

Perceptions and Influence of Quality of Life and Retirement Benefits

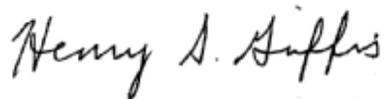
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A handwritten signature in black ink that reads "Henry S. Griffis". The signature is written in a cursive style with a large initial 'H'.

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Contents

Executive summary	1
Introduction	3
QoL background and literature review.	5
The key quality-of-life issues	5
What the QoL literature says	6
Choosing which QoL programs to analyze	11
The need to estimate the value of noncash compensation	11
Criteria for choosing QoL programs for analysis.	12
Characterizing the major QoL programs	14
Applying the selection criteria.	17
How to assess the value that military members place on QoL benefits	19
Linking value of QoL benefits to recruiting and retention	19
Challenges related to measuring the value of QoL benefits	20
Policy experiments	21
Use of existing data	22
Making use of civilian-sector data	22
Surveys.	23
Approach.	25
Availability and use of QoL programs	27
Availability/use of QoL programs by dependent child status	27
Availability/use of QoL programs by base and housing location	29

Continuation intentions and use of QoL programs	35
By dependent child status	39
By base and housing location	40
Servicemembers' perceptions of QoL benefits	47
Comparison with civilian pay and benefits	47
Servicemembers' perceptions of DoD's QoL	
benefit costs	49
Cash vouchers vs. onbase QoL program access	
for families	50
Preference for cash voucher by dependent status	54
Retirement issues	57
Alternative retirement payment system	57
Satisfaction with current retirement system.	58
Influence of a midcareer bonus	60
Summary	63
Appendix: Additional data	67
References	71
List of figures	73
List of tables	75

Executive summary

In its review of military compensation, the 10th Quadrennial Review of Military Compensation (QRMC) focused on five areas: (1) ensuring that the compensation system supports an adequate supply of military personnel with the abilities and experience to meet the national security objectives, (2) maintaining quality of life (QoL) for military personnel and their families, (3) reevaluating the special and incentive pays to enhance service flexibility, (4) assessing the need for new, more flexible recruiting and retention authorities; and (5) conducting a review of the retirement system. As part of its research support for the QRMC, the Center for Naval Analyses (CNA) was asked to analyze various QoL initiatives as well as perceptions of the retirement system.

The first half of this paper draws heavily on the existing literature and addresses the very definition of *quality of life*, choice of programs on which to focus, and methodological challenges associated with assessing the value of QoL benefits to military members. Based on this assessment, we focus on more traditional QoL “programs,” such as commissaries and child care services. Each of these benefits involves significant appropriations, has a comparable civilian counterpart that is available to military members, and is a program or service that some military members are more likely to value/use than others.

The second half of this paper presents our results using data from the Defense Manpower Data Center’s December 2006 Status of Forces Survey of Active-Duty Members. The survey included questions on QoL program availability and use, the retirement program, and other QoL issues.

We first examine the availability and use of nine QoL programs (outdoor recreation, library, fitness centers, arts and crafts, community centers, child care, youth centers, commissary, and base exchange) and the relationship with continuation intentions. We find that the

vast majority of servicemembers have access to the QoL programs and that there is no statistically significant difference between the continuation intentions of the few servicemembers without access and those servicemembers with access to these QoL programs.

Without controlling for servicemembers' characteristics, we find that the use of QoL programs is strongly correlated with the likelihood of continuation. As we expected, that correlation weakens when we account for characteristics that are typically related to both use of QoL programs and continuation. Even when we account for those characteristics, we still find that those who use the community center or commissary are more likely to intend to stay in the military than those who have the programs available and do not use them. Use of any QoL program represents a type of "engagement" in the military and, therefore, should be encouraged.

We find that servicemembers undervalue the cost of their benefits, both in how much they perceive their benefits cost the military and in how easy they think it would be to find similar income and benefits in the civilian world. There is potentially room here for increased retention gains simply by educating the servicemembers about the value of what they already receive. Despite perceived undervaluation of programs, the majority of servicemembers expressed a preference for keeping access to specific onbase QoL programs open to family members of servicemen and servicewomen instead of changing to a cash voucher system.

Lastly, we found that continuation intentions are correlated with retirement plan satisfaction and the influence of a career bonus. In the case of retirement plans, those who were satisfied were much more likely to plan to continue serving in the military. However, a large majority of young enlisted servicemembers are not currently satisfied with their retirement plan. This is another place where education about the retirement benefit's value might boost retention. Further, this suggests that there are potential gains from changing the retirement system. For the hypothetical career bonus, some members who plan to leave the services stated that the bonus would influence their decision to stay, suggesting that a career bonus could increase retention.

Introduction

The QRMC focused on five areas specified in its White House charter: (1) ensuring that the compensation system supports an adequate supply of military personnel with the abilities and experience to meet the national security objectives, (2) maintaining quality of life (QoL) for military personnel and their families, (3) reevaluating the special and incentive pays to enhance service flexibility, (4) assessing the need for new, more flexible recruiting and retention authorities, and (5) conducting a review of the retirement system. In addition, part of the tasking of the 10th Quadrennial Review of Military Compensation (QRMC) is to review the recommendations of the Defense Advisory Committee on Military Compensation (DACMC) to inform its research efforts [1].

