cost of services provided by civilian contractors appear to be inflated (GAO 2000b).

The second major criticism of contracting firms is that they do not deliver enough. This broad criticism covers the gamut from providing personnel who are not fully qualified to perform the function for which the contract was awarded, to slow progress or delays in work, to lack of attention to detail and quality on the job. Moreover, military personnel are on call around the clock and bound by both normative and legal codes to perform whatever duty is asked of them, provided it is not an illegal order. This contrasts

sharply with contract employees who may refuse to do work not in their contract, may be

contractually restricted from performing overtime work, and are perhaps less motivated to

perform to their best because of the flexibility of their employment and the alternatives

available to them for different work settings.

Finally, Donahue argues that the contracting system as a whole lacks

accountability. Oversight of contracts and contractors is notoriously poor. Under the

current system of competing for, awarding, and monitoring contracts there appears to be a

fundamental flaw in that little or no actionable recourse is taken to sanction contractor

incompetence once they have been awarded the job (Inspector General of DoD report

2000; Light 1999). This may be attributed to lack of political will, poorly written

contracts that contain numerous loopholes and plenty of room for add-ons, and/or an

unwillingness by military leaders to accept the time delays and cost overrun that would be

incurred by firing a contractor and finding a new one (Light 1999; Singer 2003). This

triad of issues is likely to highlight the distinctive differences between those who wear the

uniform of the U.S. military and those that do not, and elicit some level of animosity

between members of the two groups.

Research Question

The Department of Defense has dramatically expanded the quantity of civilians it

employs and the range of jobs that they are hired to perform as part of its civilianization

effort to increase effectiveness, efficiency, and cost savings. The impact of bifurcating

the workplace by combining military and civilian personnel across an ever-widening

array of positions is not well understood. This study addresses the question, what impact

does the structural change of civilianizing jobs formerly performed by military personnel

have on the attitudes and retention intentions of service members and the civilians with whom they work? Specifically, this research examines whether and to what extent military and civilian personnel's level of contact and social comparisons with one another affect their retention attitudes. To answer this question, the effect of level of contact and social comparisons between groups on job satisfaction and organizational commitment is assessed, as these have been identified as critical social-psychological variables in predicting retention.

Chapter 2. Literature Review and Hypotheses

The study of employee retention has been primarily motivated by the desire to learn which variables most strongly influence stay and quit behaviors of employees. Organizations seek a well-specified model of turnover to maximize economy. Researchers' initial models were simple by today's standards, but over time they have grown more complex, with increased theoretical validity and greater predictive capacity.

Studies of job satisfaction and organizational commitment have been nearly synonymous with attempts to increase understanding of personnel retention and productivity. Many retention studies have been funded by private companies, and were undertaken not to increase satisfaction or commitment per se, but as a means to identify ways in which companies could become more profitable and successful through instituting and/or altering programs, policies, and work conditions that affect employee satisfaction and commitment. Thus, models developed for the pragmatic world of business examine satisfaction and organizational commitment of employees vis-à-vis the effect they have on economic outcomes for the company. From a social-psychological perspective, each is interesting and important in its own right.

Model of Retention-Turnover [4]

Extensive research has been conducted on models of employee retention for civilian workforce populations. The military has been systematically excluded from all

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[4] This study's focus on turnover is limited to voluntary separation from an organization. As such, employees who are fired, "downsized", not given the option of re-enlisting, or otherwise separated from their employer are not included in this model or subsequent discussion.

but a very few of these studies (exceptions include Hulin *et al.*1985; Orthner 1990; and Waite and Berryman 1986). While some models acknowledge social-psychological factors as variables that contribute to the overall development of job satisfaction and organizational commitment attitudes, explicit examination of social comparisons is conspicuously lacking in the literature. Notable exceptions include Hodson (1985), Crosby (1982), and Rakoff *et al.* (1992). However, neither Hodson nor Crosby examined military personnel.

Rakoff *et al.*(1992) ask ed Army personnel to compare quality of Army jobs to civilian jobs and Army life to civilian life. Comparisons were made on six job characteristics (opportunity for advancement, pay, retirement benefits, job security, opportunity to serve country, and opportunity for excitement/adventure) rated on a five-point scale ranging from "much worse in civilian life" to "much better in civilian life." While this study is important for its contribution in using social comparisons to predict retention rates, several limitations are evident. A number of salient characteristics are not measured vis-à-vis the retention model (e.g., autonomy, job hazards, routinization, and leadership support). Data for this study were collected in 1988 – prior to the increase in military outsourcing that began in the early 1990s. Comparisons were based on a generic civilian "other", not the more tangible, obvious, and enticing civilians working in close proximity to the service member. Finally, Rakoff *et al.*'s sample is all male and restricted to soldiers in the earlier stages of their career, and excludes soldiers who said they planned to retire at the end of their current service obligation.

Further empirical analysis is needed to understand more fully the effect of civilian contractors on service members' social comparisons (and satisfaction, commitment and retention attitudes). At the time this dissertation was written, no research has been found

that examines the effect of service members on civilians' social comparisons.

The retention-turnover model advanced for this study is based on the works of Price, Mueller, and colleagues (Kim *et al.*1996; Mueller & Price 1990 ; Price1977; and Price & Mueller 1986a, 1986b) and is built on the major theoretical traditions in the field (Figure 2.1). The model identifies structural, environmental, and personal variables that affect job satisfaction and organizational commitment. Job satisfaction and organizational commitment are identified as intervening variables affecting stay/quit intentions. The model explicitly includes intentions as the immediate precursor to turnover/retention behavior (Kim *et al.*1996; Mobley *et al.*1979) . The vertical dashed line following intention intentions indicates the separation between attitudes and intentions to the left and behaviors to the right. This study focuses on the attitude portion of this model (to the left of the dashed line). The causal ordering of variables in the model presented by Kim *et al.* (1996) is consistent with that advanced by Mobley (1982). Job related variables that are identified as structural antecedents are external to the individual. Environmental variables are both external to the individual and outside the individual's work environment. Thus, non-work factors affect an individual's attitudes and behaviors directly related to work. Finally, variables identified as personal antecedents capture qualities of the individual him/herself that impact job satisfaction and organizational commitment. While personal antecedent variables are affected by an individual's work and social environments, they are in fact located within the individual (see Kim *et al.*1996; and Porter & Steers 1973). Each category of antecedent variables interacts with and influences the others. Social comparisons affect satisfaction and commitment by virtue of

the fact that all antecedent variables are experienced by employees in a social

context and understood (if not constructed) via social processes.[5]

Figure 2.1. Model of Retention-Turnover*
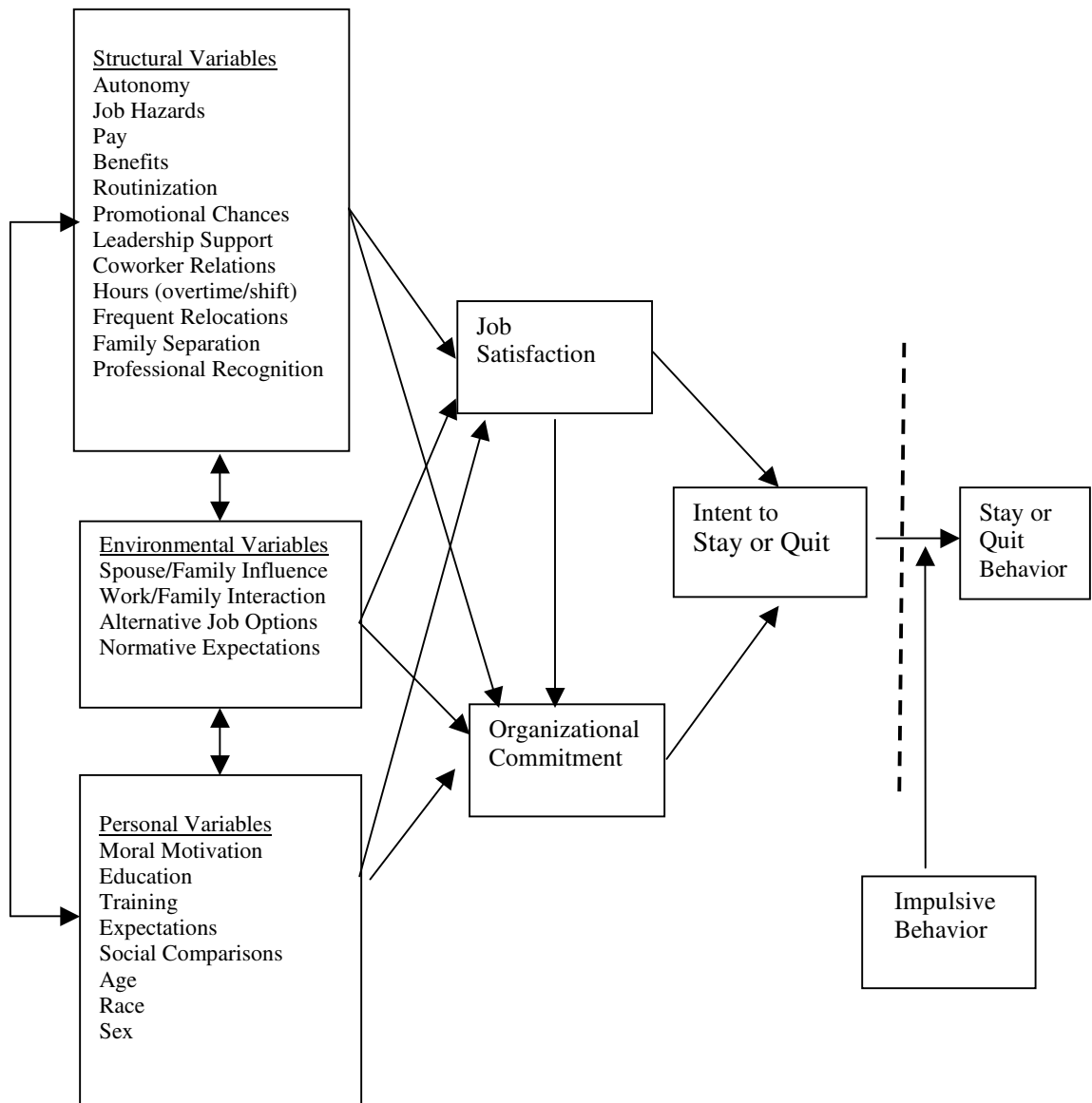
*Adapted from Bowen 1989, Kim *et al.*1996, and Mueller and Price 1990.

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[5]A more detailed discussion of the relationship between social comparisons, satisfaction, commitment and retention is provided in a later section of this chapter.

A more concise and focused model of retention that will be used in this study is presented in Figure 2.2. The three categories of antecedent variables (structural, environmental, and personal) are no longer specified in the graphic representation of the model, but *are* included in the items that comprise the social comparison, job satisfaction and organizational commitment scales in the model. Intent to stay is the dependent variable in this working conceptual model. The omission of the stay/quit and impulsive behaviors contained in the original model (Figure 2.1) is necessitated by the methodological limitations of the current cross-sectional study.

The model in Figure 2.2 identifies direct and indirect effects of the independent variables on retention intentions. The model predicts that greater levels of contact between military personnel and civilian co-workers will result in more negative social comparisons among service members. Further, level of contact with civilians is shown to have negative effects on job satisfaction, organizational commitment, and retention intentions. Thus, the more contact military personnel have with civilians, the lower their job satisfaction, commitment to the military, and desire to remain with the military.

The relationship between social comparisons and satisfaction, commitment and intentions to remain in the military are all hypothesized to be positive. This means that when individuals' social comparisons with their reference groups are positive they will be more satisfied with their work, more committed to their employer, and more likely to want to remain with their current organization. Figure 2.2 also indicates that when job satisfaction is high, so too will be organizational commitment and intentions to stay with one's employer. Finally, organizational commitment is identified as having a positive relationship with retention intentions. Greater commitment will result in higher levels of intention to stay with the organization.

Figure 2.2 Working Conceptual Model of Retention-Turnover*

(-)

Contact w/
Civilians

(-)

Job Satisfaction

(+)

(-)

(-)

(+)

(+)

Social
Comparisons

(+)

Organizational
Commitment

(+)

Retention
Intentions

(+)

―――― direct effect on retention intentions

―――― indirect effect on retention intentions
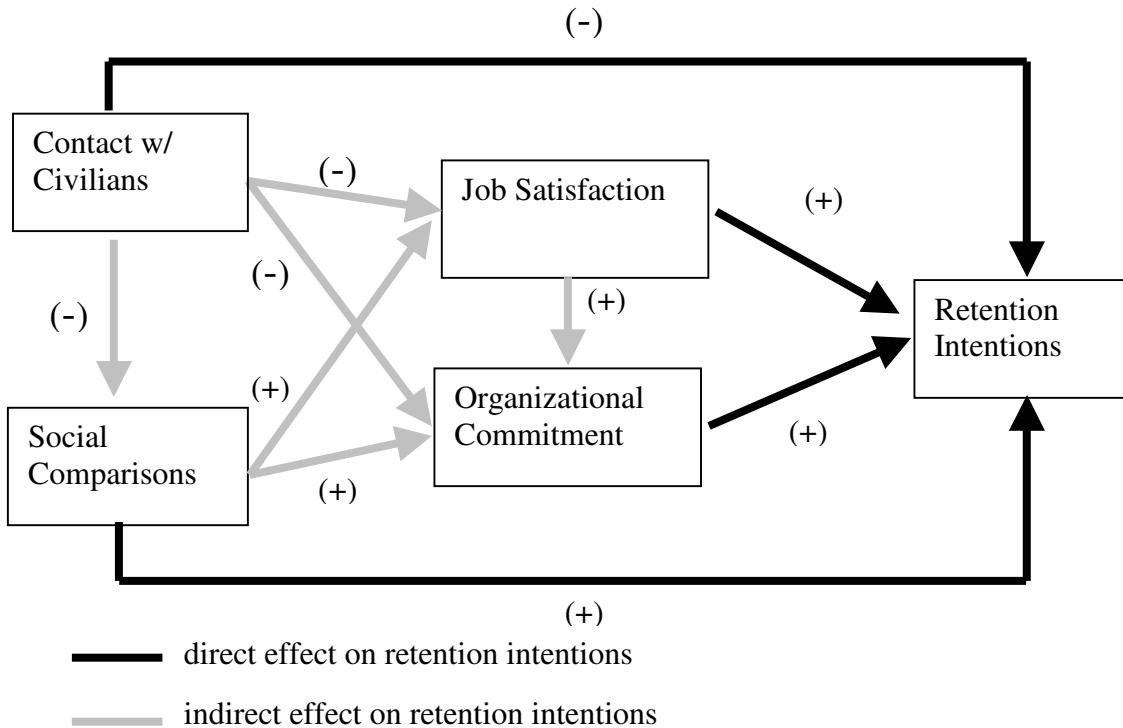
*Adapted from Bowen 1989, Kim *et al.*1996, and Mueller and Price 1990.

Job Satisfaction

> "We can never compete dollar-for-dollar with outside firms. We compete on
> job satisfaction."
> *Command Chief Master Sgt. (USAF) Robert Martens, Jr., 2004, P. 3*

Job satisfaction is conceptualized as an attitude people hold regarding the work

roles they occupy and the work they perform (Kalleberg 1977; Vroom 1964). This is

necessarily a subjective assessment on the respondent's part indicating how much an

individual likes his/her current work (Kalleberg 1977; Kim *et al.*1996; Spector 1996).

Further, the attitudes that form a sense of job satisfaction have both cognitive and

affective characteristics (Brief & Weiss 2002; Motowidlo 1996).

The literature on satisfaction and turnover has established that a significant

negative relationship exists between satisfaction and turnover: increased levels of satisfaction decrease the likelihood of turnover (Locke 1976; Mobley 1977; Porter & Steers 1973; Vroom 1964). This relationship is observed in studies where the unit of analysis is individual as well as those that take groups or organizations as the unit of analysis (Vroom 1964).

Initial theories on turnover used a variety of measures of job satisfaction to directly predict retention (Mobley 1977; Mobley *et al.*1979). However, these studies failed to predict turnover to the extent hypothesized (Locke 1976; Porter & Steers 1973), suggesting that measures of job satisfaction (at least those instruments employed to date) were less useful than theory predicted. This led to refinements of the model, ultimately including multiple variables to predict job satisfaction, and the identification of intentions to stay/quit as the immediate precursor to retention/attrition behavior (Porter & Steers 1973; Mobley 1977; Mobley *et al.*1979; Kim *et al.*1996). These additional specifications have added both theoretical clarity and increased predictive power to the model.

A meta-analysis of 34 studies predicting employee turnover (civilian and military subjects combined) by Steel and Ovalle (1984) revealed that behavioral intentions to stay in one's current job were consistently better predictors of retention than overall job satisfaction (a global attitude), satisfaction with work itself (attitudes specific to the actual work one performs, net of pay, social milieu, supervision, etc.), or organizational commitment (loyalty to one's organization). Military personnel had much higher levels of agreement between attitude and turnover intention than civilian employees. Time-lag between expressed intention and retention behavior moderates the relationship between

intention and retention (see also Carsten & Spector 1987). [6] Fuller *et al.*(1996) found the structural constraint imposed by the formal service commitment of military personnel moderates the relationship between job satisfaction and withdrawal cognitions. Unlike civilian employees, service members are not free to break their employment contract at any time of their choosing.

Further, the work of Steel and Ovalle (1984) revealed that exogenous economic factors facilitate or constrict employees from acting on their intentions. Thus, in times of high unemployment, high levels of dissatisfaction may not lead to quit behavior since a dissatisfying job is often preferable to no job. Similarly, a meta-analysis of retention studies by Carsten and Spector (1987) found that the relationship between job satisfaction and turnover is moderated by constraints on alternative job opportunities available to the employee. Low levels of job satisfaction are associated with relatively high levels of turnover during periods of low unemployment. Conversely, during periods of high unemployment, the relationship of job satisfaction and turnover is relatively weak (see also Mobley *et al.*1979 for a review of other studies supporting this finding).

Focusing on the critical influence of social comparisons on job satisfaction, Hodson (1985) employed panel study data to examine the effect of different kinds of social comparisons on job satisfaction. Comparisons examined included the respondent's current family income versus the income of the family they grew up in, and versus the respondent's own aspirations expressed at high school graduation. This study also examined comparisons of the respondent's occupational prestige versus that of their

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[6] Rakoff *et al.* (1992) also found a strong correlation between intention to stay/quit and actual stay/quit behavior. Their findings also suggest time to end of enlistment period moderates this relationship.

spouse and sibling, respondents' aspirations at the end of high school versus their current satisfaction, and respondent's current job satisfaction versus projected satisfaction for 10 years in the future. Results showed that of those comparisons included in the study, comparisons of current status with expected future status had the most influence on job satisfaction (see also Mobley *et al.*1979). Comparisons with one's spouse and one's own high school aspirations also had a significant effect on job satisfaction, but to a lesser degree than comparison to future expectations. Comparisons of occupational status with the head of respondents' household of origin, with the level of income in their household of origin, with siblings' and peers' occupational status, and with respondent's prior occupational position were found to have no significant impact on respondents' current job satisfaction.

Hodson (1985) did not explicitly ask respondents social comparison questions. For example, questions about the respondents' occupational prestige were compared to the occupational prestige of their sibling in order to get a measure of social comparison between respondent and their sibling. The problem with this methodology is that it does not establish that the respondents actually include their siblings in their reference groups when evaluating satisfaction with their own employment level. Further, Hodson operationalized job satisfaction using a three-item scale with binary (positive/negative) responses, achieving a low alpha value (alpha = .36) for his scale. This suggests that the three items used for the scale are not tightly clustered around the same construct. In sum, there appear to be issues of measurement reliability and construct validity that detract from the strength of Hodson's findings. More research is needed to better understand the relationship of social comparisons and job satisfaction.

Variables commonly identified as important to employees' job satisfaction

calculus include pay, benefits, promotion opportunities, working conditions (e.g., safety, pace, pleasant environment), job security, stimulation/challenge of work performed, autonomy, co-worker relations, scheduling/hours worked, perceived supervisor/organizational support, expectations, and occupational status (Kalleberg 1974; Kalleberg 1977; Locke 1976; Scarpello & Campbell 1983).

Organizational Commitment

The study of organizational commitment emanates principally from conceptualizations and theories developed to analyze organizations in the civilian work force (see Mowday *et al.*1979 ; Porter & Steers 1973; and Porter *et al.*1974).   Many of the variables that influence job satisfaction also impact organizational commitment (see Figure 2, p.26). This occurs directly as well as indirectly via job satisfaction. The definition used in this study is adopted from Mowday *et al.*(1979: 226):

> *Organizational commitment is the relative strength of an individual's identification with and involvement in a particular organization… characterized by at least three related factors: 1) a strong belief in and acceptance of the organization's goals and values; 2) a willingness to exert considerable effort on behalf of the organization; and 3) a strong desire to maintain membership in the organization.*

Commitment represents an active (not passive) loyalty to one's organization.

Factors antithetical to organizational commitment

A number of variables have been shown to impact organizational commitment negatively. Work-family conflict has been found to reduce employees' organizational commitment (Spector 1996). The military in particular tends to foster this type of conflict because both institutions are considered "greedy" in their demand for service members'

time and attention, resulting in increased distress/tension (Bourg & Segal 1999). Army/family conflict increases with assignment to combat duty or presence of a child, and decreases with age and length of marriage. This follows logical and theoretical expectations that increased stress or demands in one arena will spill over into the other and cause distress. Additionally, the maturity and self-selection associated with increased age and time married among career soldiers would be expected to translate into lower levels of work/family conflict in the military among the more senior personnel.

Wong and McNally (1994) showed that military downsizing has a significant effect on remaining soldiers' organizational commitment. Qualitative data used to augment the Occupational Commitment Questionnaire (OCQ) in this study suggests that the driver behind this decrease in occupational commitment is officers' perceptions that the military institution has failed to keep its implicit contract of job security with its soldiers.

The Army's provision of incentives for soldiers to take early retirement was perceived by the remaining soldiers as an attempt to honor the promise to "take care of their own." Indeed, this perception mitigated the decrease in organizational commitment reported by the "surviving soldiers." However, the more early retirement incentive-takers known by a "surviving soldier," the lower was their organizational commitment (Wong and McNally 1994). Thus, while the incentives lessen the blow of seeing one's fellow soldiers "volunteer" to leave service, they do not appear to neutralize the generalized feeling of betrayal and anxiety experienced by those soldiers who remain (see also Baron & Kreps 1999; Levin 2003; Meyer *et al.*1993).

Kim and colleagues (1996) propose an extensive model, based on the work of Price, Mueller and others, that includes clusters of variables associated with structural and

environmental characteristics of military employment, and personal characteristics of military personnel, that affect the organizational commitment of service members. This model is tested on a unique and narrow group of service members – 244 Air Force physicians, all of whom are officers. Variables negatively impacting organizational commitment in this model include job stress (via inconsistent job obligations), realities of the job meeting one's expectations, and availability of alternative forms of (civilian) employment. The response rate for this study approached 50% and the sample was drawn from a single Air Force hospital. The combination of limitations on the generalizability of the findings from this sample of military personnel necessitates caution in the extension of the results to service members not in the target population (Air Force physicians), and highlights the need for additional studies to examine the fit of this model to a more representative sample of service personnel.

Factors that facilitate organizational commitment

Work-family conflict was identified in the prior section as a major factor contributing to decreased organizational commitment among service members. To address the toll this kind of conflict takes on service members' commitment, Bourg and Segal (1999) recommend reducing the conflict by establishing and advocating family friendly policies. Specifically, their study showed that by institutionalizing family oriented policies and programs, and coupling them with strong leadership support (to increase knowledge and normative accessibility) the military can reduce work-family conflict, and by so doing raise the organizational commitment of both the soldier and his wife. Since this study only looked at enlisted men and their civilian wives, this model's generalizability to other populations (e.g., dual military couples, women service members

with civilian husbands, officers, and other branches of the military) remains an empirical question.

Social support is a significant factor in soldiers' organizational commitment. Kim *et al.* (1996: 951) note that social support functions on at least three levels: family support, supervisor support, and peer workgroup support. Additionally, Bourg and Segal (1999) found that a wife's commitment is the single biggest influence on male soldiers' commitment. By way of illustrating the relative effect of a wife's commitment on military husband's commitment, their study showed it to be nearly three times the total effect of Army/family conflict. Further, family-friendly policies and leadership support have equivalent effects on soldiers' organizational commitment suggesting that the military needs to invest in both to maximize soldier retention (Bourg & Segal 1999). Interestingly, the work status of civilian wives did not have a significant effect on Army/family conflict or, by extension, commitment of soldiers or their spouses (Bourg & Segal 1999). This is surprising given the strong positive relationship observed between civilian wives' labor force participation and satisfaction with military life (Cooney 2003).

Spousal support for soldiers' organizational commitment increased with the presence of a child in the family (Bourg & Segal 1999). Service members' commitment increased by rank and age (both related to self-selection in the military), as well as with the presence of a child in the household (Bourg & Segal 1999). The increased commitment associated with presence of children may be explained through increased need for the benefits offered through military service (continuance commitment) or through the perception that the military community is a good place to raise a child (affective commitment). Moreover, Segal and Harris (1993) note that considerations of general quality of life issues (e.g., safe, healthy environment for kids; satisfactory

work/social opportunities for spouse; and time with family) are critical factors considered by service members and their spouses when making retention decisions.

Clear and accurate communication on policies related to downsizing and the incentives to retire early serve to reduce the negative impact of the drawdown process (Wong & McNally 1994). Having leadership that is forthcoming and honest with relevant information, especially when undesirable action must be taken serves to bolster soldiers' resolve to remain committed to the military organization.

Job motivation and organizational commitment have reciprocal effects on one another. Higher motivation leads to better performance, which is then rewarded by recognition and promotion. In turn, official recognition and promotion for one's work accomplishments leads to greater job satisfaction, which positively impacts motivation and commitment. Thus, the receipt of positive feedback from military leaders fosters greater commitment among soldiers (Kim *et al.*1996).

A study by Leiter *et al.* (1994) examined gender differences in organizational commitment among members of the Canadian Armed Forces. Their study looked at organizational commitment among men and women in both traditional and non-traditional work settings. Results from this study indicate that there is a gender difference in the mechanism driving organizational commitment. There is a direct relationship between co-worker relations (i.e., horizontal cohesion) and organizational commitment among women. Conversely, organizational commitment for men was directly determined by the extent to which they perceived supervisor support (i.e., vertical cohesion). While supervisor support also affects organizational commitment in women, its importance for women is eclipsed by the relative magnitude of the effect of co-worker relations. These results further specify prior findings of the general significance of leader support on

soldier commitment (Segal & Harris 1993).

Finally, Bourg and Segal (1999) contend that commitment need not be viewed as a scarce resource. Rather than viewing soldiers' work/family conflict as a competition for limited commitment resources, soldiers should be viewed as capable of being highly committed to their military career and to their family. Bourg and Segal suggest that this dualistic, non-competing environment is facilitated through programmatic and leadership support for family friendly policies in the military.

Special considerations for job satisfaction and organizational commitment in the military

Coser (1974: 7) defines greedy institutions as organizations or groups that "make total claims on their members and which attempt to encompass within their circle the whole personality… They seek exclusive and undivided loyalty and they attempt to reduce the claims of competing roles and status positions on those they wish to encompass within their boundaries." Greedy institutions secure high levels of commitment from their constituent members primarily through symbolic and normative means, though physical separation may also be incorporated (e.g., traditional military garrisons in which personnel were compelled to reside) (Coser 1974). For greedy institutions to survive, they must find ways to facilitate commitment among their members for maintaining ties with the organization (M. Segal 1986).

The Military as a Greedy Institution

The military has been identified as a greedy institution because of its demands on the service members' time and energy (Segal 1986). Orthner (1990) notes that

increasingly career decisions are made by both spouses in consideration of the anticipated

costs and benefits of the work-family linkages. Several studies have found that retention

intentions and attrition behaviors of service members are significantly influenced by their

spouse's satisfaction with and commitment to military life (Bourg and Segal 1999; Kirby

& Naftel 2000; Lakhani 1994; Lakhani 1995; Segal 1989; Segal & Harris 1993).

Service members and their families are often confronted with financial, familial,

emotional, and/or logistical challenges that may overwhelm the many benefits of military

employment. These challenges are likely to result in decreases in a service member's job

satisfaction and reduced commitment to the military as an employer. To the extent that

service members separate from the military due to dissatisfaction and/or reduced

commitment, the military not only loses valuable assets in experienced personnel, but

incurs the additional expense of training new recruits to fill the vacated positions (Orthner

1990). The military has designed and revised numerous programs aimed at increasing

satisfaction of service members and their spouses, with an eye toward increasing the

military's benefit from the human capital which it has invested a good deal of time, effort,

and money to develop (Orthner 1990; Segal & Harris 1993).

Several aspects of military employment tend to heighten the importance of some

of the structural, environmental, and personal factors identified in the retention-turnover

model for military personnel in comparison to the civilian workers. Segal (1986)

identifies five demands placed on service members and their families:

1. Risk of death or injury to service member,
2. Geographic mobility (movement of household every 2-3 years on average),
3. Periodic separation of service member from his or her family,
4. Living overseas (on accompanied tours), and
5. Normative pressures placed on spouses of service members (especially officers' wives).

In addition to those identified by Segal, two other factors related to military employment are worthy of inclusion in this discussion: moral motivation for joining and remaining in military service, and the unique contractual obligations of service that constrain when service members' are able to voluntarily leave the service.

Job hazards exist in many civilian jobs (e.g., mining, construction, police), but these hazards are usually accidental or at least a minor part of the job. In contrast, the combat service member faces an enemy intent on killing or physically subduing him or her. Even non-combat arms service members are vulnerable to direct, intentional aggressive acts of lethal force, as seen most recently in the ambushes of supply and support convoys (using both conventional weapons and improvised explosive devices) during the invasion and occupation of Iraq.

Service members are bound by a separate legal code (i.e., the Uniform Code of Military Justice), and different operational and normative expectations than civilian law enforcement officers. The primary mission of service members is to support and/or engage in the business of destruction and killing. Though the military engages in operations other than war, they continue to define their primary mission as fighting and winning America's wars (Moskos 2000).

Frequent relocation is normative for military households. Rosen and Durand (2000) note that each relocation may require several moves, from guest quarters to apartments, before establishing "permanent" residence at a new post (where permanent generally means three years or less). The impact of frequent geographic relocation is often most acutely felt by the spouse and children of the service member. Further, the pattern of mobility experienced by military families results in significant job market and wage penalties for the trailing spouse (Cooney 2003). The frustration and anxiety of

moving to new schools and making new friends is taxing on children of service members, especially once they reach their teenage years (Rosen & Durand 2000).

An additional distinctive characteristic associated with military employment is long and sometimes unexpected separation from one's family secondary to off-base training exercises or deployment. Further, separations may be of unspecified length. Not only does separation cause emotional and psychological stress through the displacement of a primary support person (Kirby & Naftel 2000; Segal 1989; Segal & Harris 1993; Schumm *et al.*1998), it also causes logistical and financial problems for th e military family (Lakhani 1994; Schumm *et al.*1998). This stressor is also experienced by Reservists, National Guardsmen, and their families when their units are called-up (Lakhani 1995; Schumm *et al.* 1998).

The drawdown of forces and closure of many overseas bases since the end of the cold war have significantly reduced the number of service members serving overseas. As a consequence, fewer families accompany their military spouse on overseas tours. Nevertheless, those who are stationed overseas are likely to experience social and cultural stressors. For those living "on the economy" (not within a military post), routine tasks may become frustrating adventures. Further, should the service member stationed overseas with his/her family be deployed (to Afghanistan, for example), the challenges of separations are compounded for the family left behind. These families not only lack the physical and emotional support of the absent service member, they are far from stateside family and friendship support networks and familiar surroundings that might otherwise serve as social-psychological buffers.

The persistence of normative expectations of wives of military servicemen generates negative affect toward the greediness of the military community. There is a

long-standing tradition in the military of enlisting voluntary support from the wives of commissioned and senior noncommissioned officers. For example, this may take the form of volunteering at the local thrift shop, coordinating a social event for the unit, or leading a family support group for unit members. In all cases, there is a normative expectation that the women *will* volunteer. The assumption made by the military that the opportunity cost on the part of soldiers' wives for engaging in volunteer activities on behalf of the military unit is negligible is a broad based anachronistic notion (Papanek 1973). Yet, despite increased education and labor force participation of military wives, normative pressures surrounding volunteer time commitments remain a source of dissatisfaction for many service members' wives, especially officers' wives (Durand 2000; Harrell 2001).