As part of its support for the QRMC, the Center for Naval Analyses (CNA) was asked to help analyze various QoL initiatives.¹ In particular, the QRMC would like to gain more insight on how military members value QoL programs. Administrative data on military members do not contain the types of variables necessary for this type of analysis, so we have relied on available survey data for this effort.

The first half of this paper draws heavily on recent research devoted to assessing the return on investment of QoL initiatives [2, 3, 4]. Specifically, the literature points to three important issues associated with any analysis of QoL programs. We devote a section of the paper to each of these issues. The first section addresses the issue of the very definition of *quality of life* and a need to explicitly state what is (and is not) being considered in any analysis of QoL initiatives. The second section is related to the first; it involves the choice of programs on which the QRMC should focus. In the third section, we address the

1. The authors thank Jennie Wenger, Sam Kleinman, and Martha Koopman for reviewing drafts of this paper and for offering comments and suggestions.

methodological challenges associated with assessing the value of QoL benefits to military members. We lay out the pros and cons for using different methodologies, including survey analysis.

The second half of this paper focuses on our analysis of the availability, use, and perception of different QoL programs. We use the Defense Manpower Data Center (DMDC) December 2006 Status of Forces Survey of Active-Duty Members data to analyze servicemembers' opinions of the various QoL programs and how these responses correlate with continuation intentions. The December 2006 survey had 11,163 responses from 37,000 servicemembers surveyed. Because we do not have actual continuation decisions for the servicemembers, we rely on their responses to the continuation intention question.

In addition to analyzing QoL programs, we analyze servicemember opinions on their retirement benefits and on how their pay and benefits compare with pay and benefits in civilian jobs. For the retirement analysis, we use responses from a question on overall satisfaction with the retirement program and from a question on the influence of a hypothetical career bonus and compare these with the responses on continuation intentions. We also look at data from a question on how easy it would be to find a civilian job with comparable benefits and pay. We compare this question's response with continuation intentions. Moreover, we use the questions on perceived benefit cost in conjunction with a series of questions on preference for keeping programs on base vs. a voucher option.

Survey analysis is the only option for this analysis and we are limited in the conclusions that we can draw because of the limited scope of the survey questions. Not all of the QRMC's desired QoL questions were included in the survey. Specifically, there was an unsuccessful attempt to add choice-based conjoint questions that would elicit preferences on benefits by having respondents trade off between choices that differ in multiple ways.

QoL background and literature review

Military leaders believe that ensuring a high quality of life for military members is central to the cultivation and maintenance of a capable force. Several studies in the literature shape our analysis of the value of QoL programs. In this section, we provide some background to frame the issues, and we discuss a sampling of the many studies addressing analysis of QoL programs.

The key quality-of-life issues

To frame this discussion, let's start by looking at two quotations from several years ago that crystallize the importance of and the challenges in analyzing QoL programs. In February 2002, General Richard Myers, then Chairman of the Joint Chiefs of Staff, said,

Sustaining the quality of life of our people is crucial to recruiting, it's crucial to retention, and it's crucial to our readiness to fight.

As the quotation suggests, improvements in QoL are believed to increase overall satisfaction with the military and improve recruiting, retention, and readiness.²

While most agree on the importance of quality of life to military members, few concur on what the term covers and what factors are relevant to its improvement. In August 2001, Mr. Charles Abell, then Assistant Secretary of Defense (Force Management Policy), said,

My biggest quality of life challenge is that the term means different things to different people.

2. General Myers gave testimony on the Fiscal Year 2003 Defense Budget before the House Armed Services Committee on 6 February 2002.

As Mr. Abell's comment suggests, the interpretation of the term is often so broad that virtually any program, policy, or action can be perceived as affecting a member's QoL.³

These two statements frame much of the focus in the QoL literature and provide a specific context for the QRMC. On one hand, it is universally acknowledged that QoL is "important," both to military members and to military leaders. It is believed that military members value QoL, as reflected in the conviction that it positively affects both recruiting and retention. It is also important to military leaders, not only through its positive impact on manning the All-Volunteer Force, but also through its positive effects on readiness. On the other hand, there is no universally accepted definition of QoL. It is important, therefore, that the QRMC be clear on what it considers to be *quality of life* in its assessment of the return on investment of QoL initiatives.

What the QoL literature says

Since QoL is such an amorphous concept, we turn to the literature to identify the different programs and initiatives that are considered to affect quality of life. We find that the treatment of QoL in the literature is so broad that it includes virtually all components of noncash compensation offered to employees.

Economic theory suggests two main reasons why employers offer non-cash compensation [3, 5]. First is the belief that employees should have access to, and use, specific goods and services. Employers believe that having access to, and using, these goods and services makes employees "better off," thus improving QoL and/or productivity. These sentiments are not unique to the Department of Defense (DoD); private-sector employers also offer noncash compensation and/or subsidies to purchase these goods and services [6]. Noncash compensation, however, is less prevalent in the private sector than in the military. For example, few private-sector employees offer anywhere near the level of housing, recreational, and/or commissary

3. Media Roundtable with ASD (FMP) Abell, News Transcript, 31 August 2001, http://www.defenselink.mil;/news/Sep2001/t09052001_t0831fmp.html.

benefits—if any—that DoD does for the active component. This suggests that, in addition to DoD being a unique employer, it has a relative preference for “taking care” of those who serve.