Moral motivation is another somewhat distinctive aspect of military employment. Several authors argue that a moral component of military employment suppresses quit intentions. When a service member believes that the work he/she performs is "more than just a job," it motivates retention even when he/she experiences dissatisfaction with his/her work (Cotton 1988; Fuller *et al.*1996; Hulin *et al.*1985; Janowitz 1960; Moskos 1977). This argument derives from the institutional component of Moskos's (1977) institutional versus occupational model of military service wherein some join the military for more affective motivations (e.g., moral principals, patriotism, and sense of duty), while others join for reasons that are more aligned with the work aspect of the job (e.g., acquisition of skills, training, and education). What is important to understand is that the motivations for joining (institutional versus occupational) will frame how service members experience their time in the service, as well as impact their retention decisions.

Reed and Segal (2000) found that soldiers' job satisfaction decreased as their

number of peacekeeping deployments increased. However, the number of peacekeeping deployments experienced by a soldier did not have a significant negative impact on retention intentions. This apparent contradiction may be explained to a large degree by the moral commitment soldiers have to the service they are performing. The study conducted by Reed and Segal did not measure moral commitment, so this hypothesis remains an empirical question.

In addition, the study conducted by Reed and Segal examined attitudes, morale, and retention of soldiers from the 10th Mountain Division approximately two months after returning from a peacekeeping mission in Haiti. The case study design employed in this study limits the generalizability of the findings to soldiers in other units, and to service members in other branches of the military. Moreover, given the unique history of the 10th Mountain Division, and the tradition and pride it instills in its personnel, the hypothesized moral motivation suggested in this case may not generalize to all soldiers.

Another factor that figures significantly into soldiers' satisfaction and organizational commitment (and ultimately their retention decisions) is perceived family support from military leadership (Segal & Harris 1993). Whether or not the soldiers and their families need any particular support, the mere knowledge that support is available is often enough to keep satisfaction and morale high. Moreover, the more that the leadership can foster the general perception that the military is family friendly (by supporting family friendly programs, informing soldiers about them, and encouraging their use) the more positive the impact these programs have on retention (Orthner 1990).

Military service is contingent on a time-based service contract. Service members

enlist, or are commissioned,[7] for a specific length of time. Early termination does occur (usually at the government's request), but is the exception rather than the rule. Indeed, a service member no longer desiring military employment is not sufficient to induce the military to release him/her prior to the termination of his/her contract. Moreover, "quitting" is not an option available to service members, with the exception of those who are eligible for retirement. In addition, the all-or-nothing retirement system (no retirement pension or benefits prior to 20 years of service) places powerful structural pressures on service members' retention decisions (Schumm *et al.*1998; Segal & Harris 1993).

Taken individually, civilian cognates may be found for nearly all of the "distinctive" military employment related variables discussed above. What is truly distinctive about the military as a job is the clustering of these variables. These demands represent differences both in degree and kind compared to the antecedent variables identified for the vast majority of civilian workers. Regardless, the model adopted for this study can accommodate these differences. Further, given the combination of distinctive demands required of military personnel and the close proximity to civilians experienced by many in uniform while performing their daily duties, social comparisons would seem inevitable. The model presented easily accommodates inclusion of social comparisons as another of many factors that influence job satisfaction and organizational commitment.

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[7] Officers can resign at any time once their initial obligation is fulfilled. Additional service obligations may also be tied to some types of promotions as well as accepting military funding for advanced schooling, for example. In addition, during wars stop-loss procedures can compel officers to remain in service even though they desire to leave and no longer have any formal service obligations.

Social-Psychological Aspects Driving Retention: Theories of Information Processing, Expectations, and Social Comparisons

Information Processing Theory

The turnover-retention model used in this study draws from social information processing theory. Social information processing theory argues that job characteristics are inherently neither satisfying nor dissatisfying (Salancik & Pfeffer 1978). Further, job characteristics are viewed as fundamentally neutral in their capacity to foster commitment. Rather, positive and negative job related feelings are socially learned through experience and social contexts. They are constructed, reaffirmed, and renegotiated by social processes. Relative job satisfaction or dissatisfaction, commitment to an organization or lack thereof, stems from socially available information and can only be generated in the context of social comparisons. Individuals' expectations help create the foundation from which neutral job characteristics generate positive or negative feelings of satisfaction and commitment.

Perceived congruence between one's expectations and the reality of the job characteristics one experiences has important implications for the development of satisfaction and commitment. Porter and Steers (1973) argue that whether or not one's expectations are met is central to that individual's retention decisions. In addition, Mobley *et al.*(1979: 519) state that it is "not merely the visibility of alternatives, but the attraction of alternatives and the expectancy of attaining the alternatives that are most salient" in determining retention intentions. Expectancy theory makes this social-psychological process explicit and is important in understanding the context through which individuals experience their work and its associated structural and environmental variables.

Expectancy Theory

Expectancy theory was initially championed within organizational research by Vroom (1964). Porter and his colleagues (Porter & Steers 1973; Mowday *et al.*1982) have been the most ardent advocates of the utility of this theory in more recent studies. The fundamental concept on which this theory is based is that each individual has a unique combination of beliefs, desires, expectations, experience, personality disposition, and interpretations of events such that the same job may be highly satisfying for one individual but unbearable for another. By the same reasoning, a given work situation may engender high levels of organizational commitment from one individual but low levels of commitment for another. The extent to which the realities of work and its associated characteristics are consistent with one's expectations will figure significantly into the degree to which one is satisfied with his job and committed to a given organization (Locke 1976). Dissatisfaction and reduced commitment resulting from the incongruence of expectations and actual experience increases the probability of employee resignation.

Information processing theory and expectancy theory compliment one another to construct a richer understanding of the social-psychological process of the retention-turnover process. However, neither of these theories specifies how one's work expectations and evaluations are developed. To address this issue, social comparison theory is needed. Runciman (1966) argues that individuals construct expectations and judgments by means of intra-psychic comparisons with one's social reference groups.

Social Comparison Theory

Social comparison is defined as individuals' comparisons with others, or with oneself at some prior or future point in time. Social comparison is believed to be a

fundamental social-psychological phenomenon (Suls & Wheeler 2000), used by individuals to gauge their own ability, normalcy, uniqueness, sanity, sense of fairness in rewards and punishments, level of sacrifice or privilege, and so on. One may make such comparisons based on abilities, attitudes, emotions, observed inequalities in advantages or deprivations, or any number of criteria.

Festinger is the founder of modern social comparison theory and research. Earlier thinkers and philosophers recognized this process generally (Suls & Wheeler 2000), but Festinger (1954) was the first to lay out a formal theory of social comparison processes based on assumptions of human nature and specifying numerous testable hypotheses. A fundamental assumption of social comparison theory is that human nature drives individuals to evaluate their opinions and abilities (Festinger 1954). Festinger (1954: 119) argues that, "to the extent that objective physical bases for evaluation are not available, subjective judgments of correct or incorrect opinion and subjectively accurate assessment of one's ability depend upon how one compares with other persons." Even when objective measures may be applied to behavior, opinion, or social outcomes, those measures must always be interpreted in a comparative manner if they are to meaningfully inform individuals about their standing relative to others. Judgments of good, accurate, poor, or normal are all based on social comparison.

A second important component of social comparison theory is that self-evaluations made in the absence of comparisons are highly unstable. In other words, considering oneself excellent at some skill (or normal in some social opinion) in the absence of some kind of confirmatory comparison is much more likely to be affected by future comparisons than self-understanding substantiated with known comparison targets.

Third, Festinger (1954: 120) hypothesized that, "the tendency to compare oneself

with some other specific person decreases as the difference between his opinion or ability and one's own increases." Thus, this theory predicts that those included in one's comparison (or reference) group are perceived to have characteristics highly similar to one's own. Comparing oneself to those with substantially different abilities or opinions provides one with little usable knowledge about oneself. While there are exceptions to this rule (e.g., upward and downward comparisons) that serve psychological coping and motivating functions, this study focuses on the core comparison process that predicts highly similar characteristics between the one performing the comparison and reference group for the comparisons. In addition, this theory predicts that the more salient the characteristic to the individual, the more likely it is to be a point of comparison.

Finally, social comparisons can cause changes in behavior or opinion. Social comparisons not only identify relative physical and mental abilities, as well as normative-ness of opinions, they also motivate an individual to "reduce discrepancies which exist between himself and others with whom he compares himself" (Festinger 1954: 124). Reducing discrepancies may be accomplished either by changing one's behavior or opinion to more closely mirror that of one's comparison group, or changing one's comparison group such that it better matches existing behavior or opinion. Fundamentally, this aspect of comparison theory assumes a drive to achieve high levels of similarity between individuals and their reference group.

While Festinger's theory emphasizes attitudes and behaviors, as was noted above, social comparisons may be equally well applied to any number of criteria such as housing quality, success of one's children, or in the case of the current study, job characteristics. In the military, change motivated by social comparisons with civilians may translate into leaving the service. Conversely, social comparisons with civilians may lead to much

higher institutional commitment and/or military identity among service members in order to validate their continued affiliation with the military.

Social comparisons may take many forms: upward, downward, future, past, self, and other (see Masters & Keil 1987 for a discussion and taxonomy of various types of social comparisons). The type of social comparison of interest in this study is the comparison of oneself to parallel others. In this study, parallel comparisons are those where military personnel and civilians performing the same, or comparable, job tasks compare themselves with each other (e.g., civilian and military employees are both IT specialists, or workers with comparable levels of skills/training). Comparisons may be made based on any of the structural or environmental antecedent variables identified in the retention model.

With regard to work related social comparisons, if a man observes that his friends and family work primarily in white-collar jobs, he is less likely to be satisfied if he has a blue-collar job. Conversely, if his social comparison group consists mainly of individuals with blue-collar jobs, he is more likely to be satisfied if his own job is also a blue-collar job. This is to say, people expect to achieve proportionally to their reference group, regardless of the criteria in question. To the extent that people fall short of their socially constructed expectations vis-à-vis social comparisons with their reference groups, they may experience a sense of relative deprivation (Crosby 1982; Hodson 1985; Runciman 1966). Relative deprivation is a psychological state that contributes to feelings of dissatisfaction and reduced commitment. Thus, the experience of job satisfaction (or dissatisfaction) and organizational commitment (or non-commitment) is viewed as fundamentally a social-psychological construction based on social comparisons on highly salient work-related variables.

Hypotheses

Based on the preceding theoretical and empirical literature review, it is hypothesized that social comparisons affect retention intentions directly, as well as indirectly through job satisfaction and organizational commitment. The specific research hypotheses tested in this study are presented below. To contextualize the hypotheses, Figure 2.3 presents the conceptual retention-turnover model introduced earlier in this chapter. The reader will note that hypotheses 4 through 9 are designed to test the various pathways in the model.

Figure 2.3. Working Conceptual Model of Retention-Turnover
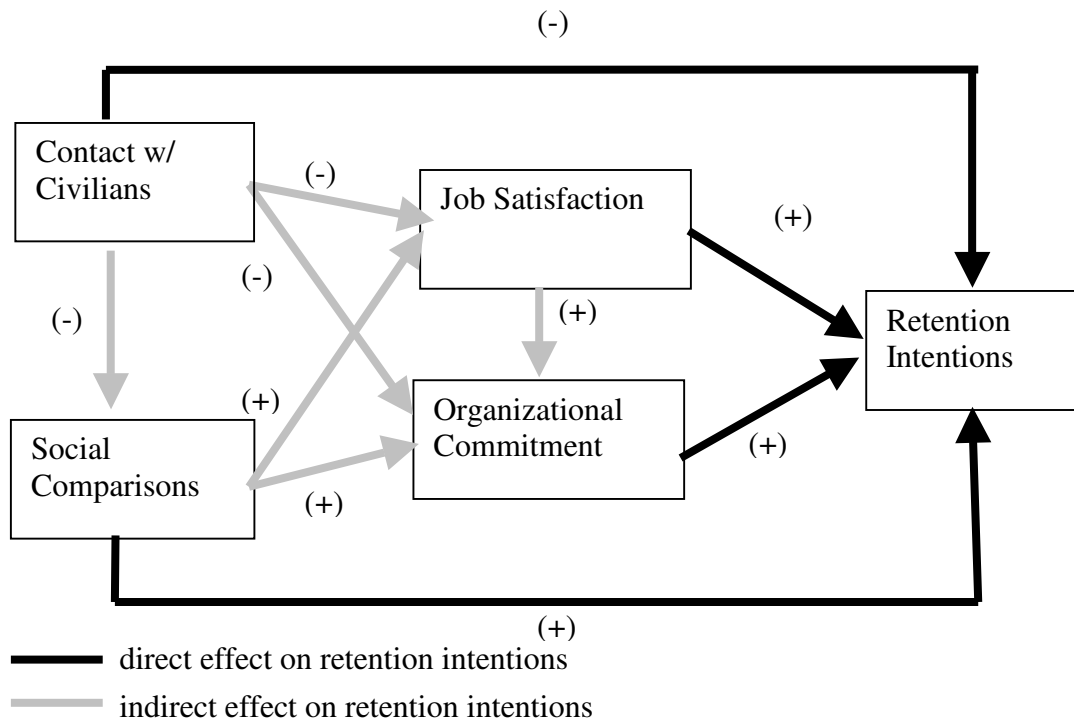
H_1: Military personnel will compare themselves negatively to civilians.

H_2: Civilians will compare themselves positively to military personnel.

H$_3$: Military personnel will report lower levels of job satisfaction but higher levels of organizational commitment than their civilian co-workers.

H$_4$: Increased contact between military personnel and their civilian co-workers will result in service members comparing themselves negatively in relation to their civilian co-workers.[8]

H$_5$: Increased contact between military personnel and their civilian co-workers will result in decreased job satisfaction and organizational commitment among military personnel.

H$_6$: Negative social comparisons in relation to one's reference group (i.e., military versus civilian) will result in decreased job satisfaction and organizational commitment for both military personnel and civilians.

H$_7$: Contact with civilians (for military personnel) and social comparisons (for both groups) will each have direct and indirect effects on retention intentions. Further, the effect on retention intentions will be negative for level of contact with civilians, but positive for social comparisons.

H$_8$: Higher levels of job satisfaction will produce higher levels of organizational commitment and greater retention intention levels among both military personnel and civilians.

H$_9$: Greater organizational commitment levels will result in greater intentions to remain with their current employer among both military personnel and civilians.

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[8] Level of contact between groups was only measured on the service members' surveys. This instrumentation issue is discussed in more detail in the following chapters.

Chapter 3. Methods

This study employs a multiple case study design, using survey data and informal interviews with military and civilian personnel. This design is appropriate for practical and logistical reasons. A case study design enables testing the retention model in this study in a quasi-experimental setting. The two cases incorporated in this study vary on several important social and structural characteristics (e.g., status of civilian employees, the types of jobs civilians perform, and how the civilians are integrated). Testing the retention model on each case study allowed for the examination of possible effects of these variables.

Additionally, gaining access to military personnel through formal channels during a time of active hostilities in Afghanistan and Iraq proved quite challenging. A case study design made it possible to rely on personal contacts and informal channels to secure access to research subjects. Through this approach, the number of military and civilian leaders required to grant permission to access their personnel for the study was minimized. The case study design also reduced the logistical difficulties inherent in coordinating multiple sample selection sites that would be necessary to approximate a representative sample of military personnel.

It is recognized that in choosing this design there are limitations on generalizability of findings. Using the subject selection procedure outlined above will yield neither random nor representative samples of Army, Navy, and civilian personnel. However, a case study design facilitates a clearer understanding of the social comparison dynamics of the given military communities under examination, potentially highlighting

contextual differences in the civilianization of military units that might be obscured by more aggregate data collection methods.

Subject Selection

Subjects for this study come from an Army combat aviation squadron located outside of the continental United States (OCONUS) and a Navy ship in the Pacific fleet. In both units civilians worked in close proximity to uniformed service personnel and were organic to their units, meaning that they performed duties critical to the ongoing operations and mission success of their respective units. While in both cases the civilians were critical to the overall functioning and mission of their units, the Army and Navy incorporated their respective civilians in different ways. The civilians working with the Navy were DoD (Federal) employees, while those working with the Army were civilian contractors (not Federal employees). With rare exceptions, the Army contractors were brought in to work alongside the soldiers. Conversely, the civilian mariners (CIVMARs) with the Navy performed jobs that had been categorically civilianized so that there were no sailors performing the same duties as the civilians. The civilian contractors who worked with the Army and the CIVMARs who worked with the Navy have been included in this study.

Soldiers and sailors of all ages, races, ranks, time in service, and available military specialties, as well as both genders are included. However, given the nature of the Army squadron and Navy ship from which the samples were drawn, there were not enough women or minorities in the sample to run statistical analyses separately for these groups. There is good reason to think that there might be important differences in the effects of civilianization of the military based on gender and race. It is hoped that the methods and

findings of this study will lead to future research that will examine these differences.

Instrument Development

This research analyzes quantitative data collected using paper and pencil questionnaires. The instrument was developed specifically for this project since no existing data sets contained the information necessary to test the research hypotheses of this study. However, construction of the survey instrument was grounded in prior research. Three scales were included in the instrument measuring social comparisons with civilians or military personnel (depending on the respondent's status), job satisfaction, and organizational commitment. The social comparison scale was based on items used by Crosby (1982) in her study *Working Women and Relative Deprivation*. The measure used in this study has a broader range of response categories and asks respondents to reference specific others (those who work with them, but are not in their own group) as opposed to the abstract categories of workers (e.g., comparing oneself to lawyers in general) used by Crosby. The items in this scale were developed using literature on job attitudes to determine which job characteristics are most salient and likely to be a point of comparison among workers.

The job satisfaction and organizational commitment scales are borrowed directly from well-established protocols. Job satisfaction was measured using the Minnesota Satisfaction Questionnaire (short form) developed by Weiss *et al.*(1967). The Organizational Commitment Questionnaire developed by Mowday *et al.*(1979) was adopted to measure organizational commitment. Wording for military items were adapted to refer to "Army" or "Navy" rather than the generic "company" or "organization" used in the original scales. Scale wording was not altered for either of the

two civilian groups.

A final independent variable used in this study is level of contact military personnel have with their civilian co-workers. This variable applies only to the two military groups. This item was not modeled after any existing question.

The dependent variable for this study is retention intentions of military and civilian personnel. This variable is measured with an adapted form of the question used by Reed and Segal (2000) who examined the impact of peacekeeping on military retention attitudes. More detailed descriptions of the model variables are included in a later section.

Survey development consisted of several stages. First, an informal and exploratory stage involved interviews with military and civilian personnel to identify information relevant to the research goals of the study. This process facilitated instrument development so that the wording and sequencing of questions were suited to the subject population completing the survey.

The second phase included testing the instrument through of a series of cognitive interviews with soldiers, sailors, and airmen, both active duty and retired. Cognitive interviews involve extensive probing of the respondents' interpretation of questions and the thought processes they use in selecting/formulating their answers. This phase further refined the question wording and was especially helpful in developing response categories for several of the items.

The final stage of instrument development consisted of reviews of the protocols by experts in the field of survey methodology and questionnaire design. This process aided greatly in focusing the instrument on the goals of the study, balancing response categories, simplifying and clarifying question wording, and formatting the instrument to

be more respondent friendly. Any omissions or lingering problems with the instrument

are the responsibility of the researcher. Full survey instruments for the military and

civilian samples are included in Appendixes I (p. 167) and II (p. 180), respectively.

Data Collection

Quantitative Data

Data were collected in the field in November and December of 2004. The

procedures used were essentially similar for the Army and Navy samples, but with some

differences due to the units' structures and operations. Each unit was surveyed and

interviewed over the course of seven days. The survey was self-administered by

respondents with the researcher available for clarification as needed. The instrument took

respondents 25-30 minutes to complete. Respondents were given an oral orientation to

the goals of the survey and general directions for completing the questionnaire. All

respondents were given an informed consent form (see Appendix III, p. 191) that they

read and signed prior to completing the questionnaire. This form informed them of the

nature of the study, provided sample questions to be asked, and indicated that their

participation was voluntary - that they could refrain from participating in the study

without any negative consequences. In all cases, surveys were completed anonymously.

For both samples, the majority of military personnel completed the survey in a

conference room setting (for the Navy this was the empty mess deck). Since the Army

sample was an aviation unit with a heavy training schedule roughly half of the personnel

were surveyed in their respective shops at the hangar. An additional 15-20 soldiers were

captured at a unit-wide training session at the base theater.

The Navy ship to which the sailors and civilian mariners in this study were

assigned had returned from an 8 1/2 month overseas deployment two weeks prior to data collection. As a consequence the ship was operating daily with a skeleton crew, with each sailor working only every six days. A majority of Navy personnel were surveyed on a single day when those returning from their two-week shore leave overlapped with those preparing to take their two-week leave.

The civilian contractors working with the Army unit were surveyed in their respective offices at the squadron's hangar. The civilian mariners aboard the Navy ship were all surveyed in a single day over three sessions, one each for those in the engineering department, the deck/maintenance department, and the services department.

Qualitative Data

In addition to collecting survey data, informal interviews were conducted with personnel from all four groups in the study. In most cases this was done on a one-on-one basis, but occasionally groups of 2-5 personnel were interviewed simultaneously. Interviews were much easier to arrange with individuals aboard the Navy ship compared to the soldiers and the contractors with whom they worked. This difference was primarily structural. The personnel on the Navy ship were often simply manning a station that was not currently in operation since the ship was on stand-down orders. These sailors had to be at their posts, but did not have much real work to keep them busy so they were a captive audience and welcomed the interaction. This situation contrasted sharply with the high training tempo of the Army combat squadron where they were either in the field, getting ready to go into the field, debriefing the most recent field exercise, or involved in the constant airborne training exercises. It was a real challenge to find a soldier with

"free" time for an interview. Civilian contractors who took formal lunch breaks and were limited in the number of hours they worked were easier to interview.

Additional factors also contributed to differential access to personnel in the Army and Navy research sites for informal interviews. The researcher's time for pursuing interviews was more limited in the Army location compared to the Navy since more time had to be dedicated to arranging and administering the survey to the more diffuse personnel in this unit. Additionally, on the Navy ship sailors had to remain aboard for 24-hour shifts (and civilian mariners were aboard 24/7 unless on a pass), making them more available for interviews than the soldiers who dispersed to their respective quarters on- and off-post each night. As a result, less qualitative interview data were obtained from the personnel in the Army squadron compared to those aboard the Navy ship.

Measures

Independent Variables

Level of Contact with Civilians: This question was not based on prior surveys. It was constructed with seven response categories to capture as wide a range of experiences in contact with civilians as possible. Response categories were developed with the assistance of military and civilian personnel working for various military departments during the cognitive interview stage of survey development. Response categories were coded 1 = "never" to 7 = "daily." Question wording was adjusted for the Navy sample substituting "civilian mariners" for "civilian contractors." This question was asked only of the two military samples.

In your current assignment, how often do you work directly with civilian contractors?

Please circle **ONE**.
      a. Daily
      b. Several times a week
      c. About once a week
      d. About once every couple of weeks
      e. About once a month
      f. Less than once a month
      g. Never

Social Comparisons: This variable captures whether Army and Navy personnel and the civilian contractors/mariners with whom they work compare themselves positively or negatively in relation to each other (i.e., do they feel they have it better/worse than their civilian or military parallel other?). This scale includes 17 items (e.g., pay, benefits, autonomy, promotional chances) which a review of the literature suggests are highly salient job characteristics and likely to be a source of comparison among workers. Inter-item reliability analysis prompted dropping two items from the scale (marked with strikethrough below): "organizational control over employee behavior" and "requires one to spend time away from their family". The scale used in analyses for all groups consisted of the remaining 15 items. Response categories were coded for analysis so that 5 = "much greater for myself" and 1 = "much greater for civilian contractors." Items followed by "(R)" indicate that they were then reverse-coded for analysis. For example, a response stating that risk is "greater for [other]" actually indicates that the respondent fares better by comparison with regard to risk. The survey administered to respondents did not include "(R)" in the question. Question wording and response categories 4 and 5 below were adjusted appropriately for the Navy sample (substituting "civilian mariner"), the civilian contractors working with the Army (substituting "Army personnel"), and the civilian mariners working aboard the Navy ship

(substituting "Naval personnel"). Items (h) and (m) were omitted from the scale used in

the analyses for this study in order to achieve acceptable levels of reliability. The social

comparison scale used for all groups in this study consists of the remaining 15 items.

*If you were to compare **yourself** to civilian contractors (assuming comparable duties),*
how would you rate the following factors using the 5-point scale below?

(1)	(2)	(3)	(4)	(5)
Much Greater For Myself	Greater for Myself	About Equal for Both	Greater for Civilian Contractors	Much Greater for Civilian Contractors
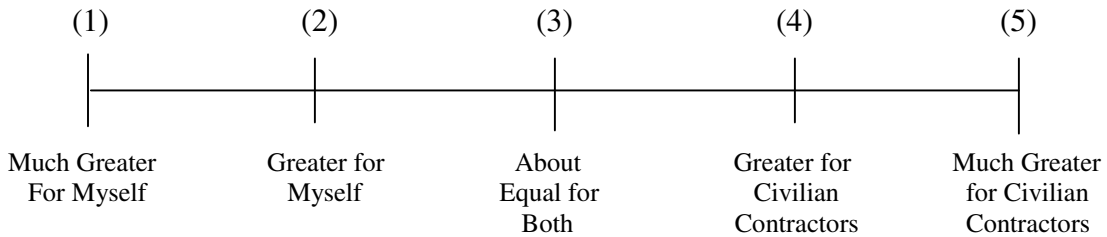
a. ____ Pay
b. ____ Benefits
c. ____ Level of risk of personal injury (R)
d. ____ Freedom to make decision about how a job is done
e. ____ Task variety within one's job
f. ____ Promotion opportunities based on merit
g. ____ Quality leadership in one's organization
h. ____ ~~Organization control over employee behavior (i.e., what employees can/cannot do)~~ (R)
i. ____ Negative impacts on family members' happiness (R)
j. ____ Satisfying relations with co-workers
k. ____ Freedom to negotiate employment contract
l. ____ Degree to which the organization takes care of its employees
m. ____ ~~Requires one to spend time away from their family~~ (R)
n. ____ Gaining a feeling of accomplishment from one's work
o. ____ Feeling that one's work makes a contribution to society
p. ____ Feeling of leadership support in facilitating completion of job tasks
q. ____ Time spent working per day (R)

Intervening Variables

Job Satisfaction: This variable is a key intervening variable in the retention model

adopted for this study. The job satisfaction facet scale chosen for this study is the

Minnesota Satisfaction Questionnaire (MSQ) short form (Weiss *et al.*1967). This scale

is twenty questions in length. While the longer form provides slightly better reliability,

the short form is recognized as being a valid and reliable measure of job satisfaction (Price & Mueller 1986, Weiss *et al.*1967). This scale was chosen over the longer form due to time constraints and the fact that reliability is only marginally impacted in the trade-off. One of the original items in this scale ("My pay and the amount of work I do")

Using the 5-point scale below, please indicate in the blanks provided the strength of your opinion for each statement.

(1)	(2)	(3)	(4)	(5)
Very Dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Very Satisfied

On my present assignment, this is how I feel about:
a. _____ Being able to keep busy all the time
b. _____ The chance to work alone on the job
c. _____ The chance to do different things from time to time
d. _____ The chance to be "somebody" in the community
e. _____ The way my supervisor handles his/her men and women
f. _____ The competence of my supervisor in making decisions
g. _____ Being able to do things that don't go against my conscience
h. _____ The way my job provides for steady employment
i. _____ The chance to do things for other people
j. _____ The chance to tell people what to do
k. _____ The chance to do something that makes use of my abilities
l. _____ The way the Navy's policies are put into practice
m. _____ My pay
n.* _____ The kind of work that I do
o. _____ The amount of work I do
p. _____ The chances for advancement on this job
q. _____ The freedom to use my own judgment
r. _____ The chance to try my own methods of doing the job
s. _____ The working conditions
t. _____ The way my co-workers get along with each other
u. _____ The praise I get for doing a good job
v. _____ The feeling of accomplishment I get from doing my job
w.* _____ The support I get from my coworkers
x. * _____ The support I get from my supervisors

was split into two items ("my pay" and "the amount of work I do") for this study because it was double barreled in its initial formulation. An additional 3 items were included in the scale for this study and are indicated with an asterisk in question presented on the previous page. All items in the job satisfaction question on the survey were included in the scale used in analyses.

Organizational Commitment: Commitment to one's organization is a second intervening variable identified in the retention model used in this study. The instrument selected to measure organizational commitment was the Organizational Commitment Questionnaire (OCQ) (Mowday *et al.*1979). Reliability and validity associated with this instrument are high (Mowday *et al.*1979; see also Price and Mueller 1986). Whereas job satisfaction research has not settled on the consistent use of a single assessment tool, the OCQ is the standard instrument for operationalizing organizational commitment in psychological and social-psychological research (Bourg & Segal 1999, Price & Mueller 1986, Sommer *et al.*1996, Spector 1996). The OCQ is a fifteen -item scale. All of the items listed in this question were included in the scale for analyses. Items followed by "(R)" indicate that they were reverse coded for analysis. Again, the surveys administered to respondents did not include "(R)" in the question. Responses were coded from 1 = "disagree strongly" to 7 = "agree strongly." Response categories substituted "Navy" and "my organization" for "Army" in the Navy and civilian surveys, respectively.

Using the 7-point scale below, please indicate in the blanks provided the strength of your opinion for each statement.

(1)	(2)	(3)	(4)	(5)	(6)	(7)

Disagree Strongly   Disagree   Disagree Somewhat   Neither Agree Nor Disagree   Agree Somewhat   Agree   Agree Strongly
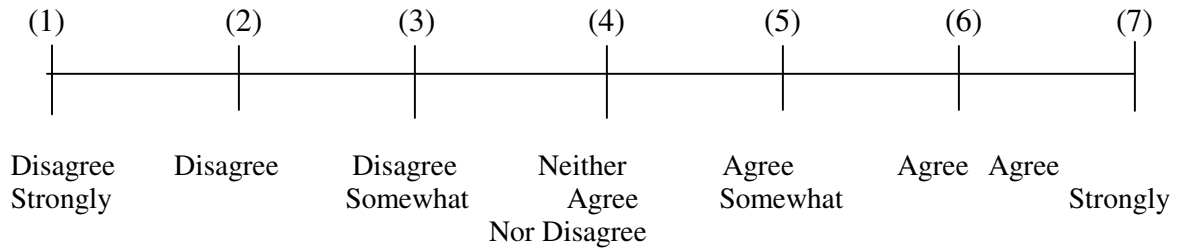
a. ____ I am willing to put in a great deal of effort beyond that normally expected in order to help the Army be successful.

b. ____ I talk up the Army to my civilian friends as a great organization to work for.

c. ____ I feel very little loyalty to the Army. (R)

d. ____ I would accept almost any type of job assignment in order to keep working for the Army.

e. ____ I find that my values and those of the Army are very similar.

f. ____ I am proud to tell others that I serve in the Army.

g. ____ I could just as well be working for a different organization as long as the type of work was similar. (R)

h. ____ The Army really inspires the very best in me in the way of job performance.

i. ____ It would take very <u>little</u> change in my present circumstances to cause me to leave the Army. (R)

j. ____ I am extremely glad that I chose to work for the Army over other organizations I was considering at the time I joined.

k. ____ There's not too much to be gained by sticking with the Army for a career. (R)

l. ____ Often, I find it difficult to agree with the Army's policies on important matters relating to its personnel. (R)

m. ____ I really care about the fate of the Army.

n. ____ For me the Army is the best of all possible organizations to work for.

o. ____ Deciding to work for the Army was a definite mistake on my part. (R)

Dependent Variable

      Retention intentions: Respondents' intentions toward remaining with their current

employer is the outcome variable of this study. This variable is used instead of actual

measures of retention because of time constraints limiting data collection to a cross-

sectional method. To measure actual retention of military personnel one may need to

follow subjects upwards of six years since they may be in the very initial stages of an

enlistment commitment at the time of the initial data collection wave.

Retention intentions have been shown to be a good predictor of future retention behavior in both civilian employees and military personnel (Carsten & Spector 1987, Hom & Hulin 1981, Rakoff *et al.* 1992). The question used to measure retention intentions was taken from the work of Reed and Segal (2000). Responses were coded 1 = "planning to leave" through 5 = "planning to remain". For the Navy and civilian surveys response categories were altered appropriately.

*Right now I am…   (Please circle **ONE**.)*

a. planning to remain in the Army,
b. leaning toward remaining in the Army,
c. undecided,
d. leaning toward leaving the Army for a civilian job,
e. planning to leave the Army for a civilian job.