The second reason is that employers believe that employees (a) will not purchase these goods and services on their own (or in the quantities that employers believe they should be used) and/or (b) will have to pay a significantly higher price to purchase these goods and services on their own. For example, individual medical and dental plans typically have higher premiums per person than group plans. DoD provides medical and dental care since DoD has a vested interest in ensuring that servicemembers are healthy enough to properly perform their jobs.

References [3] and [5] offer additional reasons why employers might offer noncash compensation, including a way of attracting and/or “screening” for certain types of employees or matching employees with specific preferences to specific employers. For example, an employer that offers attractive paternity/maternity leave and child care services may be interested in employing workers from a specific demographic group.

Many people, when asked to list things that affect QoL, immediately think of access to specific programs, such as commissaries or health insurance. However, some consider QoL to be more than just “programs,” arguing that compensation includes all things about work that people value, not just things that are explicitly provided by the employer to the employee (e.g., shared sense of patriotism and fulfilling duty) [7]. Preferences over some aspects of work will vary across employees, with some aspects, such as work-related travel opportunities, being considered a “good” by some and a “bad” by others. To the extent that there are undesirable aspects of work, the value of work to the individual member decreases, reducing QoL. In theory, people could be given more “good” aspects of work in lieu of higher pay.⁴ Similarly, higher pay could offset the impact of “bad” aspects of work.

4. Economic theory suggests that, all else equal, employers that offer higher non-wage-related compensation will offer lower monetary compensation.

Additional QoL concerns include aspects of service that adversely affect military members, such as limited employment options for spouses, disruption in dependent education as members rotate from one assignment to another, and even assignment to undesirable geographic locations. These issues are not always called “quality of life” in the literature; they are sometimes referred to as “quality of work,” “quality of work life,” or “working conditions” [8].

The underlying hypotheses are the same as with more traditional QoL programs: these aspects of service are thought to affect recruiting, retention, and readiness and are therefore important to both military members and military leaders. However, these aspects of QoL are conceptually distinct from the motivation for offering noncash compensation. QoL programs are intended to improve the compensation package, while the QoL issues related to working conditions are negatively affecting military members. These QoL issues related to working conditions are implicitly being offset by military compensation that is higher than it otherwise would have to be.

Because the QRMC is studying the Defense Advisory Committee on Military Compensation recommendations, it is worth reviewing what the DACMC considers to be QoL in its report [1]. The DACMC notes that QoL programs and initiatives are “designed to help members and their families...adjust to the sacrifices, challenges, and unique circumstances of life in the military” [1, p. 85]. The DACMC elaborates on this notion, defining QoL programs as “installation-based benefits...nonmonetary incentives to mitigate the hardships sometimes associated with frequent moves, deployments and the remote locations of many assignments” [1, p. 85].⁵

The QoL programs and initiatives explicitly identified by the DACMC fall into two categories. The first contains traditional “programs,” such as Morale, Welfare, and Recreation (MWR) and community/family support programs.⁶ Note that the DACMC does not address

5. The characterization of QoL programs as “installation-based benefits” appears to come from reference [9].

6. See table 12 of reference [1] for a list of many of these installation-based benefits.

health care or housing in its discussion of QoL programs. While these are two of the largest components of noncash compensation, the DACMC tackles these issues separately from QoL initiatives. The second category contains more general QoL issues associated with undesirable aspects of service. The DACMC focuses on three of these issues: spouse employment, dependent education, and assignment location and duration.

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Choosing which QoL programs to analyze

In our review of the literature, we found that the treatment of QoL is so broad that it includes virtually all components of noncash compensation offered to employees. Our next step, then, is to narrow our focus to the specific aspects of QoL that the QRMC should include in its assessment.

The need to estimate the value of noncash compensation

To determine which QoL programs the QRMC should study, it is useful to discuss the problems associated with offering noncash compensation to employees. In general, the cost to DoD of providing QoL programs will not equal the value of these programs to the military member. For some programs and individuals, the value of these programs could exceed cost. This is more likely to be true when the employer can purchase the good/service at a substantially lower price than the individual employee would have to pay.⁷ For other programs and individuals, however, the cost of these programs could exceed value. This is more likely to be true when the employee receives the good/service at a subsidized price and, thus, consumes more of it than he/she would choose to purchase when paying the full cost.

Even if DoD determined that the cost of the program equaled value, on average, there would undoubtedly still be some people who valued the program more (less) than it cost DoD to provide. In other words, some military members will always value QoL programs more than other members. In the most extreme (but common) case, some members will have no use for a QoL program and will not value it at all. Noncash compensation, then, is ultimately a targeted benefit, aimed

7. Even without this difference in the purchase price, value can still exceed cost. Similarly, even with this difference in the purchase price, cost can exceed value.

at those who value the programs the most. Targeted benefits will have a positive impact on recruiting and retention only for the groups at which they are targeted. While this is often the desired outcome for targeted compensation, policy-makers may not always intend non-cash compensation to be a targeted benefit.

In sum, the problem with noncash compensation is twofold. First, the cost of providing these benefits can exceed the value to military members. Second, to the degree that QoL programs are targeted benefits, these targeted benefits are not valued by members to whom the benefits are not targeted. For these reasons, a quantitative assessment of benefits and costs is needed to ensure that DoD is getting an adequate return on investment from its QoL programs.