Control Variables

Age: Age is positively correlated with rank and time in service, and all are associated with self-selection for military service. The older a service members are, the more likely they are to have opted to stay with the military despite the opportunity to separate from service since those who did not wish to continue service left once their obligations were fulfilled. Given these characteristics, it is important to control for age in studies of retention. The question used to measure age asked respondents to identify their age in years.

Race: Attrition rates differ by race. Even in the face of perceived and experienced racism, blacks in the junior enlisted ranks remain in service in larger numbers than whites (Moore 2002). While this study does not have sufficient numbers to

run separate retentions models by race, it remains an important variable to control for in analyses. Race was measured using the U.S. census question asking respondents to identify the racial category to which they belong from among the following choices: white, Black or African-American, Asian (e.g., Chinese, Filipino, Japanese, Korean, Asian Indian, Vietnamese), American Indian or Alaskan Native, Pacific Islander or Native Hawaiian, Multi-racial (specify), multi-racial, and Other (specify). For analytic purposes, the last four categories were collapsed into an "other" category. White, Black or African-American, Asian, and other were converted to dummy variables, with whites as the excluded category.

Gender: Leiter *et al.*(1994) found that peer relations are a more central component leading to organizational commitment for women than for men. Conversely, men develop commitment more through relationships with supervisors than do women. In a rigid hierarchical structure that is 85% male such as the military one would expect to see differences in commitment levels by gender. Men and women are included in analyses, but separate models will not be run by gender since there are not enough women in the samples. Respondents were asked to self-identify as either male or female.

Education. Education is a strong measure of human capital in the civilian labor market. Military personnel entertaining leaving the service may be influenced by this factor, leading those with higher levels of education to feel more confident about their long-term opportunities in the civilian labor market than individuals with less education. In a related manner, Moore (2002) found that among junior enlisted personnel a negative relationship existed between education and retention in the military. The less educated

are more likely to remain in service. Education is operationalized using a question that asks respondents to identify the highest educational degree they have attained from the following response set: less than high school, high school or equivalent, associates degree, bachelors degree, masters or professional degree (e.g., JD, MD), and doctoral degree. There were no respondents with less than a high school education or with a doctoral degree. For analyses, the remaining four categories were transformed into dummy variables, with high school or equivalent as the excluded category.

Marital Status: Marriage tends to increase retention for male officer and enlisted personnel. Conversely, work/family conflict is thought to account for reduced retention rates among military women (Moore 2002). This variable was measured by a question asking respondents to identify which marital category described their current marital status: never married, married, separated, divorced, widowed. For analyses the last three categories were collapsed. The resulting three categories were converted to dummy variables, with never married as the excluded category.

Children: Extant literature indicates that having children in the household impacts service members' commitment and retention (Segal and Harris 1993, Orthner 1990). Moreover, there are gender differences in intent to stay in military when the service member has children at home, with women much more likely to leave the service than men (Pittman and Orthner 1989). This variable was operationalized by asking respondents to identify the number of children they have as legal dependents, regardless of whether or not the children resided with them. Response categories included zero to five in one-unit steps, and "6 or more" as a final category.

Number of permanent moves due to work: The measure for this variable was adopted from the Survey of Army Families IV (2001). It is included because frequent permanent changes of station (i.e., geographic relocations) are common for military personnel and their families and are known to have a negative impact on satisfaction with the military lifestyle (Rosenberg 1995). Respondents were asked to identify from 0 to 10 or more how many times their family had to move to a new location due to relocations related to their military employment.

Number and length of separations from family: Separation from family is one of the more significant factors contributing to work-family conflict among service members and their families. As such the challenges and frustrations associated with family separations can be expected to negatively impact retention of military personnel (Bell & Schumm 2000; Bourg & Segal 1999; Croan *et al.*1992; Rosen & Durand 2000). This study controls for both aspects of separation using questions modeled from those in the Survey of Army Families IV (2001). Number of separations is measured with the question, "During the last 12 months, how many separate times were you away from your permanent duty station for at least one night because of your military service?" Length of separations was operationalized with the question, "During the past 12 months, how long were you away from your permanent duty station due to your military duties?" These two questions were preceded with a definition of military duties, defined as "deployments, TADs/TDYs, training, military education, time at sea, and field exercises/alerts."

Response categories for number of separations ranged from zero to 6 or more. Respondents indicated which among six options reflected the length of time they have been separated from their family in the past 12 months: less than one month, one to less

than three months, three to less than five months, five to less than seven months, seven to less than ten months, and ten to twelve months. Question wording was adjusted for the two civilian surveys, but response categories were consistent across all four forms of the survey.

Years in Service: Research on military personnel retention has shown that the stage of service member's career is likely to have an impact on their retention decisions (Rakoff *et al.*1992, Stewart and Firestone 1992). To some degree this is self -selection into the military for a career (20+ years). It also has to do with the all-or-nothing retirement system. Military personnel must put in 20 years of service to receive any benefits unless injured in the line of duty. This retirement system appears to constrain service members' retention intentions (Rosen and Durand 1995, Segal & Harris 1993, Schumm *et al.*1998). There appears to be a point in service members' tenure that a decision is made that to leave the military would be less advantageous than "sticking it out" a few more years in order to retire at 20 years with full benefits. This tipping point seems to be somewhere between 7-10 years of service. However, given the proliferation in private military firms (PMFs) and their attractive salary, benefits, and work opportunities even service members with short time horizons to full retirement are being lured to the private sector (Schmitt and Shanker 2004). In an attempt to capture this relatively recent phenomenon, I have included enlisted personnel and officers regardless of their time in service. This variable is measured with a question asking military (but not contract personnel) how many years and months they have served. Responses were converted to months for analyses.

Years left in Service: Steele and Ovalle (1984) suggest that the relationship between retention intentions and subsequent retention behavior is mediated by the time horizon to making such a decision. This variable was measured by asking military (but not contract personnel) how many more years and months they were obliged to serve in the military. Again, responses were converted to months for analyses.

Rank: Rosen and Durand (1995) demonstrated that one's rank is a significant predictor of retention among noncommissioned officers. Rank is measured by pay rating using the enlisted ratings (E1-E9) for the Navy, and the enlisted ratings plus warrant officer (WO1-CW5) and officer (O1-O6) ratings for Army personnel. For the Army sample this variable was converted to a series of dummy variables defined by junior enlisted (E1-E4), senior enlisted (E5-E9), warrant officers, and officers. Junior enlisted soldiers were the excluded group in the Army sample. Since the Naval personnel who completed surveys were all enlisted a simple dichotomous variable (junior versus senior enlisted) was used for the Navy sample.

Statistical Analysis

Analysis for this dissertation will focus on the central question of whether, and to what extent, having military personnel work along side contract personnel affects attitudes and behavioral intentions of members in each group. The variables examining the effects of civilianization of the military on service personnel are level of contact with civilians and social comparisons with civilians. For the civilian groups, social comparisons with their military counterparts is the sole civilianization effect variable. In all groups, job satisfaction and organizational commitment are included as intervening

variables through which the civilianization variables affect retention.

Statistical analyses in this study consist of several components. First, analyses incorporate descriptive statistics to define the characteristics of the sample and the distributions of the variables to be analyzed. Correlation analysis is conducted including all model variables to establish basic relationships among the variables. A third component includes analyses of reliability of scale items to establish the internal consistency of each scale. Exploratory factor analysis is conducted on the scale items to identify whether one or multiple components are underlying the theoretical constructs.

Two separate tests of means are conducted for the social comparison, satisfaction, and commitment scales. First, t-tests are conducted comparing the individual item scores and total scale scores against the neutral midpoints of their respective scales. This analysis identifies which items deviate significantly from neutral in either direction. The second set of t-test compares individual item scores and the overall scale scores between military personnel and their civilian co-workers. This analysis establishes where the two groups have significant differences from one another.

Finally, the retention model is tested using path analysis. This method of analysis enables simultaneous specification of the direct and indirect effects of the model's independent variables on retention intentions. Path analysis uses mean scores for the scale items and controls for a number of factors known to be important in predicting satisfaction, commitment, and retention. The results of quantitative data analysis that follow are presented in two chapters. The first focuses on the Navy case study and the second on the Army case study. Quantitative data analyses are conducted using SPSS version 11.0 and EQS version 6.1.

Chapter 4. A Case Study of Sailors and Civilian Mariners Aboard a U.S. Navy Command and Control Ship

Military Sealift Command

The Navy operates two categories of ships. U.S. ships (designated USS) are commissioned U.S. Navy ships that are crewed and captained by U.S. Navy (USN) personnel. These ships can be either combatant (e.g., destroyer, aircraft carrier) or non-combatant (e.g., salvage, command and control). The second category of ships is U.S. Naval ships (designated USNS). These ships are owned by the Federal government and crewed by civilian mariners (CIVMARs) employed through military sealift command (MSC), though small military detachments often serve aboard USNS ships to perform duties such as communications and aviation (MSC 2005a). Further, USNS ships are not commissioned Navy vessels and as such all are non-combatant ships.

A CIVMAR is defined as "a Federal government employee who works and sails on U.S. government owned Military Sealift Command ships" (MSC 2005b). Military Sealift Command operates over 120 U.S. government ships worldwide, of which greater than 80% serve at sea (MSC 2005a). The mission of the MSC is to "provide ocean transportation of equipment, fuel, supplies and ammunition to sustain U.S. forces worldwide during peacetime and in war for as long as operational requirements dictate" (MSC 2005b). Military Sealift Command is an echelon II operating force under the command of the Chief of Naval Operations. The current commander of MSC is Vice Admiral David L. Brewer III who oversees five area commands (MSC Atlantic, MSC Pacific, MSC Europe, MSC Far East, and MSC Central) each of which is headed by a USN Captain.

Military Sealift Command (est. 1970) was formerly the Military Sea Transportation Service (MSTS, est. 1949). The MSTS was organized in the wake of World War II as a move to coordinate the mission and assets of military maritime organizations that were under the control of various military departments and civilian organizations during the war (MSC 2005a). Currently, MSC has four primary operational objectives that are organized into more or less separate components of the organization. The Naval Fleet Auxiliary Force has the responsibility of providing fuel, food, combat logistics services, and spare parts to U.S. Navy ships at sea. The Special Mission component of MSC provides a wide range of scientific and communications functions for the U.S. Navy, including oceanographic and hydrographic surveys, underwater surveillance, missile tracking, and submarine support functions. The objective of MSC's Prepositioning Program is to locate military equipment and supplies aboard ships strategically placed around the globe in the event that they are needed for a major theater war, humanitarian operation or other contingency. Finally, the Sealift Program operated by MSC is designed to provide ocean transportation for DoD and other federal agencies.

Sample

The sailors and CIVMARs surveyed in this study were all detailed to the same command and control vessel with the U.S. Navy's Pacific fleet. The CIVMARs aboard ship performed duties in one of three job categories: deck/maintenance, shipboard services (e.g., laundry, dining, cleaning), and engineering. As a consequence, there was no military-civilian redundancy on the ship. Those jobs performed by the civilian

mariners were not (theoretically)[9] to be performed by the sailors, and vice versa. In this sense, though they were incorporated as organic components of the ship's personnel, they were not structurally integrated with the sailors on a small organizational level. All CIVMAR personnel aboard ship, from cooks to engineers, were employees of Military Sealift Command (MSC). What makes this ship especially interesting is that this ship was the first USS command ship to employ a joint military and civilian crew (Crutchfield 2005). The number and types of jobs the CIVMARs performed were a Navy experiment designed to examine the efficiency and effectiveness of integrating sailors and CIVMARs on a deployed USS ship. It should be clear that the jobs the civilians performed were routine jobs for CIVMARs – they do these kinds of jobs on all USNS ships. Rather, it was the situational context of integrating the two groups of employees on a USS ship that was novel.

Response Rates

A total of 125 sailors were assigned to the naval ship at the time of this study. Approximately a dozen sailors were not available due to leaves, training, or other temporary duties (TDYs) that took them off the ship. Of the sailors present during the time of data collection, surveys were given to approximately 110 sailors. One hundred and three surveys were returned (94% response rate), of which 84 were usable for

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[9] Several sailors expressed dissatisfaction and frustration at having to pick-up the slack of the CIVMARs in preparing for a major formal ceremony on board which involved cleaning the decks, scraping and reapplying paint, and hanging the ceremonial decorations. While historically this was a job that routinely fell upon the shoulders of the sailors, and they were fully capable of carrying out the duty, because the deck and maintenance duties had been civilianized the sailors felt doubly aggrieved. They had to perform menial extra duty with the recognition of a substantial pay differential between themselves and the CIVMARs, whose job it was to do the work in the first place.

analysis (76% response rate). The sailors' analysis presented in this study includes 67 percent of all sailors aboard ship during its deployment with civilian mariners.

Approximately 85 surveys were administered to the CIVMARs aboard the ship, of which 75 were completed and returned. Ten CIVMAR surveys were subsequently excluded due to item non-response to questions critical to analysis. This reduced the number of CIVMARs included in analysis to 65, which represents 57 percent of the 114 CIVMARs assigned to the ship.

Those who are included in this analysis do not differ dramatically from the characteristics of their respective populations (military and civilian) aboard ship with respect to race, age, and gender. The distribution of rank for the sailors in the sample is representative of all enlisted sailors and NCOs aboard ship. Population distributions were not available for years in service, years left in service, number of children, or marital status for either group in this case study.

Descriptive Statistics of the Ship's Military and Civilian Personnel

The social-structural characteristics of the sailors and CIVMARs included in this study are summarized in Table 4.1. The modal sailor is an unmarried, white male with a high school education and no children. He has served for almost seven years and has just over 2 years of service obligations remaining. The mean age for sailors is approximately 27 years. Conversely, CIVMARs have a mean age of nearly 45 years. This difference in mean ages reflects the bottom-heavy personnel structure of the military services broadly (Segal & Segal 2004) as compared to the much more experienced personnel being brought in as CIVMARs. Consistent with the differences in age between the two groups

are the findings that, on average, CIVMARs more likely to be married, to have more
children, and to have higher education than their military co-workers.

Table 4.1 Descriptive Statistics for Sailors and CIVMARs

Variable	Sailors f	%	CIVMARs f	%	Sailors mean	CIVMARs mean
Age					27.05	44.92
Years in service					6.71	-
Years left in service					2.30	-
Number of children	(mode=0)		(mode=0)		0.73	2.02
Gender						
men	78	92.9	64	98.5		
women	6	7.1	1	1.5		
Education						
high school or equivalent	62	73.8	35	53.8		
associates	15	17.9	20	30.8		
bachelors	7	8.3	9	13.8		
masters	0	0.0	1	1.5		
Marital Status						
never married	41	48.8	10	15.4		
married	34	40.5	42	64.6		
separated/divorced	9	10.8	13	20.0		
Rank/Pay Grade						
E1-E4	37	44.0	---	---		
E5-E9	47	56.0	---	---		
Race						
white	45	53.6	12	18.5		
black	14	16.7	6	9.2		
Asian	6	7.1	42	64.6		
other	19	22.6	5	7.6		
	N=84		N=65			

The difference in racial composition of the two groups is striking. Whites are a
clear majority among sailors (53.6%) but a distant second among CIVMARs (18.5), being
outnumbered by more than 3-to-1 by Asians. Conversely, sailors self-reporting as Asians
numbered only 6, or 7.1 percent of the sample. Proportionally, many more sailors
(22.6%) identified with a race captured in the "other" category (e.g., American Indian,
Native Islander, multi-racial) than did CIVMARs (7.6%). One of the major causes for the

extreme difference in racial composition of the two groups stems from the Navy's historical, and continued, employment of South-East Asians (Segal & Segal 2004) in the service specialties thatwere civilianize d on this ship. Most specifically, there is a long-standing tradition of Filipinos enlisting in the Navy as a means of upward mobility and obtaining U.S. citizenship.

Control Variables

The path analyses in this study include several control variables in addition to the controls based on social-structural characteristics of the respondents. Prior research (reviewed in Chapter 2) has demonstrated that these variables affect satisfaction, commitment, and retention. They are included to capture better the unique contribution of the independent variables in explaining the variance in retention intentions. Table 4.2 presents the distribution of sailors' confidence in finding a job in the civilian labor force if they were to separate from the Navy "today." The finding that upwards of 97% of the sailors surveyed felt "confident" or "very confident" in being able to find civilian employment suggests that they perceived viable alternatives to remaining in service. Controlling for this "pull" from alternative civilian employment is important so that it does not spuriously affect results of analysis. This item does not specify whether the civilian alternatives perceived by the sailors are more attractive (e.g., pay more, have better supervisors, or provide greater autonomy), or whether they are simply alternatives but not necessarily any better than military service.

Geographic mobility and separations from one's family have been identified as major stressors for military personnel and their families (Lakhani 1994; Rosen & Durand

2000; Schumm *et al.*1998; Segal & Harris 1993). Since it is clear that civilians (DoD and contractor personnel) also get relocated around the globe in support of military

Table 4.2 Frequency Distribution of Confidence in Ability to Obtain Civilian Employment among Naval Personnel

Confidence in finding civilian job	*f*	*%*
not at all confident	0	0.0
not very confident	2	2.4
confident	33	39.3
very confident	49	58.3
Total	84	100.0

operations, data were collected from both military and civilian personnel for these variables. Table 4.3 displays the distributions for the number of times personnel aboard ship have had to relocate their families due to their professional duties with the Navy during their tenure with their respective employers, as well as the number and duration of family separations in the past 12 months.

A strong majority of both the sailors (64.3%) and CIVMARs (76.9%) report that they have not had to relocate their family as a result of having to move to a new duty station for their jobs with the Navy and MSC, respectively. This particular result is somewhat difficult to interpret since the version of the survey administered to these groups did not include the "not applicable" response category. The "not applicable" category captures those who do not have a family and/or have not been stationed at more than one duty station. As a result, individuals meeting either of these criteria are captured in the "0" category for the sailors and CIVMARs.

On balance, the two groups appear to have experienced essentially similar numbers of job-related moves requiring the relocation of one's family. One difference

between the two groups that emerged in the qualitative interviews was that since the MSC

does not pay to move the families of the CIVMARs, many of their families are

Table 4.3 Distribution of Geographic Mobility and Family Separation among Sailors and CIVMARs

Variable	Sailors		CIVMARs	
	f	*%*	*f*	*%*
Number of relocations with family in career				
Not applicable[10]	0	0.0	0	0.0
0	54	64.3	50	76.9
1	8	9.5	6	9.2
2	9	10.7	6	9.2
3	8	9.5	3	4.6
4	5	6.0	0	0.0
5	0	0.0	0	0.0
6	0	0.0	0	0.0
7	0	0.0	0	0.0
8	0	0.0	0	0.0
9	0	0.0	0	0.0
10 or more	0	0.0	0	0.0
Number of family separations in last 12 months				
0	8	9.5	1	1.5
1	20	23.8	4	6.2
2	7	8.3	6	9.2
3	11	13.1	1	1.5
4	2	2.4	0	0.0
5	1	1.2	3	4.6
6 or more	35	41.7	50	76.9
Duration of family separations in last 12 months				
< 1 month	7	8.3	0	0.0
1 to <3 months	6	7.1	1	1.5
3 to <5 months	1	1.2	3	4.6
5 to <7 months	9	10.7	19	29.2
7 to <10 months	56	66.7	22	33.8
10 to 12 months	5	6.0	20	30.8
	N=84		N=65	

geographically remote from the ship's home-port in California. The families of

CIVMAR personnel were located in places as varied as Washington State, Oklahoma,

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[10] The addition of this category was one of the few changes that were made in the survey instrument administered to the military and civilian personnel in the Army case study, a result of lessons learned from the first administration of the instrument with the Navy and CIVMAR personnel.

and Massachusetts. Conversely, none of the sailors interviewed had their families located outside of the immediate area.

The structural issue that appears to constrain CIVMARs from relocating their families near their duty station also ties into the observed differences between groups in the distribution of number and duration of family separations. Nearly twice as many CIVMARs (76.9%) as sailors (41.7%) report having had 6 or more separations from their families in the last 12 months. CIVMARs (30.8%) are also substantially more likely than sailors (6.0%) to report family separation durations in the most extreme category of 10 to 12 months during the past 12 months. This can be explained by their families living remotely from the home port so they are commuting to visit, increasing their number of separations, whereas the sailors have their families with them when they are not at sea.

An additional factor that plays into the longer durations of family separation reported by the CIVMARs is that they do not get paid leave (they are only paid for days spent on the ship), so they are less likely to take extended leave to travel home to see their families. Whereas frequent and extended family separations are the norm for CIVMARs even when they are in their home port, the reason that the sailors' family separation durations are so elevated in this sample is that they had just returned from an 8 1/2 month overseas deployment. The deployment served as somewhat of an equalizing agent in this regard.

Model Variables

The path analysis model for sailors used in this study includes four independent variables used to predict retention intentions. The two independent variables used to capture the effects of civilians on retention are level of contact sailors have with

CIVMARs and their social comparisons with CIVMARs on 15 highly salient job characteristics. These two variables are hypothesized to have direct and indirect effects on retention intentions. Job satisfaction and organizational commitment are included as intervening variables, providing indirect pathways from the civilianization variables to retention intentions.

The retention model for CIVMARs is the same as for sailors with the omission of the variable measuring level of contact with sailors. This variable was not included in the CIVMAR survey because in talking with the ship's officers in the process of constructing the instrument, I was told that this variable was not relevant given the way the civilianization had been implemented. In reality, there was interaction between naval and CIVMAR personnel. This interaction was most common among the deck and maintenance personnel, and much less common among the engineers who spent most of their time in self-contained portions of the ship and service personnel who worked in many common areas but not "with" the sailors. In future studies this variable should be included in surveys for civilian personnel.

Level of Contact with CIVMARs

The distribution of sailors' level of direct contact with CIVMARs is presented in Table 4.4. Nearly a quarter of the sailors reported working directly with CIVMARs on a daily basis (23.8%) but a fifth (21.4%) reported that they never work with CIVMARs. Approximately 60% indicated that they work directly with CIVMARs at least once a week. Given the close quarters nature of shipboard life and the fact that there were roughly equal proportions of military and CIVMAR personnel on board, it is remarkable that the level of direct contact reported between the two groups is not higher. This speaks

to the degree of compartmentalization of the military versus civilian work, which is a

result of the decision to civilianize entire departments aboard ship.

Table 4.4 Sailors' Level of Contact with CIVMARs

Level of Contact	*f*	*%*
daily	20	23.8
several times a week	15	17.9
about once a week	14	16.7
about once every couple of weeks	6	7.1
about once a month	4	4.8
less than once a month	7	8.3
never	18	21.4
Total	84	100.0

Social Comparisons

Social comparisons are a subjective assessment of how one stacks-up in relation

to a specific individual or group of people in one's reference group. Sailors were asked to

compare themselves to the CIVMARs across a number of job characteristics. Similarly,

CIVMARs were asked to compare themselves with sailors on the same set of job-related

items. A Likert-type scale was used for the response categories, which were coded for

analysis such that 1 = "much greater for [other group]" and 5 = "much greater for

myself."[11] A neutral midpoint was included. High scores indicate that the respondent

feels relatively advantaged compared to his/her "other" group co-workers. Low scores

indicate that the respondent feels relatively deprived compared to his/her "other" group

co-workers.

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[11] The items risk, negative impacts on family, and hours worked per day have been reverse coded.
The values presented in Tables 4.5 and 4.6 align with the other items; higher values mean greater
impact on the respondent in comparison to their "other" group.

Two separate tests of means were conducted for each of the items in the social comparison scale. The first tested the mean of each item in both groups against the neutral midpoint of the scale. This test determined whether the groups felt relatively advantaged or deprived on each item. The second test compares the two groups against each other. This set of tests identified those items for which the two groups' relative assessment of their advantage/deprivation relative to the other group differed significantly. Both sets of t-tests were performed using the scale means for each group as well.

Table 4.5 presents the mean for each item in the social comparison scale and the deviation of each mean from the neutral midpoint (3.0) of the scale.[12] Positive values in the "deviation from midpoint" columns indicate that on average the group feels relatively advantaged on those items. Conversely, if the values in these columns are negative it signifies that on average the group feels relatively deprived on those items. Data in Table 4.5 indicate that when tested against the neutral midpoint eight social comparison item means reached significance for the CIVMARs and six items for the sailors achieved significance.

CIVMARs' means are above the neutral midpoint for six of their eight significant items. This finding indicates that they feel advantaged in relation to sailors with regard to pay (3.65), autonomy (3.71), task variety (3.42), satisfying relationships with peers (3.20), the ability to negotiate contract of employment (3.39), and the feeling of accomplishment they experience through their work (3.65). The two items for which the CIVMARs'

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[12] Since the data in this study are not randomly collected they violate a basic assumption of inferential statistics. The analyses based on significance tests using these data should be understood as a guideline, not an exact measure of statistical significance.

means are below the midpoint of the scale, indicating they feel relatively deprived in comparison to sailors, are benefits (2.26) and the number of hours they work per day (2.37).

Table 4.5 Sailors' and CIVMARs' Social Comparison Item Means Tested Against Neutral Midpoint of Scale

Social Comparison Item	neutral midpoint	Sailors		CIVMARs	
		mean	deviation from midpoint	mean	deviation from midpoint
Pay	3.00	1.42	-1.58***	3.65	0.65***
Benefits	3.00	3.51	0.51***	2.26	-0.74***
Risk of personal injury (R)	3.00	3.01	0.01	3.05	0.05
Autonomy	3.00	2.38	-0.62***	3.71	0.71***
Task variety	3.00	2.82	-0.18	3.42	0.42**
Promotion chances based on merit	3.00	2.66	-0.34***	2.81	-0.19
Quality leaders in organization	3.00	2.86	-0.14	3.03	0.03
Negative impacts on family (R)	3.00	2.84	-0.16	2.81	-0.18
Satisfying relations with peers	3.00	3.07	0.07	3.20	0.20**
Ability to negotiate contract	3.00	1.81	-1.19***	3.39	0.39***
Degree to which organization cares for its workers	3.00	2.73	-0.27*	2.74	-0.26
Feeling of accomplishment from one's work	3.00	3.07	0.07	3.65	0.65***
Feeling that one's work contributes to society	3.00	3.12	0.12	3.17	0.17
Leadership support in facilitating task completion	3.00	3.00	0.00	3.15	0.15
Hours worked per day (R)	3.00	3.24	0.24	2.37	-0.63***
Total	3.00	2.77	-0.23***	3.09	0.09

** $p < .01$
***$p < .001$

Sailors' mean social comparisons were below the midpoint for five of the six items that reached significance (Table 4.5). Naval personnel reported feeling relatively deprived in comparison to CIVMARs on pay (1.42), autonomy (2.38), task variety (2.82), promotion chances based on merit within their organization (2.66), the ability to negotiate the terms of their employment (1.81), and the degree to which their organization cares for its employees (2.73). Conversely, sailors reported feelings of relative advantage over

CIVMARs on benefits (3.51). This was consistent with the finding that CIVMARs feel

relatively deprived on benefits compared to sailors. The level of agreement between

sailors and CIVMARs on which group, if any, is relatively advantaged/deprived is

striking.

None of the item means for either group exceed 4.0, which would indicate a

perception of very high magnitude relative advantage. However, two of the sailors' social

comparison item means are below 2.0, pay (1.42) and the ability to negotiate employment

contract (1.81), indicating strong feelings of relative deprivation on these job

characteristics relative to CIVMARs.

Results of testing the overall scale means for each group with the scale's midpoint

produced mixed results. The sailors' overall social comparison scale mean (2.77) is

significantly below the neutral midpoint. This finding suggests that, on average, sailors

perceive themselves to be relatively deprived in comparison to CIVMARs. Conversely,

CIVMARs' overall scale mean (3.09) failed to reach significance when tested against the

neutral midpoint. On average, the CIVMARs feel neither advantaged nor deprived in

relation to their military co-workers.

A second analysis of social comparison means examined the difference in means

between sailors and CIVMARs. Data on the means and standard deviations for both

groups on each of the 15 social comparison items are presented in Table 4.6. As before,

lower mean scores indicate the group feels relatively deprived, whereas higher scores

indicate the group feels relatively advantaged.

Tests of social comparison item means between sailors and CIVMARs produced

significant findings on 6 of the 15 scale items. CIVMARs have the higher mean values

for five of the six items for which the two groups have significantly different means: pay,

autonomy, task variety, the ability to negotiate employment contract, and gaining a feeling of accomplishment from one's work. The lone social comparison item that significantly favored the sailors (3.24) over CIVMARs (2.37) was the number of hours worked per day. This result runs counter to anticipation given that military personnel are on-call 24 hours a day, 7 days a week. But, the decision to civilianize entire departments aboard ship eliminated much of the personnel redundancy that would cause the Naval personnel to have to put in additional hours to get various jobs done around the ship.

Table 4.6 Comparison of Mean Social Comparison Scores Between Sailors and CIVMARs

Social Comparison Item	Sailors			CIVMARs		
	Mean	**S.D.**	**N**	**Mean**	**S.D.**	**N**
Pay	1.42***	0.76	84	3.65***	1.12	65
Benefits	3.51***	0.86	84	2.26***	1.22	65
Risk of personal injury (R)	3.01	0.81	84	3.05	1.01	65
Autonomy	2.38***	0.94	84	3.71***	1.04	65
Task variety	2.82***	0.98	84	3.42***	1.05	64
Promotion chances based on merit	2.66	0.89	83	2.81	1.11	64
Quality leaders in organization	2.86	0.83	83	3.03	1.09	65
Negative impacts on family (R)	2.84	0.96	83	2.81	0.98	65
Satisfying relations with peers	3.07	0.58	83	3.20	0.73	65
Ability to negotiate contract	1.81***	0.77	84	3.39***	0.88	64
Degree to which organization cares for its workers	2.73	0.99	83	2.74	1.12	65
Feeling of accomplishment from one's work	3.07***	0.69	84	3.65***	0.86	65
Feeling that one's work contributes to society	3.12	0.74	84	3.17	0.95	65
Leadership support in facilitating task completion	3.00	0.79	83	3.15	0.94	65
Hours worked per day (R)	3.24***	1.14	83	2.37***	1.10	65
Total Scale Score	2.77***	0.35	84	3.09***	0.31	65

***p < .001

Also contributing to this finding is the fact that the departments aboard ship that have been civilianized are being manned by significantly fewer personnel than if they

were manned by sailors. Thus, when work has to be done it falls on the shoulders of fewer individuals, and may increase their number of hours of worked per day.

The test of overall social comparison scale means *between* sailors (2.77) and CIVMARs (3.09) was significant (p < .001). This indicates that on a continuum of perceived relative advantage/deprivation CIVMARs report significantly higher perceptions of relative advantage compared to sailors. Alternatively stated, sailors indicate significantly greater feelings of relative deprivation compared to CIVMARs.

Job Satisfaction

Responses to the job satisfaction scale items were analyzed in the same manner as the data for social comparisons.   The first set of analyses examines differences in mean item scores from the neutral midpoint (3.0) of the scale to identify those items that each group identified as satisfactory or dissatisfactory. A second analysis tests the mean of each item between groups to assess whether there are significant differences between naval and CIVMAR personnel in the expressed (dis)satisfaction with these job characteristics.

Results from the t-tests of item means compared to the neutral midpoint of the scale are presented in Table 4.7. The CIVMARs report significant positive satisfaction means for all but one of the scale items: the way the organization's policies are put into practice (2.17). Those items that the CIVMARs are most satisfied with in terms of their positive deviation from the neutral mean are the ability to keep busy all the time (4.14), the chance to work alone on the job (4.09), task variety (3.95), steady employment (4.26), the chance to do things for other people (4.00), the kind of work they do (4.02), the

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Table 4.7 Sailors' and CIVMARs' Job Satisfaction Item Means Tested Against Neutral Midpoint of Scale

		Sailors		CIVMARs	
Satisfaction Items	neutral midpoint	mean	deviation from midpoint	mean	deviation from midpoint
Being able to keep busy all the time	3.00	3.29	0.29**	4.14	1.14***
The chance to work alone on the job	3.00	3.61	0.61***	4.09	1.09***
The chance to do different things from time to time	3.00	3.33	0.33**	3.95	0.95***
The chance to be "somebody" in the community	3.00	3.42	0.42***	3.66	0.66***
The way my supervisor handles his/her men and women	3.00	2.99	-0.01	3.57	0.57***
The competence of my supervisor in making decisions	3.00	3.01	0.01	3.54	0.54***
Being able to do things that don't go against my conscience	3.00	3.64	0.64***	3.71	0.71***
The way my job provides for steady employment	3.00	4.24	1.24***	4.26	1.26***
The chance to do things for other people	3.00	3.64	0.64***	4.00	1.00***
The chance to tell people what to do	3.00	3.38	0.38***	3.45	0.45***
The chance to do something that makes use of my abilities	3.00	3.43	0.43***	3.83	0.83***
The way the Navy's/organization's policies are put into practice	3.00	2.71	-0.29**	3.17	0.17
My pay	3.00	2.62	-0.38**	3.80	0.80***
The kind of work that I do	3.00	3.45	0.45***	4.02	1.02***
The amount of work that I do	3.00	3.39	0.39***	4.11	1.11***
The chances for advancement on this job	3.00	2.92	-0.08	3.63	0.63***
The freedom to use my own judgment	3.00	3.00	0.00	3.77	0.77***
The chance to try my own methods of doing the job	3.00	3.13	0.13	3.80	0.80***
The working conditions	3.00	3.21	0.21*	3.71	0.71***
The way my co-workers get along with each other	3.00	3.44	0.44***	3.77	0.77***
The praise I get for doing a good job	3.00	3.04	0.04	3.42	0.42**
The feeling of accomplishment I get from doing my job	3.00	3.38	0.38**	3.97	0.97***
The support I get from my co-workers	3.00	3.32	0.32**	3.78	0.78***
The support I get from my supervisors	3.00	3.18	0.18	3.60	0.60***
Total Scale	3.00	3.28	0.28***	3.78	0.78***

*p < .05
** p < .01
***p < .001

amount of work they do (4.11), and the feeling of accomplishment they get from doing their job (3.97).

Sailors' results also identify a majority of the item means deviating significantly from the neutral midpoint. Four of the sailors' means fall below the neutral midpoint indicating dissatisfaction, two of which are statistically significant: the way the Navy's policies are put into practice (2.71) and their pay (2.62). These findings contrast with the lack of any means falling at or below the neutral midpoint for the CIVMARs. In comparison to the two items with which sailors indicated being significantly dissatisfied, CIVMARs' means were split. They did not differ significantly from the neutral midpoint on implementation of MSC policies (3.17), but their mean for the item asking about pay was significant and positive (3.80). Whereas sailors are dissatisfied with their pay, CIVMARs are satisfied with theirs. This was the sole satisfaction item on which significant findings were observed for both groups but in opposite directions.

Of the numerous items with which the sailors indicated feeling satisfied, just one item approached or exceeded a mean of 4.0: the way their job provides for steady employment (4.24). By comparison, 8 item means for CIVMARs reached this magnitude. Comparison of the overall scale means for sailors (3.28) and CIVMARs (3.78) to the neutral midpoint was significant at $p < .001$. Taken collectively, these findings indicate that although both groups report being on the satisfied end of the job satisfaction continuum for a majority of their individual job characteristics, as well as their overall scale score, CIVMARs appear more satisfied than sailors. To empirically examine this observation a second set of t-tests, comparing means between groups, was performed.

Comparison of mean scores on the job satisfaction items between groups

identified significant differences on 20 of the 24 job characteristics (Table 4.8). The four

items for which the two groups did not differ significantly include the chance to be

Table 4.8 Comparison of Mean Job Satisfaction Scores between Sailors and CIVMARs

Satisfaction Items	Sailors			CIVMARs		
	Mean	S.D.	N	Mean	S.D.	N
Being able to keep busy all the time	3.29***	0.96	84	4.14***	0.68	65
The chance to work alone on the job	3.61**	0.99	84	4.09**	0.84	65
The chance to do different things from time to time	3.33***	1.10	84	3.95***	1.02	65
The chance to be "somebody" in the community	3.42	0.98	84	3.66	0.87	65
The way my supervisor handles his/her men and women	2.99**	1.37	83	3.57**	1.27	65
The competence of my supervisor in making decisions	3.01*	1.31	83	3.54*	1.25	65
Being able to do things that don't go against my conscience	3.64	0.86	84	3.71	1.01	65
The way my job provides for steady employment	4.24	0.74	84	4.26	0.83	65
The chance to do things for other people	3.64*	0.91	84	4.00*	0.79	65
The chance to tell people what to do	3.38	0.89	84	3.45	1.06	65
The chance to do something that makes use of my abilities	3.43*	1.10	84	3.83*	1.17	65
The way the Navy's/organization's policies are put into practice	2.71**	0.95	84	3.17**	0.98	65
My pay	2.62***	1.12	84	3.80***	1.15	65
The kind of work that I do	3.45***	1.02	84	4.02***	0.99	65
The amount of work that I do	3.39***	1.05	84	4.11***	0.81	65
The chances for advancement on this job	2.92***	1.19	84	3.63***	1.07	65
The freedom to use my own judgment	3.00***	1.13	83	3.77***	1.12	65
The chance to try my own methods of doing the job	3.13***	1.03	84	3.80***	1.09	65
The working conditions	3.21**	0.93	84	3.71**	0.96	65
The way my co-workers get along with each other	3.44*	0.91	84	3.77*	0.77	65
The praise I get for doing a good job	3.04*	1.06	84	3.42*	1.07	65
The feeling of accomplishment I get from doing my job	3.38***	1.15	84	3.97***	0.81	65
The support I get from my co-workers	3.32**	1.12	84	3.78**	0.91	65
The support I get from my supervisors	3.18*	1.17	84	3.60*	1.17	65
Total Scale	3.28***	0.59	84	3.78***	0.67	65

*p < .05
** p < .01
***p < .001

"somebody" in the community, being able to do things that don't go against my conscience, the way my job provides for steady employment, and the chance to tell people what to do. Among the 20 items for which sailors and CIVMARs did have significant differences in mean satisfaction, all were in favor of the civilian mariners. This indicates that while sailors identify themselves to be on the satisfied end of the job satisfaction continuum for a majority of their job characteristics, they appear less satisfied than their civilian co-workers. Not surprisingly, the total satisfaction scale mean for CIVMARs (3.78) is significantly higher than the sailors' (3.28).

Organizational Commitment

Commitment scale values range from 1 = "disagree strongly" to 7 = "agree strongly," and include a neutral midpoint. Table 4.9 displays the sailors' and CIVMARs' individual item and overall means for the organizational commitment scale tested against the neutral midpoint (4.0). Results of the t-tests comparing the groups' means to the neutral midpoint of the scale indicate a number of similarities, but also several differences. The two groups had ten common items with means that differed significantly from the neutral midpoint. Eight means on these common significant items had means above the midpoint. Of the two remaining jointly significant items, both groups' means were below the midpoint on one, and the groups were split on the other. Of the eight scale items that were significant and positive for both groups, the four for which both group means exceeded 5.0 are being willing to extend a great deal of effort to help their respective organizations be successful, being proud to tell others they work for their respective organizations, caring about the fate of their respective organizations, and feeling that joining their respective organizations was <u>not</u> a mistake. The item for which

Table 4.9 Sailors' and CIVMARs' Organizational Commitment Item Means Tested Against Neutral Midpoint of Scale

Organizational Commitment Items	neutral midpoint	Sailors		CIVMARs	
		mean	deviation from midpoint	mean	deviation from midpoint
I am willing to extend a great deal of effort to help the Navy/this organization be successful	4.00	5.57	1.57***	5.89	1.89***
I talk up the Navy/this organization to my friends as a great organization to work for	4.00	4.27	0.27	5.49	1.49***
I feel very little loyalty to the Navy/this organization (R)	4.00	5.05	1.05***	4.64	0.64*
I would accept almost any job assignment to keep working for the Navy/this organization	4.00	2.73	-1.27***	4.37	0.37
I find that my values and those of the Navy/this organization are very similar	4.00	4.38	0.38*	4.69	0.69***
I am proud to tell others that I serve in the Navy/work for this organization	4.00	5.71	1.71***	5.75	1.75***
I could just as well be working for a different organization as long as the work was similar (R)	4.00	3.77	-0.23	3.52	-0.48*
The Navy/this organization really inspires the very best in me in the way of job performance	4.00	4.18	0.18	5.32	1.32***
It would take very little change in my present circumstances to cause me to leave the Navy/this organization (R)	4.00	4.05	0.05	3.58	-0.42*
I am extremely glad that I chose to work for the Navy/this organization over other alternatives I was considering at the time I joined	4.00	4.64	0.64***	5.71	1.71***
There's not too much to be gained by sticking with the Navy/this organization for a career (R)	4.00	4.57	0.57**	4.57	0.57*
Often, I find it difficult to agree with the Navy's/this organization's policies on important matters relating to its personnel (R)	4.00	3.19	-0.81***	3.48	-0.52*
I really care about the fate of the Navy/this organization	4.00	5.31	1.31***	5.65	1.65***
For me the Navy/this organization is the best of all possible organizations to work for	4.00	3.58	-0.42*	4.98	0.98***
Deciding to work for the Navy/this organization was a definite mistake on my part (R)	4.00	5.23	1.23***	5.74	1.74***
Total	4.00	3.97	-0.03	4.89	0.89***

*p < .05

** p < .01

***p < .001

both groups reported disagreement (indicating reduced commitment) was the item "often,

I find it difficult to agree with the Navy's/this organization's policies on important matters

relating to its personnel," which was reverse coded for analysis, meaning that they tended

to agree with this (negative) statement.

Sailor and CIVMAR group means differed significantly from the neutral midpoint, but in opposite directions, on the item asking whether their current employer was the best of all possible organizations for which to work. While the sailors feel it might be better to work for another employer (3.58), CIVMARs perceive their current positions with MSC as the most desirable among their employment options (4.98).

The only item mean that failed to reach a significant difference from neutral for the CIVMARs was that asking whether they would accept almost any job assignment in order continue working for MSC (4.37). The sailors' mean on this item (2.73) was significantly below the neutral midpoint of the scale (4.0). Neither group appears so enthralled with their employer that they are willing to work outside their specialty area in any unspecified capacity just to stay with the same organization, but this is especially so among the sailors.

Four commitment items were significant for the CIVMARs but not for the sailors. Two items deviated above the midpoint and two deviated below the midpoint. CIVMARs stated that they talk up MSC to their friends as a great organization to work for (5.49), they feel their organization really inspires them to perform well (5.32), and disagree that only slight changes in their current working conditions would motivate them to quit (3.58). At the same time, they report that they could just as well be working for a different organization as long as the work was similar (3.52). Sailors' responses indicated their attitudes were essentially neutral on these items.

Comparing overall scale means to the neutral midpoint revealed that CIVMARs are significantly committed to working with MSC (4.89), whereas sailors are not significantly inclined one way or the other with regard to their organizational commitment to the Navy (3.97).

Examination of the differences in individual item and overall mean organizational commitment scores between sailors and CIVMARs resulted in several highly significant findings (all p < .001; Table 4.10). All significant differences follow the same pattern;

Table 4.10 Comparison of Mean Organizational Commitment Item Scores Between Sailors and CIVMARs

Organizational Commitment Items	Sailors			CIVMARs		
	Mean	S.D.	N	Mean	S.D.	N
I am willing to extend a great deal of effort to help the Navy/this organization be successful	5.57	1.20	84	5.89	1.19	65
I talk up the Navy/this organization to my friends as a great organization to work for	4.27***	1.49	84	5.49***	1.44	65
I feel very little loyalty to the Navy/this organization (R)	5.05	1.75	84	4.64	1.97	64
I would accept almost any job assignment to keep working for the Navy/this organization	2.73***	1.76	83	4.37***	1.75	65
I find that my values and those of the Navy/this organization are very similar	4.38	1.61	84	4.69	1.42	65
I am proud to tell others that I serve in the Navy/work for this organization	5.71	1.34	84	5.75	1.34	65
I could just as well be working for a different organization as long as the work was similar (R)	3.77	1.77	84	3.52	1.56	64
The Navy/this organization really inspires the very best in me in the way of job performance	4.18***	1.64	84	5.32***	1.54	65
It would take very little change in my present circumstances to cause me to leave the Navy/this organization (R)	4.05	1.81	84	3.58	1.65	64
I am extremely glad that I chose to work for the Navy/this organization over other alternatives I was considering at the time I joined	4.64***	1.49	84	5.71***	1.34	65
There's not too much to be gained by sticking with the Navy/this organization for a career (R)	4.57	1.72	84	4.57	1.81	65
Often, I find it difficult to agree with the Navy's/this organization's policies on important matters relating to its personnel (R)	3.19	1.51	84	3.48	1.60	65
I really care about the fate of the Navy/this organization	5.31	1.36	84	5.65	1.24	65
For me the Navy/this organization is the best of all possible organizations to work for	3.58***	1.74	84	4.98***	1.68	65
Deciding to work for the Navy/this organization was a definite mistake on my part (R)	5.23	1.67	84	5.74	1.45	65
Total	3.97***	0.64	84	4.89***	0.90	65

***p < .001

higher mean values for CIVMARs compared to sailors. CIVMARs are significantly more

likely than their military co-workers to agree that they talk their organization up to their

friends, that they would accept almost any assignment to maintain employment with their

current organization, that their organization inspires them to perform at their best, that

their organization is the best of all possible employers for which to work, and that

deciding to work with their current employer was a good decision.

Results of the t-test comparing each groups' mean organizational commitment

scale score indicate that CIVMARs are significantly more committed to working with

MSC (4.89) than sailors are to serving with the Navy (3.97).

Retention Intentions

The dependent variable for the model in this study is retention intentions.

Response categories for the question measuring intent to remain with one's employer

ranged from 1 = "planning to leave" to 5 = "planning to stay," with a neutral midpoint.

Figure 4.1 displays the frequency distributions of sailors' and CIVMARs' retention

intentions. Sailors appear to be about equally divided between those planning to leave

(31.0%) and those planning to stay (28.6%). Their pattern differs dramatically from that

of the CIVMARS. Nearly 70% of CIVMARs report that they are planning to stay with

MSC as opposed to less than 30% of sailors indicating they plan to remain with the Navy.

On the other end of the continuum, the proportion of sailors indicating they were

planning to leave the Navy (31.0%) was more than six times greater than the proportion

of CIVMARs intending to leave MSC (4.6).

The significance test comparing mean retention intentions between sailors (mean

2.89, s.d. 1.62) and CIVMARs (mean 4.31, s.d. 1.19) achieved significance at p < .001.

On average, CIVMARs are significantly more likely to indicate that they plan to remain with MSC than sailors are to indicate intentions to remain in service with the Navy. Given the extreme negative skewness and the concomitant low variability of the CIVMARs' retention intention responses, a weak prediction model is anticipated for this group since there is very little variation to explain.

Figure 4.1. Percent Frequency Distribution of Sailors' and CIVMARs' Retention Intentions
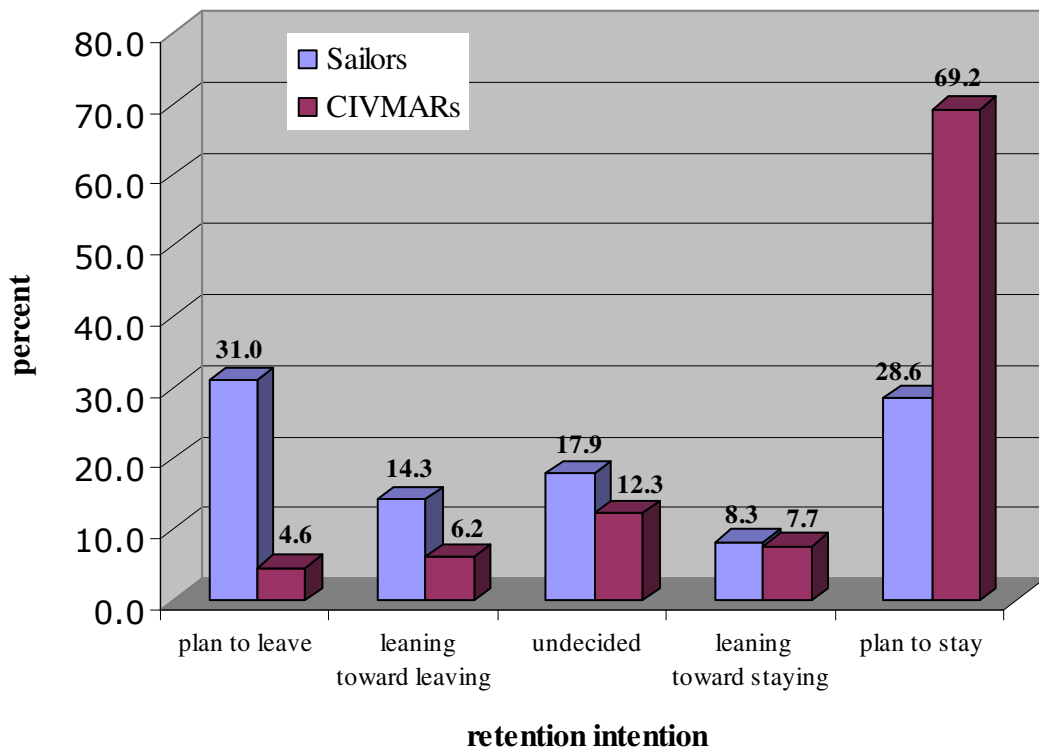
Path Analyses

Reliability and Correlation Statistics for Variables in the Path Models

Reliability estimates and correlations among variables in the sailors' and CIVMARs' path models are presented in Table 4.11 and 4.12, respectively. Standardized

reliability estimates for the social comparisons, job satisfaction, and organizational

commitment scales range from .71 to .89 for the sailors, and from .83 to .94 for the

CIVMARs. Reliability coefficients of these magnitudes indicate that the three scales

used in the path analyses have strong internal consistency.

Correlations presented in Tables 4.11 and 4.12 are partial correlations, controlling

for age, sex, race, education, marital status, number of dependent children, number of

work-related relocations, and number and length of family separations in the past 12

months. Additional controls used only in the sailors' analyses include confidence in

finding civilian employment, rank, time in service, and time remaining in current service

obligation.

The results of the inter-item correlations of the sailors' model (Table 4.11)

indicate that the social comparison variable is significantly and positively correlated with

each of the other four variables in the path model. This means that increases in sailors'

level of contact with CIVMARS are related to more positive social comparisons (p < .05).

Table 4.11 Estimates of Internal Consistency and Correlations among Study Scales for Sailors

		Intercorrelations				
Measure	**alpha†**	**1**	**2**	**3**	**4**	**5**
1. Contact with contractors	---	1.00				
2. Social comparisons	.84	0.25*	1.00			
3. Job satisfaction	.89	0.02	0.48***	1.00		
4. Organizational commitment	.71	0.11	0.38**	0.53***	1.00	
5. Retention intention	---	-0.09	0.25*	0.23	0.33**	1.00

N = 84
†standardized Chronbach's alpha
* p < .05
** p < .01
*** p < .001

This result was counter to what was anticipated. Further, more positive social comparisons are associated with higher levels of satisfaction and commitment, and increased intention to remain with the Navy. Significant positive correlations are also observed between job satisfaction and organizational commitment, and organizational commitment and retention intentions. These results are in line with expectations. Interestingly, level of contact with contractors was not related to satisfaction, commitment, or retention intentions. Also counter to expectations, job satisfaction was not significantly related to retention intentions.

The path model for the CIVMARs is nearly identical to that of the sailors. The one exception is that the variable for level of contact respondents have with members of the "other" group was not included in the surveys administered to the CIVMARs, as noted previously. Thus, the CIVMAR model has three, rather than four, independent variables. Table 4.12 presents the inter-item correlations for the CIVMAR model variables. Social comparisons are not significantly related to any of the other model variables for CIVMARs. This stands in sharp contrast to sailors' findings. The

Table 4.12 Estimates of Internal Consistency and Correlations among Study Scales for CIVMARs

Measure	Alpha[†]	Intercorrelations			
		1	2	3	4
1. Social comparisons	.86	1.00			
2. Job satisfaction	.94	-0.17	1.00		
3. Organizational commitment	.83	-0.18	0.65***	1.00	
4. Retention intention	---	0.03	0.54***	0.61***	1.00

N = 171
[†]Standardized Chronbach's alpha
*** $p < .001$

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significant correlation observed between satisfaction and retention intentions is also opposite the finding for sailors. Similar to sailors, however, are the observed significant positive correlations between satisfaction and commitment, and between commitment and retention intentions. As with the sailors, all significant correlations are positive.

Path Models

The first step in analyzing the path model of retention intentions was to determine the fit of the data for the conceptual model presented earlier. Tables 4.13 and 4.14 present a summary of various fit indices commonly used in path analysis. The fit of the independence model, a model where the variables are not related at all, produced a chi-square of 71.26 for the sailors and 73.27 for the CIVMARS, which were significant at the $p < .05$ level. Conversely, the chi-square statistics for the proposed model in this study were 0.00 for the sailors and 4.63 for the CIVMARs. These results indicate that the proposed model does a much better job accounting for the variance in retention intentions for the sailors than does a model where the independent variables have no relation to one another. The chi-square statistic for the CIVMAR model is significant, but small in relative magnitude indicating that the model may not fit as well for them. The Bentler-Bonett normed fit index (NFI) and the comparative fit index (CFI) surpass acceptable fit levels of .90 for both groups, lending additional support for the strength of the proposed model (Hoyle & Panter 1995). The chi-square statistic for the independence model is greater than both the Akaike's information criterion (AIC) and Bozdogan's consistent version of the AIC (CAIC) for both sailors and CIVMARs, providing further evidence that the data are a strong fit with the proposed model (Bentler 1995). All fit indices suggest a strong model for the sailors, and when taken as a whole, the fit indices indicate

an adequate, though less strong fit for the CIVMARs. Chi-square and RMSEA are both

sensitive to sample size, so part of the difficulty in achieving strong fit statistics for the

CIVMARs, in addition to low variances in retention intentions, may be due to sample

size (n =65).

Table 4.13 Fit Indices for Sailors' Model

Model	df	χ^2	*AIC*	CAIC	NFI	CFI	RMSEA
Independence Model	10	71.26	51.26	16.95	--	--	--
Proposed Model	1	0.00	-2.00	-5.43	0.99	1.00	0.00

Table 4.14 Fit Indices for CIVMARs' Model

Model	df	χ^2	AIC	CAIC	NFI	CFI	RMSEA
Independence Model	6	73.27	61.27	42.23	--	--	--
Proposed Model	1	4.63	2.63	-0.55	0.94	0.95	0.24

Path analyses were used to examine both the direct and indirect effects of

civilianization on retention intentions among sailors and CIVMARs. Controls for the

path analyses were the same as those used in the partial correlation analysis presented

above. Results of path analyses of retention intentions are presented in Figure 4.2 for the

sailors and Figure 4.3 for the CIVMARs. The coefficients presented on the pathways of

the models are the standardized, direct path coefficients. These path coefficients are

interpreted in the same way as multiple regression coefficients. Coefficients with higher

absolute values indicate that the predictor variable for that pathway is explaining a greater

amount of variance in the pathway's outcome variable than a predictor variable with a

coefficient with a lower absolute value.

The two pathways with darker arrows on the sailors' path model and the single darker pathway on the CIVMARs' path model represent the direct effects of the two civilianization variables on retention intentions. The lighter arrows in the models indicate the indirect pathways by which the civilianization variables affect retention intentions. The absence of a pathway leading from job satisfaction to retention intentions is deliberate. In order to run the path model at least one degree of freedom is necessary.

Figure 4.2 Sailors' Path Model with Estimated Path Coefficients


```
                                    (-.17)

  ┌──────────────┐        (-.10)    ┌──────────────┐
  │ Contact w/   │                  │ Job          │
  │ CIVMARs      │                  │ Satisfaction │                    ┌──────────────┐
  └──────────────┘      (.06)       └──────────────┘                    │ Retention    │
                                          │ (.46*)                      │ Intentions   │
  (.25*)                                  ↓                             └──────────────┘
                      (.50*)        ┌──────────────┐
  ┌──────────────┐                  │ Organizational│
  │ Social       │                  │ Commitment    │      (.27*)
  │ Comparisons  │                  └──────────────┘
  └──────────────┘      (.15)

                                    (.19)
```

——— indirect effect on retention intentions
——— direct effect on retention intentions

* p < .05
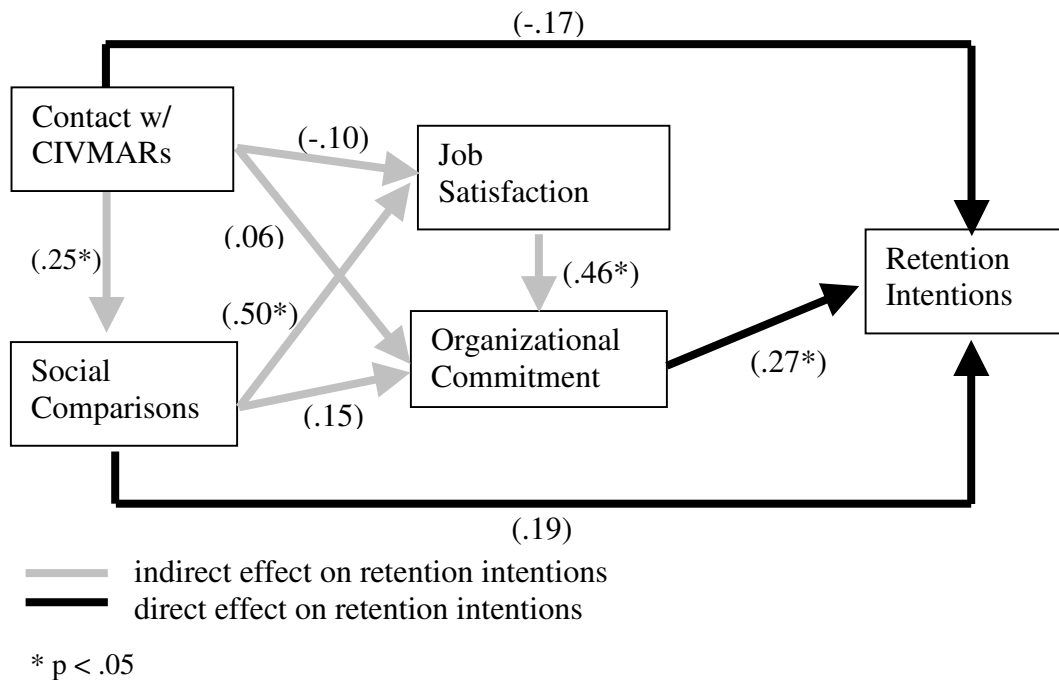
Results from multiple regression models (not presented here) using the same control variables as the path analysis showed that job satisfaction did not have a significant direct impact on retention intentions. When the path analysis was rerun including the pathway from satisfaction to retention and omitting the pathway from contact with contractors to social comparisons the coefficient failed to reach significance. While regression analysis revealed that several model variables did not have a significant

direct effect on retention intentions, a decision was made to retain all of the pathways

related to the civilianization variables for illustrative purposes.

Results of the sailors' path analysis indicate that although the signs of the two

civilianization pathways are consistent with expectations neither of the two path

coefficients are significant. Thus, any effects of civilianization on sailors' retention

intentions would have to be indirect. Additionally, level of contact with CIVMARs failed

to explain a significant amount of variance in satisfaction or retention, and social

comparisons was not a significant predictor of organizational commitment among sailors.

The sailors' path coefficients are positive and significant between level of contact

with CIVMARs and social comparisons (.25), social comparisons and job satisfaction

(.50), job satisfaction and organizational commitment (.46), and organizational

commitment and retention intentions (.27). Thus, the more contact sailors have with

CIVMARs, the more positive their social comparisons, which lead to greater satisfaction

with their work. Increased satisfaction significantly raises commitment to the Navy,

which in turn elevates sailors' intentions to remain in the service. The civilianization

variables seem to have a significant impact in the model, but examination of the total

effects of the model is necessary to be more certain.

Table 4.15 Total Effects on Sailors' Retention Intentions

Independent Variable	Indirect Effects	Direct Effects	Total Effects
Contact with Civilian Mariners	0.08	-0.17	-0.09
Social Comparisons	0.10*	0.19	0.29*
Job Satisfaction	0.13*	--	0.13*
Organizational Commitment	--	0.27*	0.27*

N = 84

* $p < .05$

The indirect, direct, and total effects of the model's independent variables on retention intentions for sailors are presented in Table 4.15. Significant total effects are observed for social comparisons, job satisfaction, and organizational commitment. The largest total effect is associated with social comparisons (.29). The significant total effect of social comparisons on retention intentions is the product of a significant indirect effect (.10) operating through satisfaction and commitment, and a larger, though statistically non-significant, direct effect (.19).

The total effect associated with the organizational commitment variable is also significant (.27). This total effect is entirely due to the direct effect since there were no indirect pathways leading from organizational commitment to retention intentions. Conversely, the total effect of job satisfaction (.13) is entirely indirect, operating via organizational commitment. This is a product of the exclusion of the direct pathway from satisfaction to retention in order to maintain one degree of freedom in the model for analysis purposes. If this pathway were included (which theory and prior research would support), a non-significant direct effect would be obtained and a concomitant increase in the total effect would be observed. Since the effect of satisfaction is already significant, inclusion of the direct pathway would only serve to strengthen (not mitigate or reverse) this finding.

The total effect of level of contact with CIVMARs failed to reach significance. The fact that the indirect (.08) and direct (-.17) effects are in opposite directions contributes to this non-significant finding because their effects are canceling each other out in large measure. The positive value of the indirect effect of level of contact with CIVMARs is due to its significant positive relationship with social comparisons that then impacts retention intentions through the significant chain of pathways leading through

satisfaction and commitment. The failure of the level of contact with CIVMARs variable

to reach significance directly, indirectly, or in combination suggests that exposure to

CIVMARs is not contributing substantially to the sailors leanings toward or away from

continued service in the Navy.

The civilian mariners' path model with estimated path coefficients is presented in

Figure 4.3. These path coefficients indicate that social comparisons do not explain a

significant amount of variance in retention intentions directly. Further, coefficients

between social comparisons and both satisfaction and commitment also fail to reach

significance. These findings do not correspond with the relationships anticipated in the

conceptual model and suggest that CIVMARs' comparisons with their military co-

Figure 4.3 CIVMARs' Path Model with Estimated Path Coefficients

* p < .05

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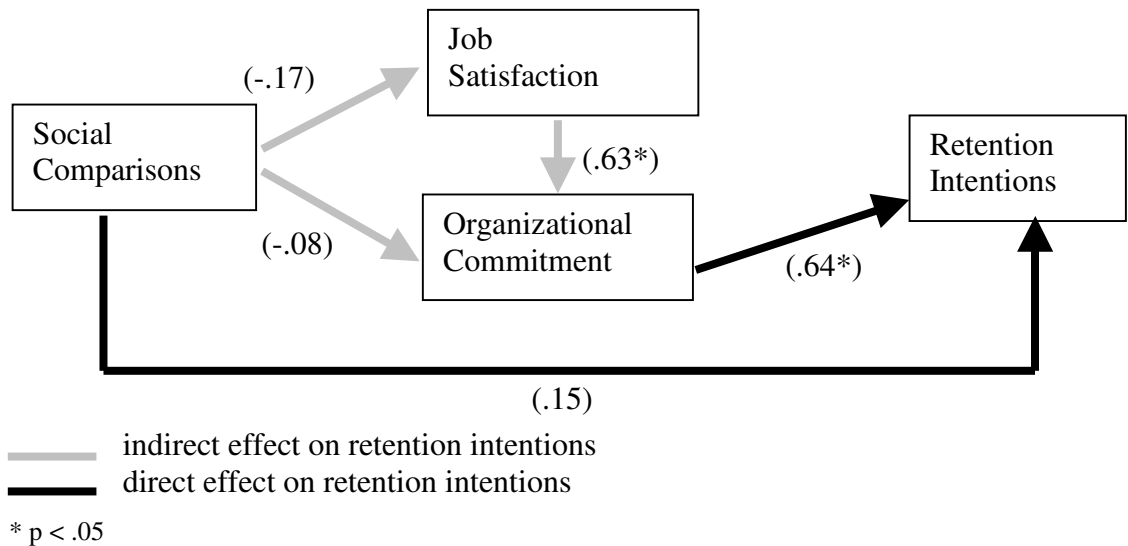
workers affect neither their satisfaction, their commitment, nor their intentions to remain with MSC.[13]

The significant and positive path coefficients between satisfaction and commitment, and commitment and retention intentions, are consistent with hypothesized expectations and prior research. Greater satisfaction with work leads to stronger commitment to the organization, which leads to an increased likelihood of choosing to stay with the organization.

Table 4.16 presents the indirect, direct and total path effects for the CIVMARs retention model. Significant effects are observed for two of the three predictor variables: job satisfaction and organizational commitment. There is a huge range in total effects across the three independent variables, from a low of .04 (not significant) for social comparisons to a high of .64 ($p < .05$) for organizational commitment. The significant total effect of organizational commitment is due entirely to its direct effect since, again, there are no indirect pathways specified from commitment to retention intentions.