Criteria for choosing QoL programs for analysis

In choosing programs for such a cost/benefit analysis, three criteria seem fitting. The first is to focus on programs that involve significant appropriations. This is intuitively obvious; if expenditures on a program are minimal, any changes to the program will have minimal impact on the total compensation package offered. In contrast, the QRMC has the potential to significantly improve military compensation if it focuses on programs with substantial expenditures.

Second, ideal candidates are QoL programs that have comparable civilian services available off base [10]. When assessing the return on investment of various QoL programs, one possible conclusion is that civilian providers can supply the same benefit, but at lower cost. If this is the case, it would be more efficient for DoD to provide cash compensation to military members and allow them to purchase the service off base, if they desire. For this to be an efficient outcome, it is necessary that military members have access to comparable civilian services. In contrast, some QoL programs are offered by DoD because comparable civilian services are not available. These programs are more likely to be extremely valuable to military members. Excluding these particular programs from analysis might give the impression that the benefits of QoL programs, in general, are relatively small. Excluding these programs, however, would allow the QRMC to focus on areas in which the compensation package can be improved.

Third, the most promising candidates for analysis are QoL programs that some military members are more likely to value than others. These programs are the most targeted of the noncash benefits that DoD offers to military members and, therefore, are most likely to be programs in which the cost of providing the benefit exceeds the value to many of the members. A focus on these programs would allow the QRMC to address inequities in the military compensation package.

A QoL program need not meet all three criteria. A program may involve significant appropriations and be valued differently by different members but not have a comparable service off base. However, programs that satisfy all three criteria would be most promising.

Two additional types of QoL programs have legitimate arguments for and against excluding them from the analysis. First are programs that DoD and/or Congress will continue to provide, often for readiness reasons, regardless of their value to military members. The reason for excluding such programs is simple: if DoD will continue to offer these services, regardless of the cost to DoD vs. the value to military members, analysis will have no role in the decision-making process.⁸ However, legitimate reasons to examine these programs remain. If analysis were to demonstrate that the costs of providing a QoL program significantly outweigh the benefits, it could cause DoD to reexamine whether this is the best use of scarce resources. If analysis suggests that few members value and/or use these services, policy-makers may reconsider their decision to provide the program. More subtly, DoD may be unwilling to stop providing a program completely, but it may be willing to devote any additional expenditures to programs with the highest return on investment. If this is the case, policy-makers would want to know the relative costs/benefits associated with all QoL programs so they can make informed decisions about how to maximize the return on any additional expenditures.

8. Of course, this may also be in conflict with the first criterion for choosing QoL programs to analyze—those that involve significant expenditures. DoD and Congress have probably allocated significant appropriations to those programs that they believe to be most important. QoL programs that are perceived to be “most important” are also those that DoD will continue to provide, regardless of cost-effectiveness.

The second type of program is one that the QRMC believes (a priori) that military members value greatly. As we will discuss, one of the best ways to assess the value of QoL programs to military members is to explore scenarios in which people are asked to consider military service without access to these programs. This approach runs the risk of creating a perception that DoD is considering eliminating programs that, in fact, are greatly valued by military personnel. However, there is value in having an analytic justification for a QoL program that is highly valued by military members.

One may notice that the focus has been on selecting QoL “programs” for analysis. As we have discussed, however, there are also “quality of work life” issues that many consider to be central to any analysis of QoL [1]. Our recommendation is that the QRMC focus on “programs” rather than “working conditions.” This is not because working conditions are unimportant. Undesirable aspects of military service reduce total compensation (in its broadest definition), and DoD has some ability to improve working conditions. Even when unfavorable conditions are unavoidable, DoD can still offer cash compensation, called a “compensating differential,” that in economic theory will offset the negative effects of undesirable characteristics of service.

However, this approach is conceptually distinct from the motivation for offering more traditional programs. QoL programs are intended to improve (a) the compensation package available to military members or (b) the productivity and readiness of those who serve. In contrast, compensating differentials are intended to offset negative effects of work conditions. Both are appropriate actions for DoD to take when setting compensation. This distinction, however, implies an analytic approach to evaluating QoL programs that is very different from an approach to evaluating working conditions.

Characterizing the major QoL programs

Without question, the greatest expenditures on QoL are for the military health care benefit. Although the DACMC did not address health care in its discussion of QoL, the committee considers health care to be “the single most important noncash benefit provided to employees by...the Department of Defense” [1, p. 72]. Of the \$36 billion spent

on health care in FY05, 20 percent went to providing care for active duty personnel, with slightly more than 20 percent for their dependents.⁹ More than half of health care expenditures are for retirees and their dependents, with about 30 percent for retirees under 65 and more than 25 percent for retirees over 65.

Health care for active duty personnel is, for readiness reasons, a benefit that DoD will continue to provide, regardless of its cost-effectiveness. For this reason, it is unclear whether the QRMC should try to assess the value of the health care benefit for active duty personnel. However, there may be ways to more effectively deliver health care to military members.

Health care for dependents is a classic example of a targeted benefit. It likely has minimal monetary value to military members without dependents. However, some argue that military members without dependents may consider this benefit a “charity” to servicemembers with dependents. At the most, this benefit has value to members without dependents who believe that they may acquire dependents in the future. Given the widespread availability of health care services off base at many locations, health care for dependents would seem to meet all three criteria for a QoL program on which the QRMC should focus.