Table 4.16 Total Effects on CIVMARs' Retention Intentions

Independent Variable	Indirect Effects	Direct Effects	Total Effects
Social Comparisons	-0.12	0.15	0.04[a]
Job Satisfaction	0.40*	--	0.40*
Organizational Commitment	--	0.64*	0.64*

N = 64
* $p < .05$
[a] indirect and direct effects do not add to the total effect due to rounding error.

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[13] Possible explanations for this finding, as with others, will be presented in the discussion, Chapter 6.

A significant total effect is also observed for satisfaction on retention intentions. As with the sailors, the CIVMAR model omitted the direct pathway from job satisfaction to retention intentions following exploratory regression analysis to determine an appropriate pathway to sacrifice to gain the degree of freedom necessary to run the model. The regression analysis indicated a non-significant positive coefficient would be observed in the direct effect cell for satisfaction if that pathway were included. Again, this would only strengthen the significant finding already observed.

The finding for the total effect of social comparisons on retention intentions is quite small (.04) and fails to reach significance. Social comparisons do not appear to have any measurable impact on CIVMARs' attitude about whether or not they wish to remain with MSC. This finding is not wholly unexpected given the reduced variability in the CIVMARs' retention intention responses. It is much more difficult to achieve a significant result when the outcome variable has very little variation to explain, especially with a sample of the size used in this study. Even so, the magnitude of the total effects coefficient for social comparisons for CIVMARs (.04) is considerably less than that observed for the sailors (.29). The two groups appear to differ on the effects of social comparisons on retention intentions even when limitations of the samples are taken into account.

Summary of Results

Both sailors and CIVMARs agree that civilians are relatively advantaged compared to military personnel. While both groups are satisfied with their jobs, civilians report being more satisfied than sailors. Sailors express neutral attitudes on organizational commitment to the Navy, whereas CIVMARs commitment to MSC is

significantly greater than neutral. Greater than three quarters of the CIVMARs report

positive intentions to remain with MSC compared to just over a third of the sailors

expressing positive intentions to remain with the Navy. In general, the retention model is

supported among the sailors. For sailors, level of contact with CIVMARs had a

significant positive effect on social comparisons, indicating that the more contact sailors

had with CIVMARs the more favorably they felt they compared with them (an

unexpected finding). Social comparisons have a significant negative impact on

organizational commitment, but only indirectly through satisfaction and commitment.

Neither level of contact with civilians, nor comparisons had a direct effect on expressed

retention intention. The CIVMAR retention model failed to find significant affects of

social comparisons on job satisfaction, organizational commitment, or retention

intentions.

Chapter 5. A Case Study of an Army Combat Aviation Squadron and their Civilian Contractors

Sample

The Army squadron from which the data presented in this chapter were obtained was stationed outside of the continental United States. The civilian contractors who worked with this squadron performed duties that were previously done by uniformed Army personnel. The integration of civilian contractors with this squadron was well established, having been initiated well before any of the current military or civilian personnel arrived on post. The contracting organizations working with the squadron do change over time, however. Last year Coastal Electronics held a contract with the squadron, but was out-bid for the current contract by another company. While none of the Coastal Electronics employees were retained by the new company, it was made clear from interviews with several of the contractors on site that it is not uncommon for contracting companies to change while the personnel doing the work on the ground remain the same.

Response rates

There were a total of 351 soldiers present in the Army squadron during the time of data collection. An additional 35 soldiers assigned to the squadron were not available due to leaves, schools, training, or other temporary duties off-post. Approximately 225 surveys were distributed to the soldiers in the squadron of which 191 were completed and returned. This constituted a response rate of approximately 85 percent. Of the 191 surveys returned by soldiers, 171 or 90% were complete enough for use in analysis (76%

of the approximately 225 surveys distributed). The twenty surveys that were excluded

from analysis for the soldiers were due to item non-response. The 171 soldiers included

in analysis constitute 49% of the 351 soldiers in the squadron physically on post at the

time data were collected.

The soldiers who are included in this analysis are representative of their

proportions in the squadron by gender and marital status, and among junior and senior

enlisted and officer ranks. Warrant officers are under-represented compared to their

proportion in the squadron in this study. They comprise 6.4% of the soldiers surveyed,

but constitute 12.5% of the soldiers in the squadron. Those soldiers most likely to hold

the rank of warrant officer (WO1-CW5) in the squadron are the pilots. It is not surprising

that this group would be under-represented given the extreme training demands placed on

these soldiers.

The total number of civilian contractors working with the Army squadron was 15,

all of whom turned in completed surveys. This represents a 100% response rate. All of

the contractors working with the soldiers are included in the analysis.

Descriptive Statistics of the Squadron's Military and Civilian Personnel

A summary of the social-structural characteristics of the soldiers and civilian

contractors included in this study is presented in Table 5.1. The modal soldier in this

study was a white male of the rank E4 or below, has a high school education, has never

been married, and does not have children. Mean age for soldiers is approximately 26

years of age while for contractors it is significantly higher at almost 40 years of age. As

with the Navy case study, this age difference between groups reflects the contrast

between the relatively bottom heavy age distribution comprising the enlisted ranks in the

Table 5.1 Descriptive Statistics of Soldiers and Civilian Contractors

Variable	Soldiers _f_	Soldiers _%_	Contractors _f_	Contractors _%_	Soldiers mean	Contractors mean
Age					25.85	39.93
Years in service					5.03	-
Years left in service					3.32	-
Number of children (mode = 0)		(mode = 1, 2)			0.64	1.20
Gender						
men	157	91.8	15	100.0		
women	14	8.2	0	0.0		
Education						
high school (orGED)	117	68.4	5	33.3		
associates	30	17.5	4	26.7		
bachelors	20	11.7	5	33.3		
masters	4	2.3	1	6.7		
Marital Status						
never married	78	45.6	1	6.7		
married	76	44.4	11	73.3		
separated/divorced	17	9.9	3	20.0		
Rank/Pay Grade						
E1-E4	100	58.5	-	-		
E5-E9	47	27.5	-	-		
WO1-CW3	11	6.4	-	-		
O1-O6	13	7.6	-	-		
Race						
white	113	66.1	9	60.0		
black	18	10.5	5	33.3		
Asian	12	7.0	1	6.7		
other	28	16.4	0	0.0		
	N=171		N=15			

squadron's military personnel compared to the seniority of those hired by the contracting agencies. Indeed, all of the civilian contractors working with the squadron are prior military – though not all served a full 20-year career. The average soldier has been in uniform for five years and has an additional three and a quarter years of service

obligations remaining. Data were not collected on the tenure of civilian contract personnel with their respective organizations.

All fifteen contractors working with the squadron were male, whereas women comprise 8.2% of soldiers in the squadron. In addition to being older and all male, the civilian contractors are more likely to have higher education, be married, and have children than their military counterparts, all of which are characteristics that are to be expected with their higher mean age relative to the soldiers. Proportionally, the civilian contractors have more blacks in their ranks than do the soldiers in the squadron. None of the contractors self-identified as being of a race that fell in the catch-all category "other" which includes a number of discrete categories and the multi-racial identification. Conversely, one in six soldiers self-identified with a racial group falling in the "other" category.

A few words should be said about how the soldiers in this squadron are likely to compare to soldiers in the Army generally. Since this is a case study of a combat aviation squadron the soldiers in the study are, on average, older and more senior ranking than soldiers in an average battalion-size unit in the Army. This is driven by the greater number of high-tech specialties that require more schooling, and the presence of 45 warrant officers who typically spend their careers specializing in their highly technical specialties – mostly aviation pilot in this case. Since age and rank tend to be correlated with education, marriage, and presence of children, this sample is also likely to be better educated and more likely to be married and have children than the soldiers Army-wide. Finally, the squadron being studied is a combat squadron, which restricts the number of specialties open to women. As a result, women are under-represented in the squadron compared to women in the Army generally (Segal and Segal 2004).

Control Variables

Path analysis and correlation analysis were conducted controlling for several variables that have been shown to affect retention. Table 5.2 displays the frequency distribution of soldiers' responses to the question asking how much confidence they had in obtaining a job in the civilian labor market. Nearly 90% said they were either confident or very confident they could find a job in the civilian work force. This is an indication that these soldiers' subjectively feel they have viable civilian alternatives to military service.[14] As noted in the previous chapter, this measure does not specify whether the alternatives these soldiers are referencing are more attractive or whether they are simply alternatives but not necessarily any better than military service.

Table 5.2 Frequency Distribution of Confidence in Ability to Obtain Civilian Employment among Army Personnel

Confidence in finding civilian job	*f*	*%*
not at all confident	1	0.6
not very confident	17	9.9
confident	55	32.2
very confident	98	57.3
Total	171	100.0

Frequency distributions of soldiers' and contractors' geographic mobility and family separations are presented in Table 5.3. These data indicate that fewer than one third of the soldiers have moved their family more than once. The fact that this number is not higher is a reflection of the proportion of soldiers in the sample who are unmarried

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[14] As a group, sailors report being somewhat less confident than sailors in their ability to find a job in the civilian economy. This may be a reflection of the poor state of the U.S. airline industry at present.

and/or at their first duty station. By contrast, over half of the contractors state that they

have relocated their families multiple times as a result of their work as a civilian

contractor.

**Table 5.3 Distribution of Geographic Mobility and Family Separation Variables
for Soldiers and Civilian Contractors**

Variable	Soldiers		Civilian Contractors	
	f	*%*	*f*	*%*
Number of relocations with family in career				
Not applicable	55	32.2	1	6.7
0	52	30.4	4	26.7
1	14	8.2	2	13.3
2	9	5.3	2	13.3
3	14	8.2	2	13.3
4	9	5.3	3	20.0
5	6	3.5	1	6.7
6	4	2.3	0	0.0
7	3	1.8	0	0.0
8	3	1.8	0	0.0
9	0	0.0	0	0.0
10 or more	2	1.2	0	0.0
Number of family separations in last 12 months				
0	30	17.5	5	33.3
1	5	2.9	2	13.3
2	10	5.8	0	0.0
3	10	5.8	1	6.7
4	17	9.9	0	0.0
5	11	6.4	1	6.7
6 or more	88	51.5	6	40.0
Duration of family separations in last 12 months				
< 1 month	75	43.9	10	66.7
1 to <3 months	58	33.9	2	13.3
3 to <5 months	25	14.6	0	0.0
5 to <7 months	2	1.2	1	6.7
7 to <10 months	0	0.0	0	0.0
10 to 12 months	11	6.4	2	13.3
	N=171		N=15	

Number of moves must be considered in the context of unaccompanied tours of

duty since the squadron is based on an overseas post that requires command sponsorship

in order to bring one's family. Command sponsorship is rare for this post and as a rule it

is reserved for senior officers and NCOs. Though rare, soldiers who are not command

sponsored have brought their families with them, but they live off-post and are solely the

responsibility of the soldier (e.g., receive no housing subsidies or tuition for children's school).

Number and duration of family separations capture a major stressor of military (and civilian contractor) employment. This variable includes separations due to unaccompanied tours, training, field exercises, and deployments. The most striking result presented in Table 5.3 for number of family separations is that the civilian contractors are nearly twice as likely as the soldiers to report zero separations from their family in the past 12 months. This, again, is a function of the squadron being located on a base that requires command sponsorship to bring one's family. Conversely, the civilians are more likely to relocate their families to be with them as part of their contract negotiation, or to leverage their larger salaries to pay out of pocket for their family's relocation.

Another factor that appears to be affecting the lower rate of family separation among contractors is that several of them are married to women from the area. Thus, they already have their family with them. One contractor related that he has worked for multiple contract organizations at this same post – placing a higher priority on geography over any particular employer.

Duration of family separations is higher among soldiers than contractors. Average length of time apart from one's family was between one and three months out of the last 12 months for Army personnel, but less than one month in the last year for contractors. The proportion of contractors identifying the longest duration of family separation (10 to 12 months) was more than twice that of soldiers. This difference may be attributable to the relative stability of contractors versus the short tours of duty experienced by military personnel at this post – typically one year.

Model Variables

The path analysis model used to analyze the soldier data is identical to that used for the Sailors in Chapter 4. The two predictor variables related to civilian contractors are the level of contact soldiers have with contractors and their social comparisons with contractors. These civilianization variables affect the dependent variable, retention intentions directly, as well as indirectly through job satisfaction and organizational commitment.

The model for civilian contractors deviates only slightly from that used for soldiers. Consistent with the model used for CIVMARs in Chapter 4, a variable measuring the level of contact contractors have with soldiers is not included. This question was not included in the contractors' surveys. Even so, all contractors work with soldiers on a daily basis in this squadron, making contact with soldiers a constant for the group of contractors.

Level of Contact with Contractors

Over a third of the soldiers surveyed indicated that they work with contractors on a daily basis while only one in eight reported no contact at all with civilian contractors (Table 5.4). A majority (55.6%) of soldiers stated they work with contractors at least several times a week. The high percentage of soldiers who work with civilian contractors on a regular basis is a clear indication of the central roles that the contractors play in the mission of the squadron. As noted earlier, the squadron could not function effectively without the civilian contractors.

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Table 5.4 Soldiers' Level of Contact with Contractors

Level of Contact	f	$\%$
daily	66	38.6
several times a week	29	17.0
about once a week	17	9.9
about once every couple of weeks	14	8.2
about once a month	6	3.5
less than once a month	12	7.0
never	27	15.8
Total	171	100.0

Social Comparisons

Social comparisons are a subjective assessment of how one stacks-up to a particular individual or group of people in one's reference group. Soldiers were asked to compare themselves to the civilian contractors, assuming comparable duties, across numerous job characteristics. Similarly, contractors were asked to compare themselves to soldiers performing similar duties using the same job-related items. A Likert-style scale was used for response categories such that 1 = "much greater for myself" and 5 = "much greater for [other group]."[15] A neutral midpoint was included. Two separate tests of sample means were conducted for each of the items in the social comparison scale. The first tested the mean of each item in both groups against the neutral midpoint of the scale. This t-test determines whether the groups feel relatively advantaged or relatively deprived on each item. The second analysis tested the means of the two groups against one another. This set of t-tests identified those items for which one group felt significantly

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[15] The items risk, negative impacts on family, and hours worked per day have been reverse coded. The values presented in Tables 5.5 and 5.6 align with the other items; higher values mean greater impact on the respondent in comparison to their "other" group.

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more advantaged (or deprived) compared to the other group. Both sets of t-tests were also performed on the scale means for each group.

Table 5.5 presents the mean for each item in the social comparison scale and the deviation of each mean item mean from the neutral midpoint (3.0) of the scale. Positive values in the columns for the deviation from the midpoint indicate that the group feels advantaged on that item relative to the other group. Negative values indicate the group feels relatively deprived on that item by comparison.

Table 5.5 Soldiers' and Contractors' Social Comparison Item Means Tested Against Neutral Midpoint of Scale

social comparison item	neutral midpoint	Soldiers		Contractors	
		mean	deviation from midpoint	mean	deviation from midpoint
Pay	3	1.57	-1.43***	4.20	1.20***
Benefits	3	3.10	0.1	2.47	-0.53
Risk of personal injury (R)	3	2.17	-0.83***	3.27	0.27
Autonomy	3	2.20	-0.80***	3.60	0.60*
Task variety	3	2.95	-0.05	3.33	0.33
Promotion opportunities based on merit	3	2.96	-0.04	2.47	-0.53
Quality leaders in organization	3	2.91	-0.09	3.20	0.20
Negative impacts on family (R)	3	1.94	-1.06***	3.20	0.2
Satisfying relations w. peers	3	2.94	-0.06	3.27	0.27
Ability to negotiate contract	3	1.66	-1.34***	3.80	0.80*
Degree to which organization cares for its employees	3	2.57	-0.43***	2.60	-0.40
Feeling of accomplishment from work	3	3.07	0.07	3.33	0.33
Feeling that one's work contributes to society	3	3.13	0.13**	3.13	0.13
Leadership support in facilitating task completion	3	2.94	-0.06	3.20	0.20
Hours worked per day (R)	3	1.74	-1.26***	2.67	-0.33
Total Scale Score	3	2.53	-0.47***	3.18	0.18*

* p < .05   N=171   N=15
** p < .01
*** p < .001

The t-tests comparing both groups' item means to the neutral midpoint (3.0) revealed similarities and differences between the two groups. Civilian contractors identified themselves as significantly advantaged relative to soldiers on pay (4.20), autonomy (3.60), and the ability to negotiate one's contract (3.80). Contractors did not identify any comparison items as favoring the soldiers.

Soldiers felt they compared negatively to contractors on seven of the fifteen scale items. Soldiers agreed with civilian contractors that those in uniform are relatively deprived compared to contractors in terms of pay (1.57), autonomy (2.20), and the ability to negotiate their employment contract (1.66). Soldiers identified four additional items for which they feel relatively deprived compared to contractors: risk of personal injury (2.17), negative impacts on family (1.94), the degree to which the organization takes care of its employees (2.57), and the time spent working per day (1.74). Contractors' mean scores indicate they felt both groups were equivalent on these four items. The lone job characteristic on which soldiers stated feeling relatively advantaged compared to their contractor co-workers was the feeling that one's work makes a contribution to society (3.13). Again, contractors did not indicate either group having a significant advantage on this item. Contractors' mean for this item is exactly equal to the soldiers' mean, but the very small sample size for contractors requires greater deviation from the midpoint to reach significance.

Seven of the job characteristics were judged by both military and civilian personnel to be essentially similar. The items that both groups agreed were about equal for military and civilian contract personnel (that is, means were not significantly different from neutral) were benefits, task variety, chances for promotion in one's organization, quality of leaders in the organization, satisfying relationships with co-workers, gaining a

feeling of accomplishment in one's work, and the feeling of leadership support in facilitating completion of job tasks. Taken together, the results indicate that while a few differences are observed, there are more points of commonality in the social comparisons between soldiers and civilian contractors.[16]

Overall, soldiers' mean social comparison scale score (2.53) is significantly lower than the scale's neutral midpoint. This indicates the soldiers feel relatively deprived in relation to contractors. Conversely, the civilian contractors' mean social comparison scale score (3.18) is significantly above the midpoint of the scale, suggesting they feel advantaged in comparison to the soldiers with whom they work. These findings provide evidence that both groups agree that on average soldiers are relatively deprived compared to contractors when considering numerous highly salient job characteristics.

A second analysis of the social comparison scale items examined the difference in means between soldiers and civilian contractors on each of the job characteristic items. Table 5.6 presents data on the means and standard deviations for both groups on each of the 15 social comparison items. As before, lower scores indicate increased relative deprivation and higher scores correspond to feelings of relative advantage.

When soldiers' mean social comparison item scores are tested against civilian contractors' mean item scores seven items reach significance at the $p < 0.05$ level. The difference in means between groups on pay, autonomy, and the ability to negotiate terms of employment are consistent with the prior finding that both groups felt contractors had the advantage on these items. Significant differences in group means are also observed

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[16] The lower number of items reaching significance for contractors may be due the fact that all the contractors are prior military and they know life from both sides of the aisle. This difference in insight may account for some of the expressed differences between groups.

for risk of personal injury, negative impacts on family, and hours worked per day, driven

by the magnitude of the soldiers' responses, as observed in Table 5.5 above.

Table 5.6 Tests of Mean Social Comparison Item Means for Soldiers and Civilian Contractors

Social Comparison Item	Soldiers			Civilian Contractors		
	Mean	SD	N[17]	Mean	SD	N
Pay	1.57**	0.74	168	4.20**	0.68	15
Benefits	3.10*	1.01	168	2.47*	1.41	15
Risk of personal injury (R)	2.17**	0.90	171	3.27**	0.59	15
Autonomy	2.26**	0.89	171	3.60**	0.83	15
Task variety	2.95	1.02	171	3.33	1.11	15
Promotion opportunities based on merit	2.96	1.03	170	2.47	1.19	15
Quality leaders in organization	2.91	0.98	171	3.20	0.56	15
Negative impacts on family (R)	1.94**	0.97	171	3.20**	1.08	15
Satisfying relations w. peers	2.94	0.73	171	3.27	0.59	15
Ability to negotiate contract	1.66**	0.76	169	3.80**	1.21	15
Degree to which organization cares for its employees	2.57	1.01	170	2.60	0.91	15
Feeling of accomplishment from work	3.07	0.80	171	3.33	0.82	15
Feeling that one's work contributes to society	3.13	0.72	171	3.13	0.52	15
Leadership support in facilitating task completion	2.94	0.85	171	3.20	0.68	15
Hours worked per day (R)	1.74**	0.96	171	2.67**	1.29	15
Total Scale Score	2.53***	0.41	171	3.18***	0.32	15

* p < .05
** p < .01
*** p < .001

Previously, when mean scores on the benefits item were compared to the neutral

midpoint it failed to reach significance for either group (Table 5.5). When the benefits

item is compared between groups rather than against the midpoint a significant difference

is observed (Table 5.6). This difference is due to the fact that the groups' means deviated

from the midpoint in opposite directions. The benefits item was the only social

comparison item to reach significance in favor of the soldiers over the contractors.

Eight of the fifteen social comparison items failed to reach significance in a test comparing their mean scores between groups (Table 5.6). Six of these items are consistent with those items in Table 5.5 that did not show significant results: task variety, promotional chances in the organization, quality of leaders, satisfying relationships with peers, feeling of accomplishment through work, and leadership support facilitating task completion.

The two remaining items, degree to which the organization takes care of its employees and feeling that one's work makes a contribution to society, had significant negative deviations for soldiers when tested against the neutral midpoint of the scale. That is, soldiers felt civilian contractors fared much better than did soldiers on these items. However, when the groups' means for these items are compared directly with each other on these items they fail to reach significance. This is because for both items the two groups deviate from the neutral midpoint in the same direction and in essentially similar magnitudes. Soldiers and contractors have means of 2.57 and 2.60 respectively on the item asking about the degree to which the organization cares for its employees. The two groups have identical means, 3.13, on the item asking about feeling that one's job makes a contribution to society. Soldiers and contractors feel that both groups' jobs allow them to contribute to society about equally.

These results indicate that perceptions of military versus contractor personnel differ significantly on nearly half of the scale items. For almost all items that achieve significance the contractors have a relative advantage over soldiers. The one exception is

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[17] Respondents were included in analysis if they provided valid answers for at least 14 of the 15 scale items.

the benefits item, on which both groups see soldiers having the advantage. The high level of agreement on the individual items is striking, indicating that both groups agree that soldiers are less well-off compared to their civilian co-workers.

The difference in social comparison scale means between soldiers' (2.57) and civilian contractors' (3.18) is significant at the $p < .001$ level. Further, soldiers feel they compare negatively to contractors (their mean falls above the scale midpoint), and the contractors feel they compare positively to soldiers (their mean falls below the midpoint).

Job Satisfaction

Response categories for the job satisfaction scale items ranged from 1 = "very dissatisfied" to 5 = "very satisfied." Satisfaction data were analyzed in the same manner as those in the social comparison scale. Initial analysis examined differences in mean scores from the neutral midpoint (3.0) of the scale to identify those items that are viewed as satisfactory or dissatisfactory by each group. A second analysis tested the mean of each item between groups to determine whether there is a significant difference between soldiers and contractors in their expressed (dis)satisfaction on the items.

Results for civilian contractors show 17 of 24 job characteristics are significantly different from the neutral midpoint, though only four have means ≥ 4.00 (Table 5.7). The items that have the highest mean values are being able to keep busy all the time (4.07), the competence of my supervisor in making decisions (3.93), being able to do things that don't go against my conscience (3.93), the way my job provides for steady employment (3.93), the chance to do something that uses my abilities (4.00), the amount of work I do (4.13), and the feeling of accomplishment I get from doing my job (4.20). All 17

Figure 5.7 Soldiers' and Contractors' Job Satisfaction Item Means Tested Against Neutral Midpoint of Scale

job satisfaction item	Neutral Midpoint	Soldiers		Contractors	
		mean	deviation from midpoint	mean	deviation from midpoint
Being able to keep busy all the time	3.0	3.71	0.71***	4.07	1.07***
The chance to work alone on the job	3.0	3.34	0.34***	3.80	0.80***
The chance to do different things from time to time	3.0	3.61	0.61***	3.60	0.60*
The chance to be "somebody" in the community	3.0	3.39	0.39***	3.20	0.20
The way my supervisor handles his/her men and women	3.0	3.36	0.36***	3.67	0.67*
The competence of my supervisor in making decisions	3.0	3.35	0.35***	3.93	0.93**
Being able to do things that don't go against my conscience	3.0	3.64	0.64***	3.93	0.93***
The way my job provides for steady employment	3.0	4.15	1.15***	3.93	0.93***
The chance to do things for other people	3.0	3.94	0.94***	3.80	0.80**
The chance to tell people what to do	3.0	3.36	0.36***	3.20	0.20
The chance to do something that makes use of my abilities	3.0	3.80	0.80***	4.00	1.00***
The way the Army's/organization's policies are put into practice	3.0	2.71	-0.29***	3.33	0.33
My pay	3.0	2.88	-0.12	3.60	0.60*
The kind of work that I do	3.0	3.36	0.36***	3.67	0.67**
The amount of work that I do	3.0	3.87	0.87***	4.13	1.13***
The chances for advancement on this job	3.0	3.32	0.32***	3.27	0.27
The freedom to use my own judgment	3.0	3.23	0.23**	3.67	0.67
The chance to try my own methods of doing the job	3.0	3.41	0.41***	3.60	0.60
The working conditions	3.0	3.12	0.12	3.47	0.47*
The way my co-workers get along with each other	3.0	3.73	0.73***	3.53	0.53*
The praise I get for doing a good job	3.0	2.99	-0.01	3.27	0.27
The feeling of accomplishment I get from doing my job	3.0	3.70	0.70***	4.20	1.20***
The support I get from my co-workers	3.0	3.57	0.57***	3.73	0.73*
The support I get from my supervisors	3.0	3.21	0.21**	3.73	0.73**
Total Scale Score	3.0	3.45	0.45***	3.68	0.68***

*p < .05

** p < .01

***p < .001

statistically significant items for the civilian contractors deviate from the midpoint in the positive direction, indicating they are satisfied with these aspects of their job.

Soldiers' results indicate that all but three of the job characteristics deviate significantly from the neutral midpoint. Interestingly the items that do not differ from neutral are pay, working conditions, and receiving praise for doing a good job. By comparison, the contractors' means for pay and working conditions were positive and significant. Of the 21 characteristics that reached significance, soldiers were satisfied with 20 and dissatisfied with only one. The sole item for which soldiers expressed a statistically significant dissatisfaction was the way the Army's policies are put into practice (2.71). This item was not significant for contractors. Soldiers' mean satisfaction scores were highest for having a job that provides steady employment (4.15), the chance to do things for other people (3.94), and the amount of work they perform (3.87).

Comparison of mean scores on satisfaction items between soldiers and contractors identified few differences in satisfaction between groups (Table 5.8). Soldiers and contractors expressed differences in satisfaction on only two items: pay and the way their employing organization's policies are put into place. For both items, the soldiers' mean scores are below the neutral midpoint suggesting dissatisfaction (though only significant for implementing policies) while the contractors' mean scores are above the neutral midpoint suggesting satisfaction (but only significant for pay). For all other items in the satisfaction scale both groups are neutral or positive, but in essentially the same magnitude relative to each other. On average, both groups are satisfied with their jobs. Means for the satisfaction scale are 3.45 and 3.68 for the soldiers and contractors, respectively. This difference in mean satisfaction scores is not statistically significant.

Table 5.8 Tests of Mean Job Satisfaction Item Means for Soldiers and Civilian Contractors

Job Satisfaction Item	Soldiers			Civilian Contractors		
	Mean	SD	N	Mean	SD	N
Being able to keep busy all the time	3.71	1.01	170	4.07	0.80	15
The chance to work alone on the job	3.34	0.97	171	3.80	0.78	15
The chance to do different things from time to time	3.61	1.14	171	3.60	0.99	15
The chance to be "somebody" in the community	3.39	1.20	171	3.20	0.68	15
The way my supervisor handles his/her men and women	3.36	1.28	171	3.67	1.11	15
The competence of my supervisor in making decisions	3.35	1.23	171	3.93	1.03	15
Being able to do things that don't go against my conscience	3.64	1.05	171	3.93	0.59	15
The way my job provides for steady employment	4.15	0.83	171	3.93	0.48	14
The chance to do things for other people	3.94	0.92	171	3.80	0.86	15
The chance to tell people what to do	3.36	1.00	171	3.20	1.01	15
The chance to do something that makes use of my abilities	3.80	1.06	171	4.00	0.85	15
The way the Army's/organization's policies are put into practice	2.71*	1.08	171	3.33*	0.62	15
My pay	2.88*	1.21	171	3.60*	0.91	15
The kind of work that I do	3.36	1.09	171	3.67	0.82	15
The amount of work that I do	3.87	1.06	171	4.13	0.83	15
The chances for advancement on this job	3.32	1.15	171	3.27	0.80	15
The freedom to use my own judgment	3.23	1.23	171	3.67	1.23	15
The chance to try my own methods of doing the job	3.41	1.13	171	3.60	1.18	15
The working conditions	3.12	1.09	169	3.47	0.83	15
The way my co-workers get along with each other	3.73	0.90	171	3.53	0.83	15
The praise I get for doing a good job	2.99	1.18	171	3.27	1.16	15
The feeling of accomplishment I get from doing my job	3.70	1.11	171	4.20	1.01	15
The support I get from my co-workers	3.57	1.01	171	3.73	1.03	15
The support I get from my supervisors	3.21	1.20	171	3.73	0.96	15
Total Scale Score	3.45	0.69	171	3.68	0.60	15

*$p < .05$

Organizational Commitment

Table 5.9 displays the individual item and overall means for the organizational commitment scale. On this scale the lowest value was 1 = "disagree strongly" and the highest value was 7 = "agree strongly." Since this scale has seven discrete units, the neutral midpoint is four. Consistent with the analyses of the two prior scales, the organizational commitment scale item means were initially tested against the neutral midpoint of the scale, followed by tests of item means between groups.

When tested against the neutral midpoint of the scale civilian contractors' item means were significant for being willing to put forth a great deal of effort to help the organization be successful (6.07), talking up the organization to friends as a great place to work (5.47), feeling very little loyalty to the organization (reverse coded, 5.20), being proud to tell others they are members of the organization (5.60), being inspired to do their best by the organization (5.00), and feeling as though the decision to work for the organization was a definite mistake (reverse coded, 5.73). Contractors did not have significant negative results for any of the individual item means in the commitment scale.

Results of soldiers' mean item scores indicate that all but one item deviated significantly from the neutral midpoint. The difference in the amount of significant findings between groups is a function of the small sample size for civilian contractors, which makes it more difficult to achieve significant results. Three of the significant items for soldiers deviate in the negative direction: I would accept almost any job assignment to keep working for the Army (2.71), I could just as well be working for another organization as long as the work was similar (reverse coded, 3.52), and often, I find it difficult to agree with the Army's policies on important matters relating to its personnel (reverse coded, 3.26). The first two of these negative findings indicate that soldiers have

Figure 5.9 Soldiers' and Contractors' Organizational Commitment Item Means Tested Against Neutral Midpoint of Scale

organizational commitment item	neutral midpoint	Soldiers		Contractors	
		mean	deviation from midpoint	mean	deviation from midpoint
I am willing to extend great deal of effort to help Army/organization be successful	4.0	5.83	1.83***	6.07	2.07***
I talk up the Arm/organization to my friends as a great organization to work for	4.0	4.70	0.70***	5.47	1.47***
I feel very little loyalty to the Army/my organization (R)	4.0	5.35	1.35***	5.20	1.20*
I would accept almost any job assignment to keep working for the Army/organization	4.0	2.71	-1.29***	3.60	-0.40
I find that my values and those of the Army/organization are very similar	4.0	5.39	1.39***	4.60	0.60
I am proud to tell others that I serve in the Army/work for this organization	4.0	6.09	2.09***	5.60	1.60***
I could just as well be working for a different organization as long as the work was similar (R)	4.0	3.52	-0.48***	3.47	-0.53
The Army/organization really inspires the very best in me in the way of job performance	4.0	4.70	0.70***	5.00	1.00**
It would take very little change in my present circumstances to cause me to leave the Army/ organization (R)	4.0	4.32	0.32*	4.73	0.73
I am extremely glad that I chose to work for the Army/this organization over other alternatives I was considering at the time I joined	4.0	4.69	0.69***	4.53	0.53
There's not too much to be gained by sticking with the Army/this organization for a career (R)	4.0	4.86	0.86***	4.47	0.47
Often, I find it difficult to agree with the Army's/this organization's policies on important matters relating to its personnel (R)	4.0	3.26	-0.74***	4.20	0.20
I really care about the fate of the Army/this organization	4.0	5.48	1.48***	4.73	0.73
For me the Army/this organization is the best of all possible organizations to work for	4.0	3.89	-0.11	4.53	0.53
Deciding to work for the Army/this organization was a definite mistake on my part (R)	4.0	5.26	1.26***	5.73	1.73***
Total Scale Score	4.0	4.67	0.97***	4.80	0.96**

(R) item reverse coded
* p < .05
** p < .01
*** p < .001

strong ties to their occupational specialties. (These items were not significant for

contractors.) The third negative finding indicates soldiers have negative evaluations of

the Army's personnel policies. However, the data do not capture any further detail on

which specific manpower policies the soldiers consider problematic. This finding is

consistent with the finding of dissatisfaction among soldiers regarding the way the Army's policies are put into practice.

On the positive side, soldiers are most agreeable that they are willing to put forth a great deal of effort to help the Army be successful (5.83), that they are proud to tell others they are a soldier (6.09), and that they really care about the fate of the Army (5.48). Neither group had significant results for the item stating that their organization was the best of all possible employers for whom to work.

Overall means for the organizational commitment scale indicate that soldiers (4.67) and contractors (4.80) express commitment to their respective employers above the neutral midpoint (4.0). Soldiers' organizational commitment appears to be more robust than contractors' commitment if one considers the number of items within the scale that deviate positively and significantly from the neutral midpoint for each group. However, this finding is tempered by the small sample size in the contractor group and by the fact that the soldiers seem more occupationally oriented based on two of the items for which they had significant negative findings.

Similar to the results of the satisfaction scale items, tests of differences between soldiers' and contractors' item means on the organizational commitment scale produced few significant results (Table 5.10). Contractors are significantly more likely than soldiers to agree with their organization's personnel policies. Conversely, soldiers agree more strongly than contractors that their values are similar to those of their employing organization. Finally, while both soldiers and contractors tend to disagree with the statement that they would accept almost any job, soldiers' disagreement is significantly stronger than contractors'.

Table 5.10 Tests of Mean Organizational Commitment Item Scores for Soldiers and Civilian Contractors

Organizational Commitment Item	Soldiers			Civilian Contractors		
	Mean	**SD**	**N**	**Mean**	**SD**	**N**
I am willing to extend great deal of effort to help Army/organization be successful	5.83	1.22	171	6.07	1.22	15
I talk up the Army/organization to my friends as a great organization to work for	4.70	1.62	171	5.47	1.36	15
I feel very little loyalty to the Army/my organization (R)	5.35	1.84	171	5.20	1.94	15
I would accept almost any job assignment to keep working for the Army/organization	2.71*	1.62	170	3.60*	1.68	15
I find that my values and those of the Army/organization are very similar	5.39*	1.44	170	4.60*	1.18	15
I am proud to tell others that I serve in the Army/work for this organization	6.09	1.26	171	5.60	1.06	15
I could just as well be working for a different organization as long as the work was similar (R)	3.52	1.68	171	3.47	1.92	15
The Army/organization really inspires the very best in me in the way of job performance	4.70	1.58	170	5.00	1.13	15
It would take very little change in my present circumstances to cause me to leave the Army/ organization (R)	4.32	1.73	171	4.73	1.75	15
I am extremely glad that I chose to work for the Army/ this organization over other alternatives I was considering at the time I joined	4.69	1.65	170	4.53	1.55	15
There's not too much to be gained by sticking with the Army/this organization for a career (R)	4.86	1.68	170	4.47	1.92	15
Often, I find it difficult to agree with the Army's/this organization's policies on important matters relating to its personnel (R)	3.26*	1.47	171	4.20*	1.70	15
I really care about the fate of the Army/this organization	5.48	1.51	170	4.73	1.91	15
For me the Army/this organization is the best of all possible organizations to work for	3.89	1.71	171	4.53	1.41	15
Deciding to work for the Army/this organization was a definite mistake on my part (R)	5.26	1.78	170	5.73	1.58	15
Total Scale Score	4.67	0.97	171	4.80	0.96	15

(R) item reverse coded
*$p < .05$

As noted earlier, both groups' organizational commitment scale means were significantly higher than the neutral midpoint, which indicates commitment to their respective employers. However, the test of significance *between* the scale means of the two groups failed to reach significance, indicating that they have essentially equivalent levels of commitment to their respective organizations.

Retention Intentions

The dependent variable in the model for this study is retention intentions. This variable is measured on a five-point Likert scale from 1 = "planning to leave" to 5 = "planning to stay," with a neutral midpoint. Figure 5.1 shows that soldiers are about equally split between those who are leaning toward or planning to stay (45%) and those leaning toward or planning to leave the Army (35.1%). Conversely, civilian contractors report intentions to remain with their current employer in much greater proportion (80%) than those leaning toward or planning to leave (20%). These results are similar to those obtained from the Navy-CIVMAR sample where approximately 80% of CIVMARs reported leaning toward or planning to remain with Military Sealift Command.

Figure 5.1 Percent Frequency Distribution of Soldiers' and Civilian Contractors' Retention Intentions

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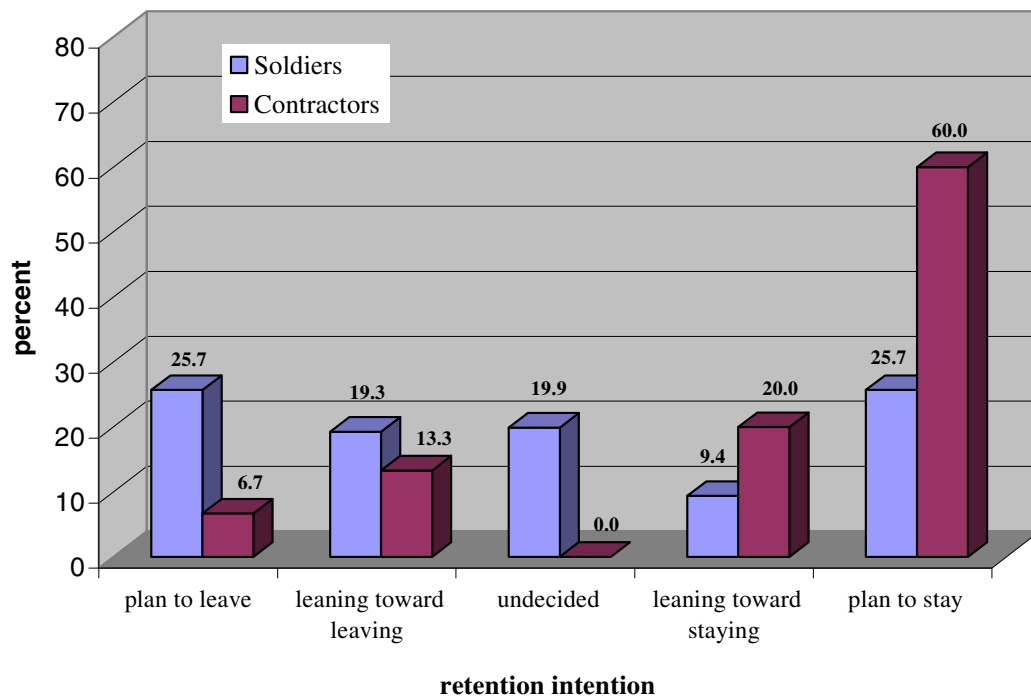
The two groups show a difference in the proportion who are unsure about whether

or not they will remain with their current employers. One in five soldiers reported being

undecided about their future with the Army, whereas all of the contractors placed

themselves to one side or the other of the continuum. A test of mean retention intentions

between soldiers (mean 2.90, s.d. 1.53) and civilian contractors (mean 4.13, s.d. 1.36)

was significant at the $p < .01$ level. Contractors' intentions to remain with their

organizations are significantly higher than soldiers' intentions to remain with the Army.

Path Analysis

Reliability and Correlation Statistics for Variables in Soldiers' Path Model

Reliability estimates and correlations between the variables in the soldiers' path

model are presented in Table 5.11. The correlations presented in Table 5.11 are partial

correlations, controlling for level of confidence in finding civilian employment, age, sex,

marital status, number of dependent children, race, education, rank, number of

relocations, number and length of family separations in past 12 months, time in service,

Table 5.11 Estimates of Internal Consistency and Correlations among Model Variables for Soldiers

Measure	alpha[†]	Intercorrelations[a]				
		1	**2**	**3**	**4**	**5**
1. Contact with Contractors	--	1.00				
2. Social Comparisons	0.74	0.07	1.00			
3. Job Satisfaction	0.93	0.11	0.47***	1.00		
4. Organizational Commitment	0.88	0.12	0.48***	0.69***	1.00	
5. Retention Intention	--	0.13	0.24**	0.28***	0.48***	1.00

N = 171
[a] Correlation values are partial correlations; [†] standardized Cronbach's alpha
** $p < .01$
*** $p < .001$

and time remaining in service obligation. Standardized reliability estimates for soldiers'

social comparison, job satisfaction, and organizational commitment scales are all strong,

indicating the scales have good internal consistency.

The social comparison variable is significantly and positively correlated to each of

the other model variables except level of contact with contractors. This indicates that for

soldiers more positive social comparisons with contractors are associated with increases

in satisfaction, commitment, and intentions to remain in the Army. Satisfaction,

commitment, and retention intentions are significantly and positively correlated with each

other; increases in one correspond to increases in the other two. Level of contact with

contractors was not related to any of the other model variables.

Soldiers' Path Model

A summary of the fit statistics for the model is presented in Table 5.12. The fit of

the independence model, a model where the variables are completely unrelated, yielded a

chi-square of 214.78; significant at the $p < .05$ level. In contrast, the model proposed for

this analysis produced a non-significant chi-square of 1.63. These findings suggest that

the proposed model does a much better job accounting for the variance in retention

intentions than a model where the independent variables are not related. The Bentler-

Bonett normed fit index (NFI) and the comparative fit index (CFI) surpass acceptable fit

levels of .90, lending additional support for the strength of the model (Hoyle & Panter

1995). Further support for this model is provided by Akaike's information criterion

(AIC) and Bozdogan's consistent version of the AIC (CAIC). The chi-square statistic for

the independence model is greater than both the AIC and CAIC values, indicating a

strong fit of data with the model (Bentler 1995).

Table 5.12 Model Fit Indices for Soldiers

Model	df	χ^2	AIC	CAIC	NFI	CFI	RMSEA
Independence Model	10	214.78	194.78	153.37	--	--	--
Proposed Model	1	1.63	-0.37	-4.51	0.99	1.00	0.06

Path analysis was conducted to determine the direct and indirect effects of civilianization on retention intentions of Army personnel. The control measures used in the path analysis include age, race, gender, rank, number of children, highest educational degree attained, confidence in obtaining civilian employment if they left the Army, number of moves made by one's family as a result of military employment in their service career, number of nights spent away form duty station in last 12 months, duration of time away from duty station in last 12 months, and time in service and time left in service (both measured in years and months).

Figure 5.2 displays the retention model tested in this analysis with the standardized, direct path coefficients identified for each pathway. The path coefficients are interpreted in the same manner as multiple regression coefficients. Higher coefficient values indicate that the predictor variable is explaining a greater amount of variance in the outcome variable than lower coefficient values.

Consistent with the path models presented in Chapter 4, the darker arrows leading from contact with contractors and social comparisons indicate the direct effects of the outsourcing variables on retention intentions. The lighter arrows indicate the indirect pathways by which the civilianization variables affect retention intentions. The absence of a pathway leading from job satisfaction to retention intentions is intentional. It was left out to gain the degree of freedom needed to run the model. Results from multiple

Figure 5.2 Soldiers' Path Model with Estimated Path Coefficients
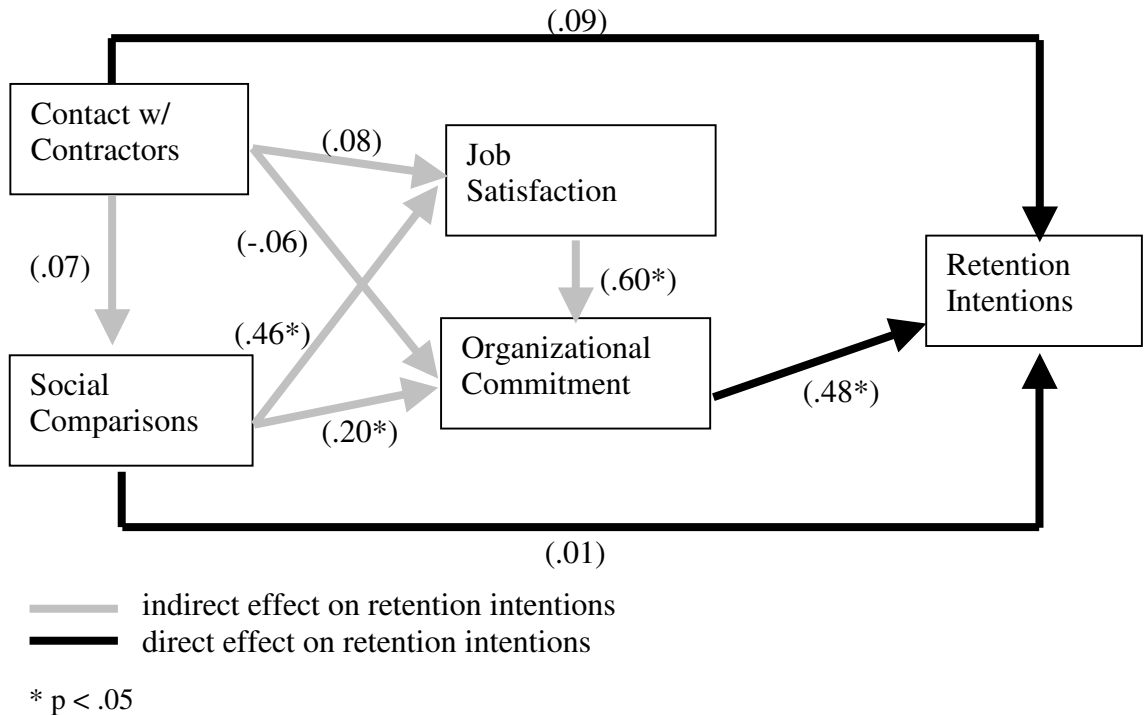
Contact w/ Contractors

Job Satisfaction

Social Comparisons

Organizational Commitment

Retention Intentions

(.09)

(.08)

(-.06)

(.07)

(.46*)

(.60*)

(.20*)

(.48*)

(.01)

indirect effect on retention intentions
direct effect on retention intentions

* p < .05

regression models (not presented here) using the same control variables as the path

analysis showed that job satisfaction did not have a significant direct impact on retention

intentions. Further, when the soldiers' path analysis was rerun including the pathway

from satisfaction to retention and omitting the pathway from contact with contractors to

social comparisons the coefficient failed to reach significance. Regression analysis

indicated that several model variables did not explain a significant amount of variation in

retention intentions. The pathway from job satisfaction to retention intentions was

selected for omission so that all of the pathways related to the civilianization variables

could be retained for heuristic purposes.

Results of the path analysis presented in Figure 5.2 reveal that soldiers' level of

contact with contractors is not significantly related to their social comparisons (.07),

suggesting that it is the mere presence of the contractors in the organization, rather than level of contact with them, that is driving the negative comparisons expressed by the soldiers. Soldiers' level of contact with contractors is not significantly related to satisfaction (.08), commitment (-.06), or retention intentions (.09). Taken together, these results indicate that soldiers' level of contact with contractors does not significantly impact any of the other variables in the model. Further, the direct pathway from social comparisons to retention intentions is near zero and failed to reach significance (.01).

Social comparisons are observed to have a significant influence on both satisfaction (.46) and commitment (.20). Satisfaction with one's job is observed to have a significant effect on organizational commitment (.60), which in turn has a significant effect on retention intentions (.48). All significant coefficients are positive, which is consistent with the conceptual model hypothesized. The more favorably soldiers compare themselves to their civilian contractor co-workers, the greater their job satisfaction and commitment to the Army, and the more likely they are to intend to remain in service.

Table 5.13 presents the direct, indirect, and total effects of the model variables on soldiers' retention intentions. Significant total effects on retention intentions are observed for social comparisons, job satisfaction, and organizational commitment. The

Table 5.13 Total Effects on Soldiers' Retention Intentions

Independent Variable	Indirect Effects	Direct Effects	Total Effects
Contact with Contractors	0.01	0.09	0.10
Social Comparisons	0.23*	0.01	0.24*
Job Satisfaction	0.29*	--	0.29*
Organizational Commitment	--	0.48*	0.48*

N = 171

* p< .05

largest total effect is obtained from the organizational commitment variable (.48) and is

due solely to its direct effect (.48). The total effect for the job satisfaction variable (.29)

is entirely indirect, operating through organizational commitment. Again, this is an

artifact of the decision to omit the direct pathway from satisfaction to retention intention

in the analysis. Were this pathway included, a non-significant direct effect of satisfaction

on retention intentions would be observed, along with a slight increase in the already

significant total effect. The significant total effect (.24) of social comparisons on

retention intentions is due primarily to its indirect effect (.23), operating through job

satisfaction and organizational commitment. The total effect of level of contact with

contractors failed to reach significance. This provides additional support that the impact

of the civilian contractors on the soldiers' retention intentions has more to do with social

comparisons from their mere presence, making them a ready social comparison group,

rather than the extent of soldiers' knowledge or experiences gained through frequent

personal contact with them.

Civilian Contractors' Retention Model

    Reliability estimates for the variables in the civilian contractors' retention model

are presented in Table 5.14. Reliability coefficients are strong for job satisfaction and

organizational commitment, and lower but within acceptable bounds for the social

comparison scale. The reliability coefficient for contractors' social comparisons (.50)

may be depressed due to the sample size. The solid reliability coefficient estimates

obtained for the other three groups provide confidence in the scale in the face of the

reduced alpha coefficient magnitude obtained for this group.

Table 5.14 Civilian Contractors' Estimates of Internal Consistency for Model Variables

Measure	alpha[†]
1. Social Comparisons	0.50
2. Job Satisfaction	0.94
3. Organizational Commitment	0.89
4. Retention Intention	--

N = 15
[†]= standardized Cronbach's alpha

Table 5.15 provides the fit statistics for the civilian contractor model. The model chi-square is larger than the AIC and CAIC, which is one indication of a good model fit for the data. However, the model chi-square is significant which is not a good indication of model fit. Similarly, the NFI (.74) and CFI (.73) estimates are well below the recommended .90 as a strong indication of model fit. Similarly, the RMSEA estimate (.77) is considerably lower than desired. Given the poor results of these fit statistics, in addition to the small sample size, a path analytic model was not run for the civilian contractor group. A larger sample size may aid in boosting fit indices to appropriate levels and would increase confidence in using a path analytic approach.

Table 5.15 Model Fit Indices for Civilian Contractors

Model	df	χ^2	AIC	CAIC	NFI	CFI	RMSEA
Independence Model	6	35.76	23.76	13.51	--	--	--
Proposed Model	1	9.91	7.19	5.48	0.74	0.73	0.77

Multiple regression analysis using the model variables to predict retention intentions and controlling for the same variables used in correlation analysis was attempted. Collinearity tolerance limits for the model were exceeded which precluded computation of the test statistics. The tolerance limit issue is also likely related to the

small sample size. As a result of the limitations of the civilian contractor data, for this

study examination of the relationship between social comparisons and retention

intentions of contractors will be limited to correlation analysis.

As with the CIVMAR model, the retention model for the civilian contractors is

slightly different from their military co-workers' model. Again, the question regarding

level of contact with soldiers was not asked of these respondents. Figure 5.3 presents the

contractors' retention model including the partial correlation coefficients among

variables. The double arrowed lines symbolize the correlation between model variables.

**Figure 5.3 Civilian Contractors' Retention Model with Correlation
Coefficients**
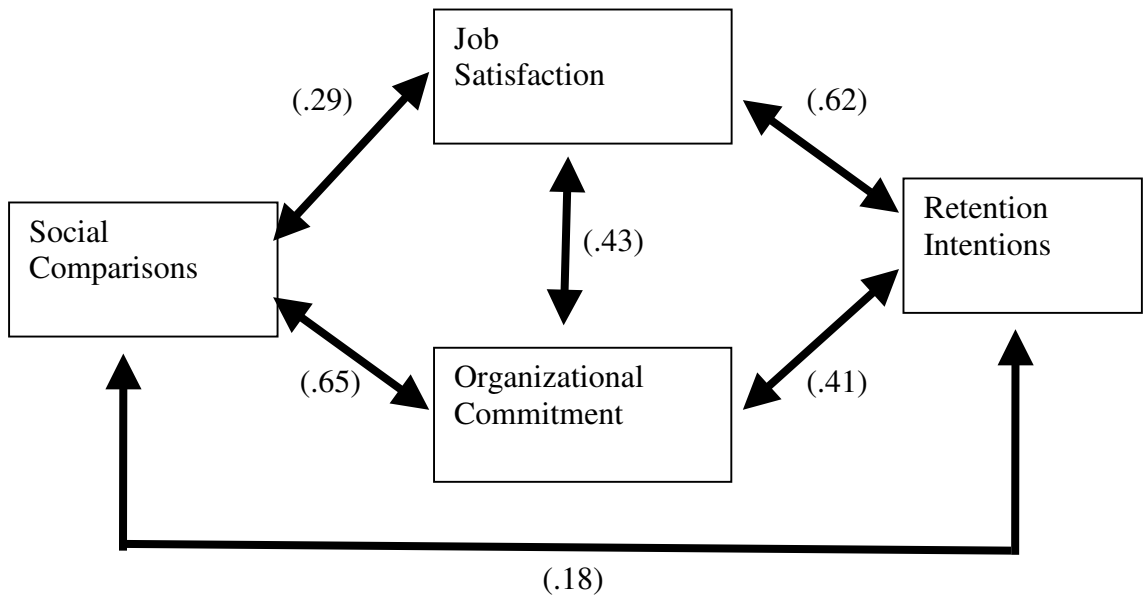
Correlation analysis was conducted using controls for age, race, education, marital

status, number of children, number of moves made due to work, and number and duration

of family separations in the past 12 months. Sex was not included as a control since all

contractors were men. In addition, race, marital status and education were included as

dichotomous variables. This was done because the sample size was not sufficient to control using the same series of dummy variables as was used for the CIVMAR sample. Marital status was divided into married and unmarried, race was split by white and non-white, and education was divided among those with a high school degree (or equivalent) and those with higher education degrees.

Correlation analysis of the variables in the contractors' retention model failed to produce any significant results. [18] Since correlation analysis is sensitive to sample size this finding may be related to the fact that population of civilian contractors in this case study was only fifteen. Perhaps more important for current purposes is the direction and magnitude of the partial correlation coefficients in the contractors' model.

The model coefficients are all positive, indicating that more positive social comparisons among contractors are associated with higher levels of satisfaction and commitment, and a greater likelihood of intending to remain with their current employers. Further, increases in job satisfaction are associated with increases in commitment and intentions to remain with one's current employer. Finally, greater levels of organizational commitment are associated with higher levels of retention intentions. The pattern of correlations, in both magnitude and direction, among model variables are remarkably similar to those observed among soldiers, sailors, and civilian mariners. The similarities observed among groups in this vein - in addition to the findings from tests of means for social comparisons, satisfaction, commitment, and retention - provide persuasive

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[18] Zero order correlations among model variables produced significant results between all variables (r = .52 and above) except between social comparisons and organizational commitment, though their correlation was high (r = .47). This provides evidence that the relationships observed in the model, though not significant, are strongly suggestive and merit consideration in the context of exploratory analysis.

evidence that similar social-psychological processes may be operating for the civilian contractors working with the Army squadron as for the other groups included in this study.

Summary of Results

Soldiers and civilian contractors agree that civilians are relatively advantaged compared to military personnel. Both groups are satisfied with their jobs and committed to their employers, and these levels of satisfaction and commitment are essentially equivalent in magnitude for the soldiers and contractors. Eighty percent of the civilian contractors report positive intentions to remain with their current employers compared to just over a third of the soldiers expressing positive intentions to remain with the Army. In general, the retention model was supported in the Army sample. While soldiers' level of contact with civilian contractors do not have a significant effect on any of the other model variables, social comparisons are significantly and positively related to job satisfaction and organizational commitment. Further, social comparisons do have a significant negative effect on retention intentions, but this effect is only indirect through job satisfaction and organizational commitment. Sample size limitations precluded path analysis of the civilian contractor data. Partial correlation analysis among civilian contractor retention model variables revealed correlations in the directions hypothesized and with magnitudes consistent with the soldiers, sailors, and CIVMARs in this study.

Chapter 6. Discussion

Since the late 1980s the federal government has been pushing for increased civilianization of jobs formerly performed by military personnel. This trend is particularly evident in the increased pace and scope of military outsourcing. Yet, the impact of bifurcating the workplace by integrating military personnel and civilians at the unit level is not well understood. We are at a time in our history when we are simultaneously drawing down the number of personnel in our armed forces, and broadening and intensifying our military commitments around the globe. The future appears to hold more of the same, judging by the rhetoric of the current administration, to include Secretary of Defense Rumsfeld. This relatively new but dramatic shift in military organizational policy merits close examination.

This study examines effects of civilianization of the military on soldiers, sailors, and the civilians with whom they work. This study differs from most examinations of civilianization (mostly looking at outsourcing) because its focus is on social-psychological outcomes rather than the fiscal outcomes that are expected from this management decision. This study demonstrates that organizational structure matters with respect to perceptions of relative advantage or deprivation on numerous highly salient job characteristics. Further, these social comparisons impact retention attitudes indirectly through job satisfaction and organizational commitment.

Individual Variable Results

The military and civilian workers in each case study were consistent in their assessment that the work life of military personnel compares negatively to their civilian

co-workers. The degree of consensus between military personnel and civilians with regard to which group is relatively advantaged or relatively deprived was striking. These results may be partially explained by the observable (or perceived) difference in structural constraints placed on the workers from the two groups. Differential constraints for military versus civilian personnel include the contractual constraints on the number of hours civilians are allowed to work and on the kinds of work they can be asked to perform, the ability to negotiate terms of employment, the level of autonomy in performing their job, the difference in contracts between being obliged to remain in military service versus being able to terminate employment at any time as a civilian, differential arrangements for quarters/berthing, and issues regarding the amount and flexibility of salary.

Issues surrounding the military as a greedy institution have been identified as potential negative characteristics associated with military life (Rosen & Durand 1995; Segal 1988). Data presented in this study show that greedy institution characteristics of military employment (e.g., family separation and risk of injury or death for service member) appear to produce negative social comparisons among service members, and positive comparisons among civilians. For example, the civilian contractors in the Army case study were free to have their families with them (though they may have to pay for their relocation) but the soldiers were structurally constrained from having their families with them. Conversely, neither sailors nor CIVMARS could have their families with them aboard ship. Further, most CIVMARs' families were not even residing in or near their home port. This helps explain the finding that negative impacts on family were significantly higher for soldiers in relation to contractors, but the difference between sailors and CIVMARs was not significant.

Another significant difference related to the military as a greedy institution was the level of risk of personal injury to personnel. While the civilian contractors with the Army were in rear echelon positions, the soldiers were expected to be ready to engage in forward action if needed (and the pilots and crew frequently flew missions near hostile territory). The army situation contrasts with that of the personnel on the Navy ship. Due to the nature of shipboard operations the CIVMARs were literally in the same boat as the sailors and subject to the same degree of personal risk. In this context, it is not surprising that social comparisons were not significantly different from neutral for personal risk in the Navy-CIVMAR sample, but a significant difference in social comparisons for personal risk was observed for the Army-civilian contractor sample.

Comparisons of satisfaction and commitment scores between military and civilian personnel were mixed. No difference was observed in mean satisfaction and commitment scores between soldiers and civilian contractors. Conversely, CIVMARs indicated significantly higher satisfaction and organizational commitment than those reported by sailors. The observed difference between sailors and CIVMARs may be an effect of the structural arrangements of shipboard life and the social-demographic differences between the groups.

Two of the greatest challenges to shipboard living are the lack of personal space and privacy. The amount of room one is allotted increases with rank for Navy personnel. The vast majority of sailors on the ship in this study slept in racks stacked three high in a space approximately six and a half feet tall. These berths had a curtain that could be drawn for privacy. Each sailor also had a narrow locker with shelves to store his/her personal belongings. CIVMARs, on the other hand, were either berthed in racks stacked only two-high in the same six and a half foot space or provided a stateroom. Since there

were a very limited number of state rooms, those CIVMARs who were "stuck" with the stacked berthing were paid an additional $35.00 a day for the hardship, amounting to over one thousand dollars in additional pay per month. The combination of extra personal space and hardship pay provided to CIVMARs was well known among the sailors. Though some thought the difference was justified, most voiced some form of frustration at the perceived inequity of the situation.

In attempting to interpret the finding that sailors and CIVMARs have significantly different levels of satisfaction and commitment I hypothesized that the combination of three social structural variables may be contributing to these observed differences: education level, age, and their racial backgrounds. Approximately 54% of the CIVMARs have only a high school education while their mean age was 45 years. Though proportionally there are more sailors with only a high school education (74%), they were much younger (mean = 27 years of age) and many expressed the intent to leave the Navy to pursue higher education or additional training. Thus, it would make sense that the civilian workers should be happy with their jobs and committed to MSC because limited prospects for doing better elsewhere.

Nearly two-thirds of the CIVMARs identified themselves as Asian, a majority of whom are Filipino-Americans. Historically, Filipinos joined the U.S. Navy as a way to improve their life by opening up opportunities for skills training, adventure, and as a way to obtain American citizenship. Working as a CIVMAR for MSC offers steady federal employment at a very competitive wage relative to the same kinds of work elsewhere. Employment with MSC also allows them the occasional opportunity to visit Asian ports as part of their deployment maneuvers – they visited the Philippines on their return trip during their most recent deployment. It is telling that the CIVMARs were the only group

of the four who had a score on the organizational commitment scale item for "this is the best of all possible organizations to work for," that was significantly higher than neutral.

Regression analysis was conducted to test the relationships of these social-structural variables (i.e., age, education, and race) with retention intentions, job satisfaction and organizational commitment. Results of this analysis (not presented here) indicate that age explains a significant amount of variance in organizational commitment ($p < .05$), and the dummy variable for race = Asian was significant ($p < .10$). In both cases, the coefficients are positive, indicating that being older and being Asian are associated with increased organizational commitment. Interestingly, level of education did not explain a significant amount of variation in organizational commitment. Surprisingly, none of the three social-structural variables tested were significant in predicting job satisfaction among sailors or CIVMARs.

In addition, many (though certainly not all) of the civilianized jobs on the ship required minimal training and skills (e.g., painting, laundry, and cleaning). It may be that the types of jobs performed by the sailors versus the CIVMARs are having an effect on satisfaction and commitment. Due to high numbers of non-response on the job specialty question among respondents in both groups, I was not able to include this item in the regression analysis to test this hypothesized relationship.

Higher levels of commitment expressed by CIVMARs over sailors may also be due to the fact that some of the civilian mariners are limited to working on ships. Several CIVMAR engineers indicated in their informal interviews that working aboard U.S. Navy ships (either USS or USNS) is considered a good job in the professional maritime community. The fact that Military Sealift Command is the only organization that employs CIVMARs to work aboard Navy ships may be motivating higher levels of

commitment through reduced options. On the other side, several sailors stated that they chose duty on this particular ship because she was known in the fleet as a way to serve a sea-tour without leaving the dock. The fact that her crew was unexpectedly given orders for an extended overseas deployment caused these sailors frustration and disappointment, which could be affecting their satisfaction and commitment scores.

The finding that soldiers and civilian contractors have equivalent levels of job satisfaction and organizational commitment was also unexpected. The lack of significant differences in commitment between soldiers and contractors is due to high levels of commitment by both groups. The finding that contractors have satisfaction and commitment levels as high as soldiers might be due to the kinds of jobs that the contractors are performing, the fact that they are well integrated into the operational structure of the squadron, and that all the contractors are former military.

Feeling well-integrated and that one's work makes a significant contribution to the group's success are likely to increase commitment through making the workers feel they are important to the organization. A growing literature on the social-psychological concept of mattering suggests that the more individuals feel that they are integrated into social networks where who they are and what they do "matters" to others has implications for mental health, including self-esteem (Durkheim 1952; Rohall 2003; Rosenberg & McCullough 1981; Taylor 2001). I argue that this also has implications for satisfaction and commitment. It may be that the way the soldiers and contractors are integrated, in terms of the work they perform and the structure of the work place, produces a strong sense of both integration and mattering. People are more likely to enjoy what they are doing and want to remain in an environment where they feel they are an integral, contributing part of the group. All of the civilian contractors possess specialized

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technical skills and perform critical jobs in the squadron, ensuring that the aircraft are

flight-ready and have all the firepower, electronics, and radar functioning properly to keep

them safe in the air. The contractors also worked side-by-side with soldiers who were

doing very similar (in some cases identical) jobs. It was evident in talking with the

soldiers that they respected the specialized technical expertise that the contractors brought

to the unit. Examination of a battalion that contracts out less specialized (or less mission

essential) jobs or incorporates contractors differently may produce different results on

these measures.