For some perspective on the relative magnitude of appropriations for non-health-care QoL programs, table 1 lists the ten largest QoL programs not related to medical care in the FY07 budget and, as a comparison, the appropriated funds for the Health Defense Program.¹⁰ These are not total costs; for example, such costs as construction for new child care facilities are not included, and some programs, such as bowling alleys, are partially financed through user fees (nonappropriated funds). However, the relative amounts listed here are sufficient for ascertaining the largest QoL programs.

9. The Office of the Assistant Secretary of Defense for Health Affairs provided these data.

10. These data come from the National Defense Budget Estimates for the FY2007 Budget, <http://www.dod.mil/comptroller/defbudget/fy2007/index.html>.

Table 1. FY07 appropriated funds (O&M) for QoL programs

QoL program	Appropriated funds (millions of dollars)
Health Defense Program	20,494
Commissaries	1,186
Child care	532
Physical fitness and aquatic training	138
Library programs	83
Basic social recreation (center) programs	35
Directed outdoor recreation	33
Automotive crafts skill development	22
Arts and crafts skill development	18
Recreational swimming	18

As table 1 shows, the appropriated funds for the Health Defense Program dwarf the top ten non-health-care QoL programs.¹¹ Among the appropriated funds not related to medical care, the overwhelming majority of funds go to operating and maintaining commissaries and child care programs—\$1.2 billion and \$530 million, respectively, for FY07.¹² The next largest QoL program, physical fitness and aquatic training, is funded at about 25 percent the level of child care programs. The amounts devoted to the remaining QoL programs in table 1 are appreciably lower, especially considered on a per capita basis (about 1.4 million active duty personnel).¹³

11. The \$20,494-million FY07 appropriated funds for the Health Defense Program include some readiness-related funds, which may not necessarily be considered quality-of-work compensation. The appropriation for the Health Defense Program is only a portion of DoD's expenses on medical care; for example, this amount does not include funding for MILPERS, MILCOM, or supplemental health insurance for all Medicare-eligible military retirees.

12. Child care programs include child development centers, family child care, supplemental programs/resource and referral, school age care, and youth programs.

13. These data are consistent with the observations of reference [4], which notes that the per capita amount spent on QoL programs is very small.

Applying the selection criteria

To summarize the foregoing discussion, QoL programs that are ideal candidates for analysis are those that:

- Involve significant appropriations
- Offer available/comparable services off base
- Are much more likely to be valued/used by some military members than by other military members.

Furthermore, it's not clear that it would be profitable to focus analysis on QoL programs that:

- DoD and/or Congress will continue to provide for their readiness benefits, regardless of how much value military members place on the benefits
- We believe (a priori) military members value greatly.

If the QRMC chooses to focus on QoL programs with significant appropriations, commissaries and child care are natural choices. Both have comparable civilian counterparts at many locations and, for child care in particular, are likely to be programs that are valued significantly differently by different military members.

Health care for active duty personnel is a clear case of a benefit provided for readiness reasons, but health care for retirees and dependents provides a third example of a benefit that requires significant appropriations, has comparable services available off base, and is valued and used differently by different military members.

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How to assess the value that military members place on QoL benefits

Before discussing the challenges associated with assessing the value of QoL benefits to military members, it is necessary to discuss why policy-makers should care about the value to the individual member. According to General Myers, QoL programs are intended to improve recruiting, retention, and readiness.¹⁴ Put another way, if QoL programs do not improve these outcomes, DoD should reexamine why they are being offered.

Linking value of QoL benefits to recruiting and retention

In particular, the importance of the value of QoL benefits lies in its link to recruiting and retention. To the extent that members value a QoL program, the compensation package associated with military service is larger than if the program were not available. Consequently, there is a positive relationship between recruiting/retention and the value of QoL programs, in the same way that one observes a positive relationship between these outcomes and cash compensation. In general, programs that are valued more by (more) military members will have greater effects on recruiting and retention. Since many QoL programs are targeted benefits, recruiting and retention should improve in the targeted populations.

It is less important to measure the value that military members place on those QoL programs that are intended to improve readiness. Such programs should be judged on their contributions to readiness, not

14. On 6 February 2002, during testimony on the Fiscal Year 2003 Defense Budget before the House Armed Services Committee, General Richard Myers, then Chairman of the Joint Chiefs of Staff, said, "Sustaining the quality of life of our people is crucial to recruiting, it's crucial to retention, and it's crucial to our readiness to fight."

on the value military members place on them. In such cases, the link between value and readiness is less clear, and may not even exist. For example, some people may not appreciate or value a particular program (e.g., health care for younger military members), but having access to and using the program improves readiness.

Reference [4], however, notes that “the problem of measuring readiness itself remains unsolved,” particularly at the individual level. Consequently, most assessments of the benefits of QoL programs focus on recruiting and retention and, therefore, estimates of the value of these programs to the individual member. Since effects on readiness are not measured, this approach provides a lower bound estimate of the total benefits of QoL programs.

Challenges related to measuring the value of QoL benefits

In its recommendations [1, pp. 93–94], the DACMC states that

quality-of-life programs should be subject to periodic, rigorous evaluation to ensure that they represent the best use of resources, in meeting the demands of members and families, and the readiness goals of the military services.