The fact that all of the contractors working with the squadron are prior military

suggests there may be a preference for working for the Army and/or a constraint on

finding jobs that allow them to use their technical expertise. The majority of the civilians

working with the squadron were mechanics and electrical and aeronautic technicians.

While they could apply these skills to jobs in civilian aviation, if they want to make top

dollar and continue to work on specialized aircraft, contracting for the Department of

Defense remains the best option.

Model Results

Social Comparisons between Military and Civilian Personnel

Tests of the retention model indicate that social comparisons do have significant

impacts on retention intentions for military personnel (Figs. 4.2 & 5.2), but only

indirectly through job satisfaction and organizational commitment. The results show that

when soldiers and sailors compare themselves to the civilians with whom they work, they

perceive themselves as relatively deprived and, as a result, are less satisfied with their

jobs. This dissatisfaction, in turn, negatively affects their organizational commitment,

leading to decreased likelihood of remaining in the military.

This finding is an example of the irrationality of rationality. A primary motivation

for civilianization of the military is to make it more streamlined and effective by allowing

the service members who are retained as permanent employees to focus on performing

the core mission of the military. However, the integration of the civilians with military

personnel has resulted in negative comparisons among service members and a

concomitant decline in their intentions to remain in service.   As a result of its

civilianization, the military is negatively affecting the retention attitudes of the soldiers

and sailors on whomthey are counting to remain in the military to carry on its core duties

and to achieve the efficiency, effectiveness, and cost savings goals of civilianization.   As

such, these results directly contradict the intent of OMB A-76 and President Bush's

management initiatives. These results support the hypothesized effects of social

comparisons and are consistent with literature on the effects of relative deprivation on

satisfaction and the impacts of satisfaction on commitment and retention (Crosby 1982;

Mueller & Price 1990; Porter, *et al.*1974; Rakoff, *et al.*1992; Runciman 1966). Further,

the level of agreement between military personnel and civilians with respect to which

group is perceived to be more advantaged/deprived is striking. It is not the case that each

group thinks the other group is getting the better deal. Rather, civilians and service

members alike perceive those in uniform to be less well off compared to the civilians

working with these military units.

The retention model for the CIVMARs failed to show significant impacts of social

comparisons with sailors on their retention intentions (Fig. 4.3). This unanticipated

finding can be partially explained by the lack of variability in the dependent variable for

this group. It is important to have dispersion in the variable of interest if one is trying to

explain variability in its outcome. The fact that nearly 70% of the CIVMARs stated they

planned to continue working for MSC constrained the power of the model through its

very limited variability across the five response categories. Additional explanations for

the lack of significance found in this model focused on several social-structural variables

thought to be affecting CIVMARs' responses to questions on satisfaction and

commitment. The regression analyses run to test these hypothesized relationships found

that race and age were significant predictors of organizational commitment (i.e.,

commitment increased with age and if one was Asian). Additionally, the type of job

being performed (i.e., technical versus menial) was also seen as a potential influence on

the model's non-significant results.

Level of Contact between Military and Civilian Personnel

Level of contact with contractors did not significantly impact soldier job

satisfaction, organizational commitment, or retention intentions (Fig. 5.2). This implies

that it is the presence of the contractors in the squadron that is affecting these variables

regardless of the frequency of interaction between contractors and soldiers. Rather, the

finding suggests that rumors, hearsay, and/or individual assumptions were more

important than personal interaction and experience with civilians.[19] For example, soldiers

voiced discontent with not having the same freedoms as civilian contractors in

negotiating employment contracts. However, discussions with the contractors revealed

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[19] One answer to this seeming contradiction is that the service members were exposed more
frequently to the second-hand information than they were to the civilians themselves, causing
them to have a greater attitudinal affinity toward the second-hand information.

that they had very little, if any, negotiation in the terms of their employment. Several described their employment contract negotiations as take-it-or-leave-it "cookie cutter" offers. Two contractors argued strongly that they had more power negotiating their re-enlistment terms while they were in the Army than they did in negotiating their terms of employment with their private contracting firms.

Another example of how rumors and assumptions can affect satisfaction, commitment, and retention attitudes net of level of contact with contractors is the "knowledge" disseminated among service members about disparities in pay between contractors and military personnel. While all service members interviewed knew that contractors were paid more than they were, they did not know how much more. Further, the Army squadron commander stated that he often gets soldiers in his office who indicate they wish to leave the military and that it is not uncommon for them to express an interest in becoming a contractor – citing better pay among the list of expected benefits of contract employment with the military. The commander said that when this happens he goes through an a quick and dirty calculation exercise with the soldier, accounting for their health benefits, leave, housing, and the retirement pay they would receive if they stay in the Army for 20 years. The commander said that the results of this exercise are generally quite surprising to the soldiers. Once all the benefits are calculated, the commander felt that his soldiers reassess their position much more favorably, if not better than the contractors'.[20]

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[20] The commander's argument implies a rational choice framework. His impressions may or may not be correct depending on whether, and to what degree, his soldiers value the same work related characteristics he does.

Level of contact with CIVMARs was not related to satisfaction, commitment or retention for sailors, though it did affect their social comparisons (Fig. 4.2). While level of contact with CIVMARs significantly affected social comparisons for sailors, it was in the opposite direction from that predicted. Greater exposure to CIVMARs made sailors feel more advantaged by comparison, not more deprived. This result may be a function of the way in which civilianization was done on the Navy ship as compared to the Army squadron in this study. Civilianization of military jobs on the ship was done by transferring entire departments to Military Sealift Command. One of the departments transferred to civilian (MSC) workers was the services department, which included jobs such as cooking, cleaning, and laundry. Deck maintenance was also civilianized, which included jobs such as scraping and reapplying paint to the ships interior and exterior surfaces. Additionally, watch standing was civilianized. In general, sailors were not required to post at the quarterdeck to monitor who boarded and disembarked the ship – this was the full-time job of a handful of CIVMARs.[21] Most of these jobs are ones typically performed by sailors as temporary duties on board USS ships.

It seems reasonable to argue that the more sailors observe CIVMARs performing these menial jobs, with the understanding that on most other Navy ships the sailors get tasked with the same jobs as extra duties, the more sailors feel advantaged by comparison. Thus, by virtue of the kinds of jobs civilianized aboard ship (jobs the sailors

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[21] During interviews, two sailors commented that a few times while the ship was in Asian ports, sailors were asked to stand watch-duty along side of CIVMARs. Both voiced dissatisfaction in having to listen to CIVMARs talk about the overtime they got paid for their duty. Sailors never get overtime, regardless of their job or the number of hours they work. The sailors felt they were being asked to do a job that others were being paid (very well) to do, and that their presence was not necessary at that duty station. This command decision was not popular with the sailors.

do not want), the sailors appear to have engaged in downward social comparisons, which is to say they feel they are comparing themselves with others whom they feel are less well-off. This has been noted in the literature as a self-esteem enhancing type of social comparison (Willis 1981). The CIVMARs may be relatively advantaged in some areas, but the more the sailors know about and interact with the CIVMARs, the less emphasis they appear to place on these advantages. This is consistent with their responses to the commitment item about whether they would accept any job to remain in the Navy. Clearly there are jobs that the sailors do not want to do if they can be avoided – and the jobs that were civilianized appear to be high on the list.

Neither contact with contractors nor social comparisons had a significant direct effect on retention intentions (Figures 4.2 and 5.2). This is further support that the mechanism by which social comparisons affect retention is mediated through job satisfaction and organization commitment. The social comparisons alone are not as important as how those comparisons affect one's satisfaction and commitment.

This finding is consistent with the theoretical distinction made in Chapter 2, that social comparisons and social information processing theories function jointly to produce effects based on differential characteristics between an individual and his/her comparison individual or comparison group. Social information processing theory states that job characteristics are inherently neither satisfying nor dissatisfying (Salancik & Pfeffer 1978). Further, job characteristics are viewed as fundamentally neutral in their capacity to produce employee satisfaction and commitment. Instead, positive and negative job related attitudes are socially learned through experience and social contexts. They are constructed, reaffirmed, and renegotiated by social processes. Relative job satisfaction or dissatisfaction, commitment to an organization or lack of commitment, stems from

socially available information and can only be generated in the context of social comparisons. Individuals' positive or negative attitudes on satisfaction and commitment go on to affect retention attitudes (Mueller & Price 1990; Porter & Steers 1973).

The relationships among job satisfaction, organizational commitment, and retention intentions for the three groups tested were positive and significant, as predicted. These results are consistent with the large body of research on the interaction of these variables (Fuller, *et al.*1996; Kim, *et al.*1996; Mobley 1982; Mueller & Price 1990; Porter & Steers 1973).

The small sample size (n=15) of the civilian contractor group working with the Army prevented path analysis of the model for their group. However, the partial correlations among the model variables suggest that the contractors' attitudes and behavioral intentions have relationship patterns strikingly similar to the three other groups studied. The civilian contractors' partial correlations between variables that represent indirect pathways from social comparisons to retention intentions are moderate to high (r = .29 to .65). These values, though not significant, compare favorably to the partial correlation values of the indirect pathways for soldiers (r = .28 to .69), sailors (r = .23 to .53) and CIVMARs (r = -.17 to .65). The failure of the contractors' partial correlation coefficients to reach significance (even at r = .65) is related to the small sample size. Given the similarity in the relationship of the partial correlations across groups it would appear that the effect of social comparisons on civilian contractors' satisfaction, commitment, and retention intentions is comparable to the other groups. However, like the CIVMARs, the civilian contractors have a highly, positively skewed distribution on retention intentions. Both sample size and the distribution of retention attitudes are items that limit statistical examination of their retention intention process in the current study.

Implications

The structure of an organization affects those who work there. Prior research has documented effects of structure on workers attitudes and retention behavior (Callan 1993; Deavel 1998; Kennedy *et al.*2002; Merton 1961; Nelson *et al.*1995; Wong & McNally 1994). This study fits within this tradition and its findings support the notion that workplace context impacts individuals' experiences which in turn shape their attitudes and intentions.

With the growing civilianization of the military, both civilian and military leaders have been expressing increased concern over the impact of military civilianization on the readiness of the armed forces (Avant 2004; Cha & Merle 2004; Crock *et al.* 2003; Macomber 2004; Phinney 2004; Robinson 2002; Singer 2003; Wayne 2002). In addition to these more manifest outcomes of military civilianization, military leaders need to be aware that their personnel are making comparisons with their civilian co-workers that affect retention (and potentially other important outcome variables such as morale and readiness).

Applewhite *et al.* (1993) suggest that the natural state of a service member may be one of perceived relative deprivation. In the context of the present study, Applewhite *et al.*'s assertion would suggest that even in the absence of civilians in their units military personnel will find someone else who is getting a better deal. In the present study, however, the (ubiquitous) feeling of relative deprivation among service members is corroborated by the civilians with whom they work who also feel that the military personnel are less well off than they are. Regardless, military policy makers cannot afford simply to acknowledge that service members feel relatively deprived and go about their regular routine as they did in the era of conscription when a steady flow of new

recruits was guaranteed. Recruits are ever harder to come by now, and the loss of personnel with critical skills costs the military both in expertise and money.

Military and civilian leaders need to take the negative impact of social comparisons with civilians into account vis-à-vis retention (and morale, cohesion, and readiness). Military leadership can mitigate the negative effects of several variables shown to have significant impacts on social comparisons by making informed command decisions relating to the perception that the organization cares for its members, feeling of negative impacts on family, the level of organizational control over employee behavior, and creating efficient training and work schedules with an eye toward keeping reasonable work hours.

Two actions that can be taken to reduce the degree of relative deprivation (i.e., negative comparisons) are to provide information to contextualize the differences in perceived benefits between groups and work to reduce the negative impacts of the inaccurate information. One example of how failing to contextualize differences between groups can negatively impact personnel was shared by several sailors and CIVMARs during informal interviews.   According to their accounts, during an all hands formation, including sailors and CIVMARs, a week or two prior to the ship arriving back at home port, the Captain of the ship recounted statistics of their deployment. One of the statistics was how much money was paid to sailors and to CIVMARs. The figure for the CIVMAR payroll was twice that of the sailors' even though there were roughly equal numbers in each group. This upset the sailors because they felt they were devalued. It upset the CIVMARs because they felt that the way it was presented did not give proper due to their greater levels of experience and (perceived) higher quality of work relative to sailors, both of which justify their greater pay scale. The lesson learned should be that the

presentation of information that involves a highly salient comparison item should be contextualized so that the personnel understand the rationale and justification behind the information.

An example of taking steps to correct misperceptions from rumors in the ranks, or individual assumptions, is the numbers exercise the Army squadron commander performs with soldiers who express an interest in separating from service to pursue jobs as contractors. First, he points out that it is a buyer's market, with too many ex-soldiers and not enough job slots. Second, he estimates for his soldiers figures on their salaries, benefits, retirement pay, and in-kind benefits, what they would have to have already bankrolled, and what they would have to earn in their new job in order to compete with their current Army employment package. This exercise is done to provide information so the soldier may make an informed decision, not as a hard sell to retain the soldier. The commander's feeling is that once the facts are known, the comparison favors military service. Given the commander's comment that this exercise produces results that surprise the soldiers, it would seem that a more progressive and systematic initiative would be helpful in reducing some of the negative social comparisons felt by the soldiers. Good communication has been shown to reduce negative impacts of military life among service members (Segal & Harris 1993; Wong & McNally 1994).

Organizational structure, in terms of what gets civilianized, is also important. For example, sailors and soldiers were significantly negative on the item that asked whether they would accept any job assignment in order to stay with their current employer. Conversely, neither civilian group had significant results one way or the other on this variable. This suggests that military personnel view themselves as specialists rather than generalists, which is consistent with Moskos's (1977) occupational military model.

Alternatively, this result could also mean that military personnel don't value the military as an employer (or military service) more than the specific job they perform. This alternative explanation is also consistent with Moskos's (1977) occupational military model.

Given these findings, civilianizing the service and deck/maintenance departments aboard the Navy ship was a good command decision. By transferring these duties to civilians it eliminated the 90-100 days of "crank duty" that enlisted sailors typically have to perform. Crank duty is described by sailors as temporary duty assigned to most junior enlisted sailors who are new arrivals to a ship. In order to keep the ship operational a great deal of menial work must be done, such as cleaning, cooking, and the never-ending job of chipping and reapplying paint. Effectively, this means that sailors, regardless of specialty (e.g., IT, radar, medical, engineering), must perform these menial jobs for upwards of three months before they are reassigned to their "real" job on board ship. One medical specialist commenting on this tradition stated, "There is nothing more disheartening than not being able to do my job." In addition to doing menial labor, the time spent on crank duty affects sailors' ability to maintain their skills in their specialty, which can impact their evaluations and promotion rate. Numerous sailors reported being very happy that the service and deck jobs aboard ship had been civilianized. Thus, by structuring the work environment so that core personnel were immediately assigned duties that they were trained for (and expected to do) civilianization of duties on board the ship appears to have achieved some of its goals.

The finding that the level of contact military personnel have with civilians is not a significant predictor of social comparisons in one context (Army), but *is* a significant predictor of social comparisons in another context (Navy), has important implications for

how this management strategy can be best implemented. The results presented in this study suggest that social comparisons can be positively influenced by increased contact between groups in the context of civilianizing entire categories of jobs that are viewed negatively by military personnel, especially those jobs that the service members would have to perform as extra duties. When the civilianized jobs are similar to those performed by the service members the positive effect of group contact disappears.

Despite the feelings of relative deprivation in comparison to their civilian co-workers, military personnel have many positive things to say about the civilians in their units. Soldiers and sailors expressed a good deal of respect for the expertise, proficiency, and professionalism that their civilian co-workers bring to the unit. One sailor even commented that having the CIVMARs on board made the ship safer because, "sailors aren't as thorough… CIVMARs are more responsible and get things done right." Both soldiers and sailors also appreciated that because the civilians are outside of the formal hierarchical military structure they are more easy-going and speak their minds more freely. These qualities of the civilians were viewed positively because they break up the otherwise constant, rigid military environment.

It is interesting and important to note that military personnel at both the Army and Navy sites went out of their way to question why this study was being done. They did not feel there was a problem with the integration of civilians in their units. Even so, the soldiers and sailors studied are comparing themselves negatively to their civilian co-workers and these comparisons are negatively impacting their attitudes about remaining in military service. This is important because it demonstrates that even though the group of employees performing the "core duties" of the organization may not mind having the other group of employees in the organization, indeed they enjoy having them as part of

the organization, the structural difference between groups and the differential benefits and constraints that accompany these structural differences generate negative social comparisons that impact satisfaction, commitment, and ultimately retention intentions. The negative effects of social comparisons do not appear to impact service members' feelings toward their civilian coworkers.

The service members appear to be distinguishing between their affinity for the civilians as co-workers and the structural differences that define the work lives of service members versus civilian personnel. The contact hypothesis (Allport 1954) provides an explanation for the service members' positive attitudes toward the civilians with whom they work. This hypothesis states that under certain necessary conditions interaction between individuals of different groups will result in more positive attitudes with regard to members of the "other" group (Pettigrew 1998). Even so, the perceived differences on highly salient job characteristics between civilians and service members produce negative comparisons among military personnel. This effect of social-structural variables, net of personal attitudes toward comparison others, is consistent with prior research on the fundamental impact of social comparisons on individuals' attitudes based on highly salient items (Hodson 1985; Merton & Kitt 1950; Milkie 1999).

Limitations of the Study

This study provides strong evidence to support the conclusion that civilianization of the military has negative effects on the retention intentions of military personnel. Yet, as with any study, there are limitations in the data and research method that constrain the generalizability of these findings and preclude the strongest declaration of certainty in these results.

First, the data presented were obtained from two case studies, one Army and one Navy. This, in itself, limits the generalizability of the findings beyond the populations in the two units surveyed. The two units included in this study are important because they manifest variation in the key variables of civilians' job specialties (technical vs. menial) and the way in which the civilians are integrated into their respective military units. While there are limitations on generalizability associated with any case study design, this design was nonetheless critical for capturing the effects of the structural variation in the units (i.e., the work the civilians were performing and the way in which they were integrated) on the retention model. The results of this study validate the appropriateness of using a case study method to examine the effects of civilianization in the military on retention intentions.

The Army unit studied was a combat aviation squadron, which is itself an atypical unit. A minority of Army units are combat arms, and only a fraction of those are aviation units. This unit was also surveyed overseas, which may have introduced some unknown bias into the soldiers' responses. The Navy and CIVMAR personnel studied were from a command and control ship. This ship is relatively small by Navy standards, and there are not many ships that perform this function for the Navy. Many more sailors serve aboard USS ships (e.g., cruisers, destroyers, aircraft carriers, amphibious support, and surveillance/intelligence) which do not have CIVMARs on board. Further, aside from the very small minority of sailors who serve on USNS ships, the average sailor is most likely to encounter civilians working for the Navy on their shore rotations. The civilians included in this study from both sites are also not representative of their respective populations. They included only a fraction of the jobs performed by their respective peers, and in the Navy example, included only those civilians who have self-selected a

career at sea. Given the characteristics of the two military units studied, it is clear that additional research is needed to test the effect of civilianization on other types of units. This will be addressed in the following section on recommendations for future research.

Second, for all but the soldier sample, sample size limited both the statistical power of the tests and the generalizability of the results – even within their respective case study populations.[22] Third, the samples analyzed for this study did not have sufficient numbers of women and minorities to allow for analyses by race and gender. A fourth limitation is that there were no officers captured in the Navy sample, and too few in the Army sample to run a separate model by rank (officer vs. enlisted). Ideally NCOs should be broken out as a separate group for analysis as well, but these data did not allow for this either.

A final limitation of this study is that the path models used to examine the impact of civilianization on retention intentions are based on cross sectional data. Therefore, the results are probabilistic, and though highly suggestive, they fall short of establishing causality.

Future Research

Given the results presented in this paper and the limitations of the current study, several areas of future research would expand upon the foundation built by this study. First, additional military-civilian integrated units should be analyzed to test whether the relationships identified in this study generalize beyond the two units examined. A wider

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[22] Generalizability to the case study population was not an issue for the civilian contractors working for the Army since there was a 100% response rate.

range of military unit types would provide greater confidence in the validity of the findings beyond the two cases in this analysis. In particular, units that should be examined include: support and logistics units, maintenance depots, shore-side Navy units, CONUS Army units.

A second, but related issue is the need to tease apart the effects of civilian job specialty (i.e., technical versus menial) and the way in which civilians are integrated (i.e., departmental versus individual level). These two variables were linked in the current study so their independent effects could not be determined.

Two additional variables that should also be examined as potentially impacting the relationship between civilianization variables and retention intentions include service members' military occupational specialties (or their service-specific equivalent) and whether or not they have been deployed to a war zone, and if so whether they had contact with DoD civilians and/or DoD civilian contractors while deployed. It may be that service members in some military occupational specialties experience stronger effects from civilianization of the military (e.g., IT specialists) whereas the effects on others may be more muted (e.g., clerical). Deployment to a war zone may also have an impact on the effect of civilianization in the military, since the differences between military personnel and civilians are likely to be most pronounced in this setting - unless the civilians are incurring equal risk.

Race and gender have both been shown to have impacts on satisfaction, commitment, and retention (Bourg & Segal 1999; Firestone & Stewart 1998; Harrington, *et al.* 2001; Leiter, *et al.*1994; Moore 2002; Pittman & Orthner 1989; Waite & Berryman 1986). Future studies should examine the effects of civilianization of the military by race, gender, and other important social-structural characteristics.

The various service branches are employing civilians differently within their organization, have different organizational cultures, and different ratios of civilians to military personnel. One would expect to see differences by service branch with respect to which job characteristics are having the most influence on social comparisons, though not necessarily on the overall effect of social comparisons on satisfaction, commitment, and retention. The Reserve components should be included in this analysis. The Reserves constitute 40% of the troops currently on the ground in Iraq and their social-structural position as Citizen Soldiers places them in a position to have a unique perspective on the civilianization of the military. Research is needed on all the service branches of the military to extend our understanding of the broader contextual effects of military civilianization.

Future research should examine the effect of civilianization of the military on other outcome variables. Readiness, morale, and cohesion are three obvious variables that should be examined. For example, research by Mowday, *et al.*(1982) has documented that reduced job satisfaction negatively impacts workers' attendance and productivity.

Finally, the model used in this research is probabilistic. Longitudinal data are needed to demonstrate more rigorous support for the causal relationships hypothesized in this study.

Appendix I. Soldier Survey Protocol[23]

Work-Related Attitudes

University of Maryland
Center for Research on Military Organization

Mr. Ryan D. Kelty
Dr. David R. Segal

Participation in this study is voluntary and anonymous. Do not place your name on this survey. Data will be presented at a level of abstraction such that individual respondents cannot be identified.

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[23] This protocol was adjusted for sailors by substituting "civilian mariner" for "civilian contractor" and "Navy" for "Army."

GENERAL INSTRUCTIONS

Please complete the following survey. It should take about 20 minutes. Thank you.

The first group of questions focuses on attitudes related to your experiences as a member of the U.S. Army.

1. During your later high school years, what were your aspirations for the period immediately following high school? Please circle **ONE**.

      a. join the military
      b. attend a military academy
      c. attend college, then join the military (officer or enlisted)
      d. attend college, then join the civilian labor force
      e. attend trade school, then join the civilian labor force
      f. find non-military employment
      g. no plans

2. Thinking back to when you were making your decision to enter the Army, which of the following best represents your intentions at that time? Please circle **ONE**.

    I intended to…

      a. stay in the Army for a career
      b. stay for one term and then get out
      c. wait and see

3. Right <u>now</u> I am…   (Please circle **ONE**.)

      a. planning to remain in the Army,   (skip to question 6, next page)
      b. leaning toward remaining in the Army,   (skip to question 6, next page)
      c. undecided,   (skip to question 6, next page)
      d. leaning toward leaving the Army for a civilian job, (go to questions 4 & 5)
      e. planning to leave the Army for a civilian job. (go to question 4 & 5)

          4. If you are currently leaning toward or planning to leave the Army, do you wish to have a civilian job in the same line of work as the one you currently perform? Please circle **ONE**.
              a. Yes
              b. No
              c. Not applicable – I plan to stay in the Army

          5. If you are currently leaning toward or planning to leave the Army, which of the following best reflects your situation? Please circle **ONE**.
              a. I have a job waiting for me
              b. I have job leads but no firm offer at this time
               c. I do not have any job leads at this time
              d. I will be attending college or trade school
              e. not yet sure.
              f. not applicable – I plan to stay in the Army

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6. Which of the following best reflects your current attitude about the possibility of working as a civilian contractor after you separate/retire from the Army? Please circle **ONE**.

   a. It is a very attractive option
   b. It is an attractive option
   c. It is neither an attractive nor unattractive option
   d. It is an unattractive option
   e. It is a very unattractive option

7. Using the 7-point scale below, please indicate in the blanks provided the strength of your opinion for each statement.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Disagree Strongly	Disagree	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Strongly	Agree

a. ____ I am willing to put in a great deal of effort beyond that normally expected in order to help the Army be successful.

b. ____ I talk up the Army to my civilian friends as a great organization to work for.

c. ____ I feel very little loyalty to the Army.

d. ____ I would accept almost any type of job assignment in order to keep working for the Army.

e. ____ I find that my values and those of the Army are very similar.

f. ____ I am proud to tell others that I am part of the Army.

g. ____ I could just as well be working for a different organization as long as the type of work was similar.

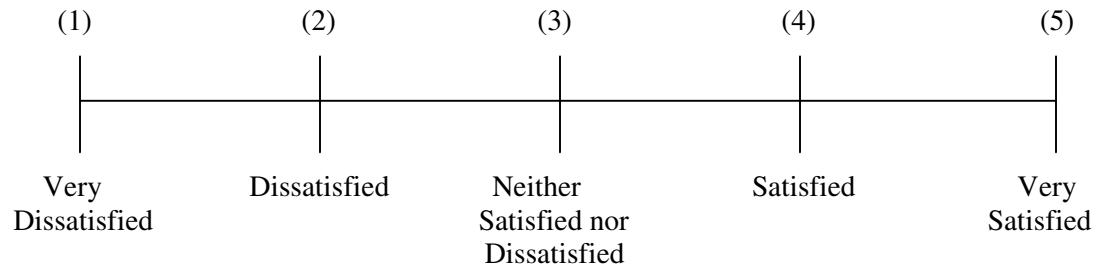h. ____ The Army really inspires the very best in me in the way of job performance.

i. ____ It would take very little change in my present circumstances to cause me to leave the Army.

j. ____ I am extremely glad that I chose to work for the Army over other organizations I was considering at the time I joined.

k. ____ There's not too much to be gained by sticking with the Army for a career.

l. ____ Often, I find it difficult to agree with the Army's policies on important matters relating to its personnel.

m. ____ I really care about the fate of the Army.

n. ____ For me the Army is the best of all possible organizations to work for.

o. ____ Deciding to work for the Army was a definite mistake on my part.

8. Using the 5-point scale below, please indicate in the blanks provided the strength of your opinion for each statement.

(1)	(2)	(3)	(4)	(5)
Very Dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Very Satisfied

On my present assignment, this is how I feel about:

a. _____ being able to keep busy all the time

b. _____ the chance to work alone on the job

c. _____ the chance to do different things from time to time

d. _____ the chance to be "somebody" in the community

e. _____ the way my supervisor handles his/her men and women

f. _____ the competence of my supervisor in making decisions

g. _____ being able to do things that don't go against my conscience

h. _____ the way my job provides for steady employment

i. _____ the chance to do things for other people

j. _____ the chance to tell people what to do

k. _____ the chance to do something that makes use of my abilities

l. _____ the way the Army's policies are put into practice

m. _____ my pay

n. _____ the amount of work I do

o. _____ the kind of work I do

p. _____ the chances for advancement on this job

q. _____ the freedom to use my own judgment

r. _____ the chance to try my own methods of doing the job

s. _____ the working conditions

t. _____ the way my co-workers get along with each other

u. _____ the praise I get for doing a good job

v. _____ the feeling of accomplishment I get from doing my job

w. _____ the support I get from my coworkers

x. _____ the support I get from my supervisors

9. Which of the following were important in your decision to join the Army?
Check **ALL** that apply.

a. ____ desire to serve county
b. ____ patriotism
c. ____ adventure/challenge
d. ____ desire to be soldier (for a few years)
e. ____ desired a long career as a soldier
f. ____ money for college
g. ____ repay student loans
h. ____ entry bonus
i. ____ need to support family (spouse and/or kids)
j. ____ crisis (divorce, loss of job, financial problems, etc.)
k. ____ influenced to join by parents
l. ____ influenced to join by spouse or significant other
m. ____ influenced to join by friends
n. ____ lack of better options
o. ____ best employment available

10. Using the list below, please **rank order** the five (5) aspects of yourself that best capture who you are? Identify the most important aspect as 1, second most important as 2, and so on.

a. ____ I am a father
b. ____ I am a mother
c. ____ I am a husband
d. ____ I am a wife
e. ____ I am single
f. ____ I am a son
g. ____ I am a daughter
h. ____ I am a sibling
i. ____ I am a soldier, NCO, officer, or other military related role
j. ____ I am a Christian, Jew, Muslim or member of another religion
k. ____ I am an athlete
l. ____ I am a hunter, fisherman/woman, outdoorsman/woman
m. ____ I am a(an) _____ (enter job specialty – e.g., mechanic, security specialist, air traffic controller, etc.)
n. ____ I am a student
o. ____ I am American or some other nationality
p. ____ Other: _____
q. ____ Other: _____

11. Which of the following best describes how you view yourself? **Check ONE (A or B)**.
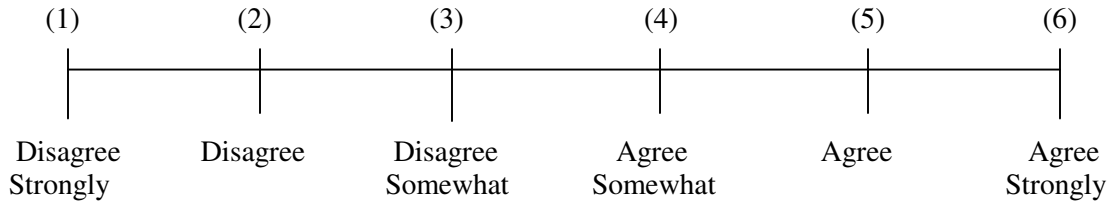
____ A. I am a U.S. soldier who specializes in _____ (enter your job specialty).

OR

____ B. I am a(n) _____ (enter your job specialty) who works for the U.S. Army.

The next group of questions focuses on your experiences with civilian contractors in the Army.

12. For each of the following statements, use the 6-point scale below to indicate your opinion. Enter the number that corresponds to your opinion on each statement in the blank provided.

(1)	(2)	(3)	(4)	(5)	(6)
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

a. _____ As a soldier/officer in the U.S. Army I am uncomfortable working with civilian contractors.

b. _____ Civilian contractors allow the Army to operate more effectively.

c. _____ Civilian contractors are important because they free-up Army personnel to train for and perform the real war-fighting duties.

d. _____ Civilian contractors increase the efficiency of the Army.

e. _____ I would prefer *not* to work with civilian contractors.

f. _____ Civilian contractors decrease morale among Army personnel.

g. _____ By having Army personnel work along-side of civilian contractors performing essentially similar duties, it encourages Army personnel to leave the service.

h. _____ Civilian contractors are less expensive to employ than Army personnel.

i. _____ The Army should not use its personnel to perform duties that the civilian work force can do just as well as military personnel.

j. _____ The use of civilian contractors increases the flexibility of the Army in striving to achieve its core missions.

k. _____ Civilian contractors work just as long as Army personnel.

l. _____ Civilian contractors work just as hard as Army personnel.

m. _____ Civilian contractors are less committed to their work than Army personnel.

If you work with civilian contractors in your current job, please answer the three items below using the same 6-point scale above.

n. _____ The civilian contractors I work with perform at the same level of expertise that I do.

o. _____ The civilian contractors that I work with are less motivated than I am to do a good job.

p. _____ I am impressed by the abilities of the civilian contractors that I work with.

13. In your current assignment, how often do you work directly with civilian contractors? Please circle **ONE**.
   a. Daily
   b. Several times a week
   c. About once a week
   d. About once every couple of weeks
   e   About once a month
   f   Less than once a month
   g. Never

14. If you have been stationed at multiple bases, would you say that in your current assignment that your level of contact with civilian contractors is greater than average, average, or less than average?   Please check **ONE**.

_____ a. Greater than average
_____ b. Average
_____ c. Less than average
_____ d. Not applicable – I have not been stationed at multiple bases

15. Do you have friends who have left the Army and now work for DoD as civilian contractors? Please check **ONE**.

_____ a. Yes   (go to question 16)
_____ b. No   (skip to question 17)

If yes on question 15,
   16. To your knowledge how many of your colleagues, formerly with the Army, are now civilian contractors with DoD? _____

17. Since you have been employed by the Army have you ever been contacted about a job by someone working for a civilian contracting firm? Please check **ONE**.

_____ a. Yes (go to questions 18 & 19)
_____ b. No   (skip to question 20)

If yes on question 17,
   18.   How often would you say this has happened?
      Please check **ONE**.

_____ a. Once
_____ b. A few times
_____ c. Fairly frequently
_____ d. With great frequency

If yes on question 17,
   19.   Where were you when you were contacted?
      Check **ALL** that apply.

_____ a. At work
_____ b. At home
_____ c. In uniform but not at my place of work
_____ d. Other (please specify) _____

20. If you left the Army today, how confident are you that you could find a job in the civilian labor force? Please check **ONE**.

_____ a. very confident
_____ b . confident
_____ c. not very confident
_____ d. not at all confident

21. If you wanted to apply for a job at a civilian contracting firm, would you know where to go?
   Please circle **ONE**:   Yes   No

22. Do you and your fellow soldiers discuss issues surrounding civilian contractors and the Army? Please check **ONE**.

    ____ a. Yes   (go to question 23)

    ____ b. No   (skip to question 24)

If yes on question 22,
23. What issues do you discuss?

_____

_____

_____
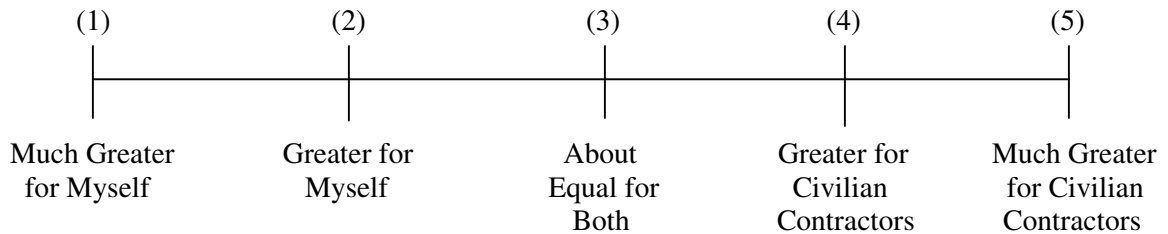
_____

_____

_____

_____

_____

_____

24. Please indicate your level of agreement with the following statement (Please check **ONE**):

I consider civilian contractors to be members of the U.S. military's total force.

a.   ____ strongly disagree

b.   ____ disagree

c.   ____ disagree somewhat

d.   ____ agree somewhat

e.   ____ agree

f.   ____ strongly agree

*The next two questions are similar, but are asking you to make comparisons in two different ways. Question 25 asks you to rate how you feel **you, yourself**, compare with civilian contractors on a number of factors. Question 26 asks you to make the same types of comparisons but between Army personnel **in general** and civilian contractors **in general**.*

25. If you were to compare **yourself** with civilian contractors (assuming comparable duties), how would you rate the following factors using the 5-point scale below?

(1)	(2)	(3)	(4)	(5)
Much Greater for Myself	Greater for Myself	About Equal for Both	Greater for Civilian Contractors	Much Greater for Civilian Contractors

a. _____ pay

b. _____ benefits

c. _____ level of risk of personal injury

d. _____ freedom to make decision about how a job is done

e. _____ task variety within one's job

f. _____ promotion opportunities based on merit

g. _____ quality leadership in the organization

h. _____ organizational control over employee behavior (i.e., what employees can/cannot do)

i. _____ negative impacts on family members' happiness

j. _____ satisfying relations with co-workers

k. _____ freedom to negotiate employment contract

l. _____ degree to which the organization takes care of its employees

m. _____ requires one to spend time away from their family

n. _____ gaining a feeling of accomplishment from one's work

o. _____ feeling that one's work makes a contribution to society

p. _____ feeling of leadership support in facilitating completion of job tasks

q. _____ time spent working per day

The next question is similar to the last one, but now we would like you to compare Army personnel **in general** *to civilian contractors* **in general.**
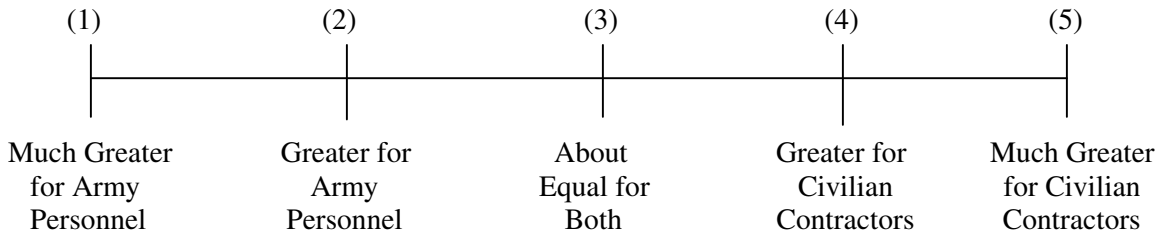
26. On the whole, comparing Army personnel to civilian contractors (assuming comparable duties) how would you rate the following factors using the 5-point scale below?

(1)	(2)	(3)	(4)	(5)
Much Greater for Army Personnel	Greater for Army Personnel	About Equal for Both	Greater for Civilian Contractors	Much Greater for Civilian Contractors

a. _____ pay

b. _____ benefits

c. _____ level of risk of personal injury

d. _____ freedom to make decision about how a job is done

e. _____ task variety within one's job

f. _____ promotion opportunities based on merit

g. _____ quality leadership in the organization

h. _____ organizational control over employee behavior (i.e., what employees can/cannot do)

i. _____ negative impacts on family members' happiness

j. _____ satisfying relations with co-workers

k. _____ freedom to negotiate employment contract

l. _____ degree to which the organization takes care of its employees

m. _____ requires one to spend time away from their family

n. _____ gaining a feeling of accomplishment from one's work

o. _____ feeling that one's work makes a contribution to society

p. _____ feeling of leadership support in facilitating completion of job tasks

q. _____ time spent working per day

These next two questions focus on your health and well-being.

27. In general, would you say at the present time your health is . . . (Please circle **ONE**)

Excellent   Very Good   Good   Fair   Poor

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*Please use the five-point scale below when answering the items in **question 28**.*

(1)	(2)	(3)	(4)	(5)
All the time	Most of the time	Some of the time	A little of the time	None of the time

28. During the past 30 days, how much of the time did you feel… (enter number in space provided)

a. _____ so sad nothing could cheer you up?
b. _____ nervous?
c. _____ restless or fidgety?
d. _____ hopeless?
e. _____ that everything was an effort?
f. _____ worthless?

g. _____ lonely?
h. _____ you worried too much about things?
i. _____ fearful?
j. _____ that something bad would happen to you?
k. _____ blue?
l. _____ tense or keyed up?

The next few questions ask about social and demographic characteristics highly relevant to this research study.

29. What is your age? _____ years

30. What is your sex? _____ male _____ female

31. Are you currently: married, divorced, separated, widowed, or have you never been married? Please check **ONE**.

        a. _____ never been married
        b. _____ married
        c. _____ divorced
        d. _____ separated
        e. _____ widowed

32. How many children do you have as legal dependents, whether they reside with you or not? Please circle **ONE**.

        0   1   2   3   4   5   6 or more

33. Do you consider yourself Spanish, Hispanic, or Latino/Latina? Please check **ONE**.

a. _____ Yes b. _____ No

34. What is your race? Please check **ONE**.

_____ a. White

_____ b. Black or African American

_____ c. Asian (e.g., Chinese, Filipino, Japanese, Korean, Asian Indian, Vietnamese)

_____ d. American Indian or Alaska Native

_____ e. Pacific Islander or Native Hawaiian

_____ f. Multi-racial: please specify _____

_____ g. Other: please specify _____

35. What is your military rank? _____

36. What is your MOS? _____

37. During your active duty career, how many times did your family members move to a new location because of your permanent change of station? Please check **ONE**.

a. ____ 0   e. ____ 4   i. ____ 8

b. ____ 1   f. ____ 5   j. ____ 9

c. ____ 2   g. ____ 6   k. ____ 10 or more

d. ____ 3   h. ____ 7   l. ____ Not applicable, no family yet

In answering Questions 38 and 39, "military duties" is defined as deployments, TADs/TDYs, training, military education, time at sea, and field exercises/alerts.

38. During the last 12 months, how many separate times were you away from your permanent duty
     station for at least one night because of your military duties? Please check **ONE**.

e. ____ 0   e. ____ 3   g. ____ 6 or more

f. ____ 1   f. ____ 4

g. ____ 2   g. ____ 5

39. During the past 12 months, how long were you away from your permanent duty station due to your military duties? Please check **ONE**.

a. ____ < 1 month   d. ____ 5 to < 7 months

b. ____ 1 to < 3 months   e. ____ 7 to < 10 months

c. ____ 3 to < 5 months   f. ____ 10 to 12 months

40. How long have you served in the Army? _____ years, _____ months

41. How much longer are you obliged to serve? _____ years, _____ months

42. How much longer do you expect to remain in the Army? _____ years, _____ months

43. What is the highest degree you have attained? Please check **ONE**.

____ a. less than high school or equivalent

____ b. high school or equivalent

____ c. associates degree

____ d. bachelors degree

____ e. masters or professional degree

____ f. doctoral degree

Thank you for completing this survey.
Your time and effort are greatly appreciated.

Work-Related Attitudes

University of Maryland
Center for Research on Military Organization
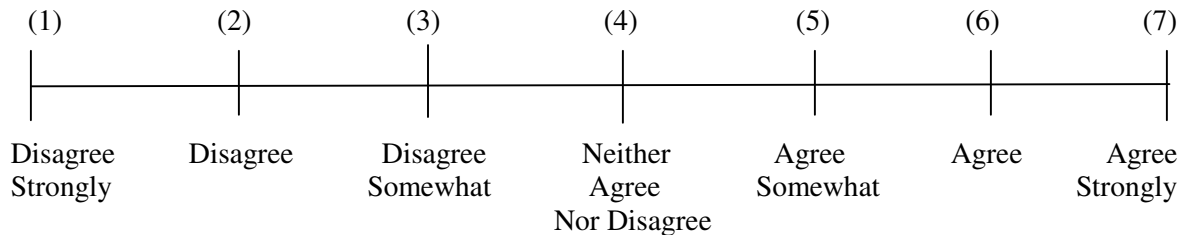
Dr. David R. Segal
Mr. Ryan D. Kelty

Participation in this study is voluntary and anonymous. Do not place your name on this survey. Data will be presented at a level of abstraction such that individual respondents cannot be identified.

GENERAL INSTRUCTIONS

Please complete the following survey. It should take about 20 minutes. **ALL** respondents should complete questions 1 through 25. If you have had *prior active duty U.S. military service*, continue answering questions 26 through 39. Thank you.
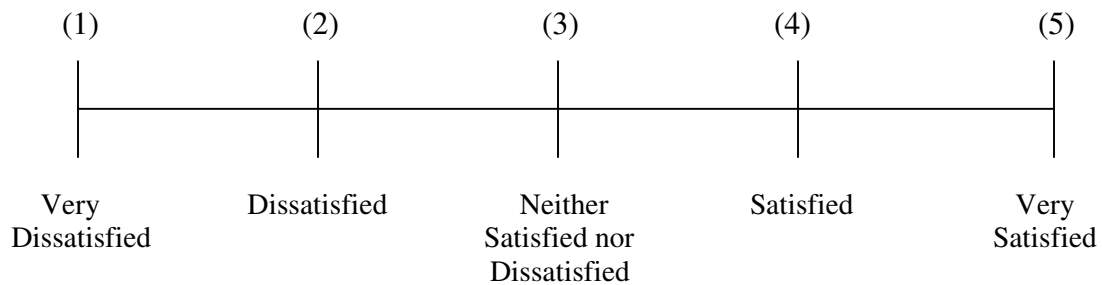
The first group of questions focuses on aspects of your job and attitudes you have about your job.

1. Using the 7-point scale below, please indicate in the blanks provided the strength of your opinion
    for each statement. **"Organization"** **refers to** *your* **contracting firm**.

```
(1)          (2)          (3)          (4)          (5)          (6)          (7)
 |            |            |            |            |            |            |
 |            |            |            |            |            |            |
Disagree   Disagree    Disagree     Neither      Agree        Agree        Agree
Strongly               Somewhat      Agree      Somewhat                  Strongly
                                  Nor Disagree
```

a. ____ I am willing to put in a great deal of effort beyond that normally expected
          in order to help this organization be successful.

b. ____ I talk up this organization to my friends as a great organization to work for.

c. ____ I feel very little loyalty to this organization.

d. ____ I would accept almost any type of job assignment in order to keep working
          for this organization.

e. ____ I find that my values and this organization's values are very similar.

f. ____ I am proud to tell others that I am part of this organization.

g. ____ I could just as well be working for a different organization as long as the
          type of work was similar.

h. ____ This organization really inspires the very best in me in the way of job
          performance.

i. ____ It would take very <u>little</u> change in my present circumstances to cause me to
          leave this organization.

j. ____ I am extremely glad that I chose this organization to work for over others I
          was considering at the time I joined.

k. ____ There's not too much to be gained by sticking with this organization

          indefinitely.

l. ____ Often, I find it difficult to agree with this organization's policies on
          important matters relating to its employees.

m. ____ I really care about the fate of this organization.

n. ____ For me this is the best of all possible organizations to work for.

o. ____ Deciding to work for this organization was a definite mistake on my part.

2. Using the 5-point scale below, please indicate in the blanks provided the strength of your opinion for each statement.

(1)	(2)	(3)	(4)	(5)
Very Dissatisfied	Dissatisfied	Neither Satisfied nor Dissatisfied	Satisfied	Very Satisfied

On my present assignment, this is how I feel about:

a. ____ being able to keep busy all the time

b. ____ the chance to work alone on the job

c. ____ the chance to do different things from time to time

d. ____ the chance to be "somebody" in the community

e. ____ the way my boss handles his/her men and women

f. ____ the competence of my supervisor in making decisions

g. ____ being able to do things that don't go against my conscience

h. ____ the way my job provides for steady employment

i. ____ the chance to do things for other people

j. ____ the chance to tell people what to do

k. ____ the chance to do something that makes use of my abilities

l. ____ the way company policies are put into practice

m. ____ my pay

n. ____ the amount of work I do

o. ____ the kind of work I do

p. ____ the chances for advancement on this job

q. ____ the freedom to use my own judgment

r. ____ the chance to try my own methods of doing the job

s. ____ the working conditions

t. ____ the way my co-workers get along with each other

u. ____ the praise I get for doing a good job

v. ____ the feeling of accomplishment I get from doing my job

w. ____ the support I get from my coworkers

x. ____ the support I get from my supervisors

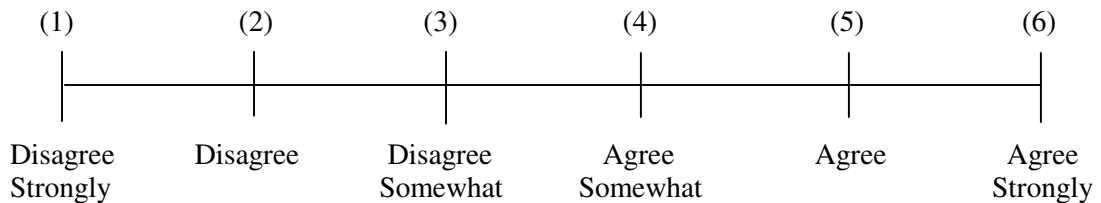3. Which of the following best describes how you view yourself?
 Please fill in the blanks, then check ONE (A <u>or</u> B).

____ A. I am an employee of _____ (your company) who specializes
  in _____(enter your job specialty).

OR

____ B. I am a(n) _____(enter your job specialty) who performs contractual
  work for the U.S. Army.

4. For each of the following statements, use the 6-point scale below to indicate your opinion.
 Enter the number that corresponds to your opinion in the blank next to each statement.

(1)	(2)	(3)	(4)	(5)	(6)
Disagree Strongly	Disagree	Disagree Somewhat	Agree Somewhat	Agree	Agree Strongly

a. ____ The soldiers I work with perform the same level/expertise of work that I do.

b. ____ The soldiers that I work with are not as motivated as I am to do a good job.

c. ____ I am impressed by the abilities of the soldiers that I work with.

d. ____ I do not like working with military personnel.

e. ____ Civilian contractors allow the military to operate more effectively.

f. ____ Civilian contractors are important because they free-up military personnel to
  train for and perform the real war-fighting duties.

g. ____ Civilian contractors increase the efficiency of the military.

h. ____ I would prefer <u>*not*</u> to work with military personnel.

i. ____ Civilian contractors decrease morale among military personnel.

j. ____ By having soldiers work along side of civilian contractors performing essentially
  similar duties, it encourages soldiers to leave the service.

k. ____ Civilian contractors are less expensive to employ than Army personnel.

l. ____ The Army should not use its personnel to perform duties that the civilian work
  force can do just as well as military personnel.

m. ____ The use of civilian contractors increases the flexibility of the Army in striving
  to achieve its core missions.

n. ____ Civilian contractors work just as long as Army personnel.

o. ____ Civilian contractors work just as hard as Army personnel.

p. ____ Civilian contractors are less committed to the work they perform than Army
  personnel.

5. Please indicate your level of agreement with the following statement. Please check **ONE**.

My work as a civilian contractor is consistent with the expectations I had for the job prior to starting.

     a. ____ strongly agree
     b. ____ agree
     c. ____ agree somewhat
     d. ____ disagree somewhat
     e. ____ disagree
     f. ____ strongly disagree

6. Right *now* I am … (Please check **ONE**.)

     a. ____ planning to remain with my current employer
     b. ____ leaning toward remaining with my current employer
     c. ____ undecided
     d. ____ leaning toward leaving my current employer to work for another organization
     e. ____ planning on leaving my current employer to work for another organization

7. Please indicate your level of agreement with the following statement.

I consider civilian contractors to be members of the U.S. military's total force.

Please check **ONE**.

     g. ____ strongly disagree
     h. ____ disagree
     i. ____ disagree somewhat
     j. ____ agree somewhat
     k. ____ agree
     f. ____ strongly agree

8. Which of the following best reflects your thoughts on joining (or rejoin) the military? Please check **ONE**.

     a. ____ I plan to join (or rejoin) the military.
     b. ____ I am considering joining (or rejoining) the military.
     c. ____ I am undecided at this time..
     d. ____ I doubt that I would join (or rejoin) the military.
     e. ____ I have absolutely no desire to join (or rejoin) the military.

9. During your career as a civilian contractor, how many times did your family members move to a new location because of your job?

a. ____ 0		e. ____ 4		i. ____ 8	
b. ____ 1		f. ____ 5		j. ____ 9	
h. ____ 2		g. ____ 6		k. ____ 10 or more	
i. ____ 3		h. ____ 7		l. ____ not applicable, no family yet	

10. During the last 12 months, how many <u>separate</u> times were you away from your family for at least one night because of your job?   Please check **ONE**.
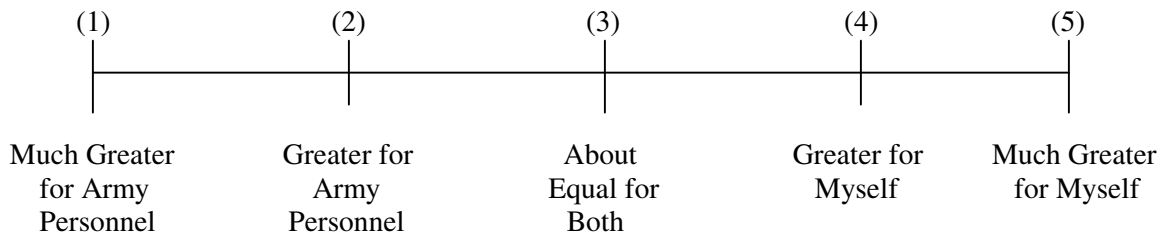
j.	____ 0	e.	____ 3	g.	____ 6 or more
k.	____ 1	f.	____ 4		
l.	____ 2	g.	____ 5		

11. During the past 12 months, how long were you away from your family due to your job? Please check **ONE**.

d.	____ < 1 month	d.	____ 5 to < 7 months
e.	____ 1 to < 3 months	e.	____ 7 to < 10 months
f.	____ 3 to < 5 months	f.	____ 10 to 12 months

The next two questions are similar, but are asking you to make comparisons in two different ways. Question 12 asks you to rate how you feel **you, yourself**, compare with Army personnel on a number of factors. Question 13 asks for the same types of comparisons but between Army personnel **in general** and civilian contractors **in general**.
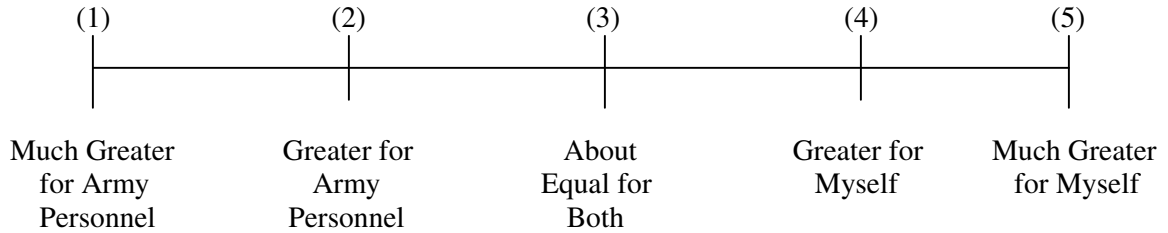
12. If you were to compare **yourself** to Army personnel (assuming comparable duties), how would
    you rate the following factors using the 5-point scale below?

(1)	(2)	(3)	(4)	(5)
Much Greater for Army Personnel	Greater for Army Personnel	About Equal for Both	Greater for Myself	Much Greater for Myself

a. ____ pay
b. ____ benefits
c. ____ level of risk of personal injury
d. ____ freedom to make decision about how a job is done
e. ____ task variety within one's job
f. ____ promotion opportunities based on merit
g. ____ quality leadership in the organization
h. ____ organizational control over employee behavior (i.e., what employees
            can/cannot do)
i. ____ negative impacts on family members' happiness
j. ____ satisfying relations with co-workers
k. ____ freedom to negotiate employment contract
l. ____ degree to which the organization takes care of its employees
m. ____ requires one to spend time away from their family
n. ____ gaining a feeling of accomplishment in one's work
o. ____ feeling that one's work makes a contribution to society
p. ____ feeling of leadership support in facilitating completion of job tasks
q. ____ time spent working per day

The next question is similar to the last one, but now we would like you to compare Army personnel **in general** *to civilian contractors* **in general**.

13. On the whole, comparing Army personnel to civilian contractors (assuming comparable duties),
   how would you rate the following factors using the 5-point scale below?

(1)	(2)	(3)	(4)	(5)
Much Greater for Army Personnel	Greater for Army Personnel	About Equal for Both	Greater for Myself	Much Greater for Myself

a. ____ pay

b. ____ benefits

c. ____ level of risk of personal injury

d. ____ freedom to make decision about how a job is done

e. ____ task variety within one's job

f. ____ promotion opportunities based on merit

g. ____ quality leadership in the organization

h. ____ organizational control over employee behavior (i.e., what employees can/cannot do)

i. ____ negative impacts on family members' happiness

j. ____ satisfying relations with co-workers

k. ____ freedom to negotiate employment contract

l. ____ degree to which the organization takes care of its employees

m. ____ requires one to spend time away from their family

n. ____ gaining a feeling of accomplishment in one's work

o. ____ feeling that one's work makes a contribution to society

p. ____ feeling of leadership support in facilitating completion of job tasks

q. ____ time spent working per day

The next two questions focus on your health and well-being.

14. In general, would you say at <u>the present time</u> your health is . . .   (Please circle **ONE**)

                Excellent   Very Good   Good   Fair   Poor

Please use the five-point scale below when answering the items in __Question 15__.

(1)	(2)	(3)	(4)	(5)
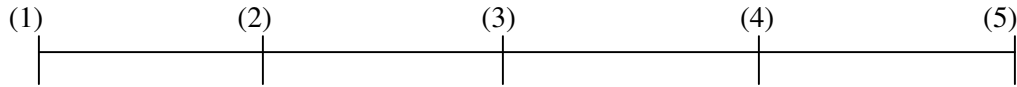
All the time   Most of the time   Some of the time   A little of the time   None of the time

15. During the past 30 days, how much of the time did you feel…

a. _____ so sad nothing could cheer you up?   g. _____ lonely?
b. _____ nervous?   h. _____ you worried too much about things?
c. _____ restless or fidgety?   i. _____ fearful?
d. _____ hopeless?   j. _____ that something bad would happen to you?
e. _____ that everything was an effort?   k. _____ blue?
f. _____ worthless?   l. _____ tense or keyed up?

The next few questions ask about social and demographic characteristics highly relevant to this research study.

16. What is your age?   _____ years

17. What is your sex? _____ male _____ female

18. What is your current marital status?   Please check **ONE**.

      a. _____ never married
      b. _____ married
      c. _____ divorced
      d. _____ separated
      e. _____ widowed

19. How many children do you have as legal dependents, whether they reside with you or not? Please circle **ONE.**

         0   1   2   3   4   5   6 or more

20. Are you currently a member of the National Guard or Reserves? Please check **ONE**.

      a. _____ Yes, I am a current member of the National Guard.
      b. _____ Yes, I am a current member of the Reserves.
      c. _____ No, I am not a current member of the National Guard or Reserves.

21. What is your occupational specialty? _____

22. Are you a U.S. citizen?

      a. _____ Yes
      b. _____ No: if no, please specify: _____

23. Do you consider yourself Spanish, Hispanic, or Latino/Latina? Please check **ONE**.

a. _____ Yes   b. _____ No

24. What is your race? Please check **ONE**.

      a. _____ White
      b. _____ Black or African American
      c. _____ Asian (e.g. Chinese, Filipino, Korean, Asian Indian, Vietnamese)
      d. _____ American Indian or Alaska Native
      e. _____ Pacific Islander or Native Hawaiian
      f. _____ multi-racial: please specify _____
      g. _____ other: please specify _____

25. What is the highest degree you have attained?   Please check **ONE**.

      a. _____ less than high school or equivalent
      b. _____ high school or equivalent
      c. _____ associates degree
      d. _____ bachelors degree
      e. _____ masters or professional degree
      f. _____ doctoral degree

STOP here **IF** you have *never* been an active duty member of the U.S. military.

If you are <u>prior active duty U.S. military,</u> continue answering questions 26-39, which focus on your experience of prior service.

26. How important is it to you that you continue to contribute to the mission of the U.S. military through working as a civilian contractor? Please check **ONE**.

      a. ____ not at all important
      b. ____ somewhat important
      c. ____ moderately important
      d. ____ very important

27. During your later high school years, what were your aspirations for the period immediately following high school? Please check **ONE**.

      a. ____ join the military
      b. ____ attend a military academy
      c. ____ attend college, then join the military (officer or enlisted)
      d. ____ attend college, then join civilian labor force
      e. ____ join the civilian labor force
      f. ____ no plans

28. Thinking back to when you were making your decision to enter the military, which of the following best represents your intentions at that time? Please circle **ONE**.

       a. stay in the military for a career
       b. stay for one term and then get out
       c. wait and see

29. Which of the following were important in your decision to join the military? Circle **ALL** that apply.

a. desire to serve my county

b. patriotism

c. adventure/challenge

d. desired to be a soldier, airman, Sailor, or Marine (for a few years)

e. desired a long career as a soldier, airman, Sailor, or Marine

f. money for college

g. repay student loans

h. entry bonus

i. need to support family (spouse and/or kids)

j. crisis (divorce, loss of job, financial problems, etc.)

k. influenced to join by parents

l. influenced to join by spouse or significant other

m. influenced to join by friends

n. lack of better options

o. best employment available

p. I was drafted

30. While you were still in the military, did you have colleagues who left the military to work for DoD as civilian contractors? Please check **ONE**:
      a. ____ Yes (Go to question 31)
      b. ____ No (Skip to question 32)

            31. If yes on Question 30, approximately how many? _____

32. While you were on active duty, where you ever contacted about a job by someone working for a civilian contracting firm? Please check **ONE**.
      a. ____ Yes (Go to questions 33 and 34)
      b. ____ No (Skip to question 35)

33. If yes on question 32, how often would you say this happened? Please check **ONE**.

      a. ____ once
      b. ____ a few times
      c. ____ fairly frequently
      d. ____ with great frequency

34. If yes on question 32, where were you when you were contacted? Check **ALL** that apply.

      a. ____ at work
      b. ____ in uniform but not at my place of work
      c. ____ at home
      d. ____ other (please specify) _____

35. What was your rank when you separated/retired from the military? _____

36. What was your military specialty? _____

37. What was your MOS code? _____

38. Which service were you in? _____

39. How long did you serve in the military? _____ years _____ months.

Please use this space to tell us any additional information on issues related to your work.

Thank you for completing this survey.
Your time and effort are greatly appreciated.

Appendix III. Informed Consent Form

Informed Consent Form

Work-Related Attitudes

I state that I am over 18 years of age and wish to participate in a program of research being conducted by David R. Segal and Ryan Kelty in the Department of Sociology at the University of Maryland, College Park.

The purpose of this research is to examine issues related to civilian contractors working with military personnel.

Procedure: The procedure for this study involves completion of a short paper and pencil questionnaire and/or an informal interview focusing on experiences and attitudes related to working in an environment that includes both military and civilian contractor personnel. Completion time for this questionnaire is approximately 15-20 minutes. Informal interviews will be held at the request of the research volunteer and may last as long as the research subject maintains interest and has time available.

> Examples of questions asked in the survey include:
> A. On a 6-point scale (1. strongly disagree 2. disagree, 3. somewhat disagree, 4. somewhat agree, 5. agree, 6. strongly agree) enter the number that corresponds to your level of agreement with the following statement:
> STATEMENT: __ *I consider civilian contractors to be members of the U.S. military's total force.*
>
> B. If you were to compare military personnel and civilian contractors who perform the same (or roughly equivalent) duties, how would you rate the following factors using the 5-point scale below? (1. much greater in the military, 2. greater in the military, 3. about equal in both, 4. greater in private contracting firms, 5. much greater in private contracting firms)
> FACTORS: __ *pay;* __ *benefits;* __ *hours spend working per day;* __ *quality of leadership in the organization;* __ *level of risk of personal injury, etc.*
>
> C. Using the 5-point scale below, please indicate in the blanks provided the strength of your opinion for each statement. (1. very dissatisfied, 2 dissatisfied, 3. neither satisfied nor dissatisfied, 4. satisfied, 5. very satisfied)
> STATEMENTS: __ *Being able to keep busy all the time;* __ *The chance to work alone on the job:* __ *The chance to do different things from time to time;* __ *The chance to be "somebody" in the community;* __ *The way my supervisor handles his/her men and women; etc.*

All information collected in this study is confidential to the extent permitted by law. I understand that the data I provide will be grouped with data provided by others for reporting and presentation and that my name will not be used at any time.

There are no foreseeable physical or psychological risks to research subjects as a result of participation in this study.

Initials _____   Date _____   Page 1 of 2

I understand that while this experiment is not designed to help me personally, my participation will help the investigators learn more about the social-psychological effects of military outsourcing. This knowledge will be used to make recommendations that facilitate improvement in military efficiency and soldiers' quality of life. I am free to ask questions, withdraw from participation, or decline to answer any of the questions in the survey without being penalized in any way.

Principal Investigator	Student Investigator
Dr. David R. Segal	Ryan D. Kelty
Department of Sociology	Department of Sociology
4145 Art/Sociology Bldg.	2112 Art/Sociology Bldg.
University of Maryland	University of Maryland
College Park, MD 20412	College Park, MD 20412
dsegal@socy.umd.edu	rkelty@socy.umd.edu
301-405-6439	301-405-6013

If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: **Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu; (telephone) 301-405-4212.**

Name of Research Subject (please print): _____

Signature of Research Subject: _____

Date: _____

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