Such an evaluation would compare the recruiting, retention, and readiness benefits, if any, with the costs of each program.

The DACMC also acknowledges, however, that “a quantitative assessment of the benefits of such programs is difficult” [1, p. 94]. In fact, there is no universally accepted method for “rigorous evaluation” of QoL programs. In other words, for the QRMC to fully conduct such an evaluation, it must develop a methodology to perform a quantitative assessment of the benefits of QoL programs.

Several methodological challenges are associated with measuring these benefits, many of which have been discussed at length in previous research. Understanding these challenges is essential in formulating an approach to the issue of QoL. In the remainder of this section, we will discuss these methodological issues, with an eye toward developing an approach that will help inform an understanding of the value of these benefits.

Policy experiments

In the program evaluation literature, policy experiments are usually considered the best way to evaluate a program or policy [11]. Policy experiments are essentially “small scale,” similar in nature to clinical trials of drugs being considered for approval. In a policy experiment, people are randomly assigned to “treatment” and “control” groups. Random assignment implies that there are no observable differences between two groups (i.e., there is no discernible reason why a person would be in one group vs. the other). The treatment group is exposed to the proposed policy change, while the control group is not. To assess the outcome of the policy change, the researcher measures the difference between outcomes for the treatment and control groups.

While policy experiments are an ideal way to assess the value of programs not yet implemented, there are several obstacles associated with using them to assess the benefits of QoL programs. Consider the example of valuing the military health care benefit: a well-designed policy experiment would (a) randomly select a group of military members and take away their health care benefits, (b) select an identical group and allow members to keep their health care benefits, and (c) measure the effect on recruiting, retention, and readiness.

This approach has substantive pitfalls. The first involves equity concerns [11]. By definition, placement into a treatment or control group is completely arbitrary; for no reason apparent to the member, some military members would have their health care benefits taken away. This raises legitimate issues of fairness. The second drawback is that DoD provides QoL programs because it believes that there are recruiting/retention/readiness benefits. If this belief is correct, a policy experiment would reduce readiness for the sole purpose of measuring how large this reduction really is.¹⁵

15. Pilot programs are similar to policy experiments in that a group is selected to be exposed to a policy change [11]. Historically, however, pilot programs haven't included treatment and control groups as rigorously selected as policy experiments. Some pilot programs have included everyone being exposed to the policy change for a limited period of time, with the prepolicy period being considered the control.

Use of existing data

Given the challenges associated with policy experiments, some researchers have tried to use existing data to measure these benefits [2, 12]. The best approach is to compare recruiting/retention outcomes of those with and without access to QoL programs, holding all other factors constant. Access to QoL programs, however, is not random [2, 10]. It usually varies by base or location—meaning that a program is either available or unavailable for all personnel. Access may also be a capacity issue (e.g., child care). As a consequence, the researcher cannot disentangle the retention effect of “lack of access to QoL programs” from the retention effect of “assignment to a particular location.”

As an alternative, researchers have compared outcomes of those who use and do not use QoL programs. This approach has two problems [2, 4]. First, for many QoL programs, the value of a program is not necessarily correlated with use of the program. Some programs are intended to be used by military members with specific problems (e.g., catastrophic illness, marital difficulties, financial difficulties). As noted in [4], “members with these problems are probably less likely to stay in the military than those without problems.” Furthermore, if there is value to having the option to use QoL programs, one would expect that military members who voluntarily choose not to use these services would still value them.

Second, reference [4] argues persuasively that use/nonuse of QoL programs often reflects additional factors that contribute to one’s satisfaction/dissatisfaction with the military. In other words, use of QoL programs is not random, and, if people who are more satisfied with military service are both (a) more likely to use QoL programs and (b) more likely to remain in the military, observed differences in retention are not necessarily due to the QoL program.

Making use of civilian-sector data

Of the alternative approaches to measuring “value,” all suffer from methodological shortcomings. We discuss two approaches here.

The first approach is to use data that allow the researcher to estimate the difference in outcomes with and without a QoL program. For example, the researcher could try to find two similar civilian employers—one that offers QoL programs similar to those offered by DoD and one that does not. This approach has several problems. The decision to offer these programs is probably not random, and it is usually not possible to discern why they are or are not offered. Also, very few, if any, civilian employers offer the extensive array of QoL programs comparable to those offered by DoD. While this approach might work for some programs, it is not useful for evaluating others. Finally, there are a number of other differences between DoD and civilian employers, and between the civilian workforce and military members. It is not clear to what extent an analysis of civilian QoL programs would be generalizable to the military.

A second approach would be to approximate the value of QoL programs by the cost of purchasing comparable, civilian-provided benefits. The main obstacle here is that some QoL benefits, such as child care, are purchased by some members but not by others. One could infer that, for those who choose to purchase the benefit, the value of the military-provided benefit is less than the cost of purchasing the civilian-provided benefit. One could also infer that, for those who choose not to purchase the benefit, the value of the military-provided benefit is greater than the cost of purchasing the civilian-provided benefit. This would provide “bounds” on the value of QoL programs to different military members; however, this doesn’t take into account that DoD child care capacity relative to demand is not consistent across all locations, distorting the measurement between cost and benefit. This illustrates how measuring the value of QoL programs is more complex than simply looking at the cost of civilian-provided programs.

Surveys

Surveys are probably the most promising way to assess the value of QoL programs, but they have their own methodological challenges. First, surveys must be targeted, and the results are usually not generalizable to other populations. For example, surveying active-duty personnel will not provide information on the value of QoL programs to

potential recruits. It would not allow assessment of the extent to which recruiting is affected by the QoL programs that DoD offers. Similarly, surveying potential recruits will not provide information on the value of QoL programs to military members.

The second challenge to using surveys is that it is critical for the survey to be properly designed. Simply asking people to place a dollar value on each benefit is not a promising approach. Respondents have no incentive to be truthful because there is no penalty to overstating a program's value.¹⁶ Likewise, asking about a program's "importance" yields little useful information. In other survey designs, questions are set up to reveal the preferences of respondents without explicitly asking them to assign a value to each benefit. Although such designs are more complicated, they are also more likely to yield useful data. An example is choice-based conjoint, which attempts to replicate real-world decision-making by having respondents make tradeoffs between two (or more) choices that differ in multiple ways.¹⁷ Despite these shortcomings, survey data provide useful information and, given the methodological challenges associated with other strategies, a well-designed survey is probably the most promising way to assess the value of QoL programs.

16. As long as a program has some value, it is in the best interest of the respondent to significantly overstate the value of the program. This strategy makes it more likely that the benefit will continue to be offered since estimates of "value" derived from the survey responses would be likely to exceed the cost of providing the benefit.

17. For an example of choice-based conjoint analysis that focuses on QoL issues, see [8]. For an example of a recent survey fielded to military members, see [13].

Approach

Based on the arguments laid out in the preceding section, the QRMC's intent was to use the December 2006 Status of Forces Survey to ask military members a sequence of questions designed to get them to trade off between different QoL programs and between QoL programs and current cash compensation. These questions were designed to be in the vein of the choice-based conjoint survey questions described in the last section and in [8] and [13]. The QRMC saw this as the best option for addressing the methodological challenges laid out in the last section.

Specific questions were added to the December 2006 Status of Forces Survey to provide QoL data to the QRMC. Unfortunately, the QRMC was unable to get approval to place choice-based conjoint questions in the survey. However, they were able to structure some QoL program and benefit questions that did get approval to be on the survey, such as ones about availability and use. In addition, the survey included a couple of questions designed to gauge servicemembers' perceptions of the costs of their QoL benefits. We focus on two such questions. The first asked about the ease of finding a civilian job with similar pay and benefits. The second question asked servicemembers to estimate what DoD spends on their benefits. Finally, we look at satisfaction with the retirement program and the influence of a career bonus.

The remainder of the paper presents our analysis of the December 2006 Status of Forces Survey of Active-Duty Members QoL program and benefit data. The survey data consist of 11,163 observations. In our analysis, we weight the survey data using DMDC's Status of Forces Survey final weight. This weight accounts for sampling stratification and nonresponses among different groups.

We focus on servicemembers' opinions about various QoL programs and how these responses correlate with continuation intentions.

Unfortunately, we do not have data on servicemembers' actual continuation behavior, so we use likelihood-to-stay responses as a proxy for the relationship between QoL programs and continuation behavior. Continuation intentions are based on servicemembers' responses to the question: "Suppose that you have to decide whether to stay on active duty. Assuming you could stay, how likely is it that you would choose to do so?" Interpreting the data from these questions will be subject to the pitfalls described in the preceding section. However, these are the only data we have to work with. We present our analysis of these data in the next four sections.

Availability and use of QoL programs

The 2006 Status of Forces Survey of Active-Duty Members asked participants whether certain QoL programs were available at their current locations and how often they used them in the last 12 months. There were several frequency choices, but we group them all into a “used in the last 12 months” category. Figure 1 shows the share of servicemembers without availability to nine different QoL programs and the share of those *with* availability who did or did not use those programs in the last 12 months.¹⁸ About 2.5 percent of servicemembers marked “not available” for the various programs. Some programs, such as arts and crafts were not used at all by the majority in the past 12 months, while others were used by almost everyone at least once. The most likely programs to be used are basic base services—the exchange, commissary, and fitness center. Arts and crafts, child care, and youth centers are the most likely *not* to have been used in the past 12 months. Onbase child care services, unlike some of the other programs, may have capacity restrictions that limit use.

Availability/use of QoL programs by dependent child status

Some programs, such as child care and youth centers, are targeted toward a subset of servicemembers—48 percent have dependent children. Figure 2 shows the use of these nine QoL programs by servicemembers with children. Of those with children and availability to these programs, a majority have used the library, fitness center, commissary, and exchange in the past 12 months. Of all servicemembers with dependent children, only 20 percent have used DoD child care during that time. However, due to crowding at child care facilities, this may be underrepresenting the number of servicemembers who want to use the child care programs. The share of those who have not

18. Data for figures 1–7 are from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

Figure 1. Use of QoL programs

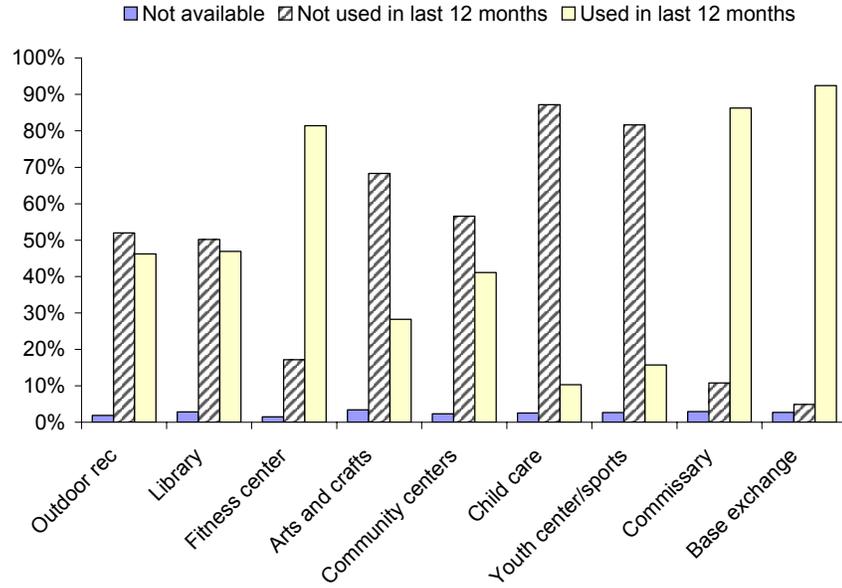
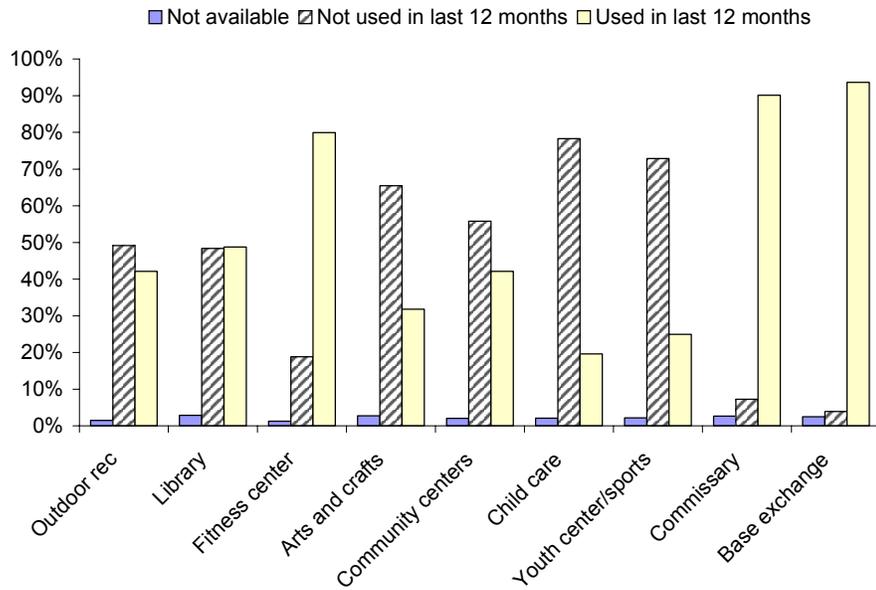


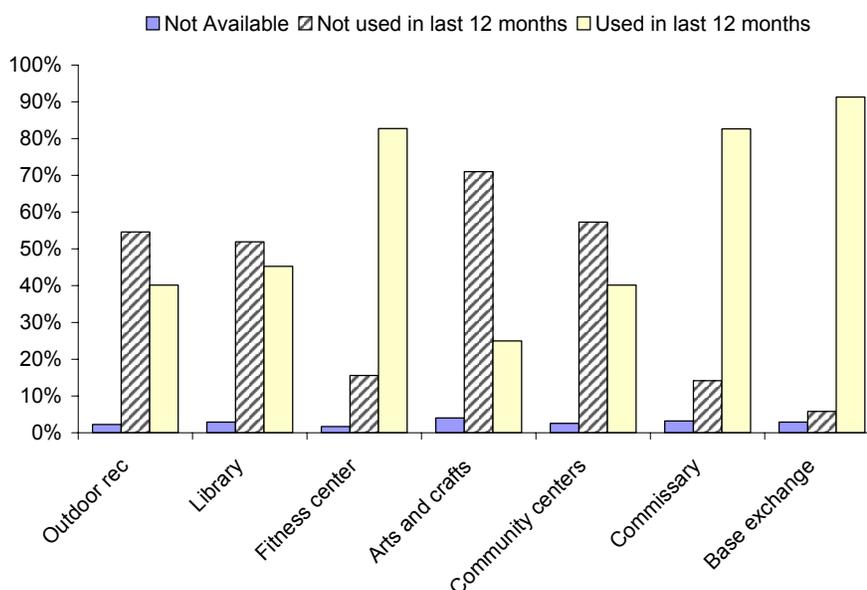
Figure 2. Use of QoL programs among servicemembers with dependent children



used child care programs likely includes parents who have the service available on base but do not have access due to capacity limitations.

Our findings are slightly different for servicemembers without dependent children. The majority of those without children have not used the outdoor recreation, library, arts and crafts, or community center programs in the past 12 months. Compared with those with children, servicemembers without children are much less likely to have used the arts and crafts program and the commissary in the past 12 months (see figure 3).

Figure 3. Use of QoL programs among servicemembers without dependent children



Availability/use of QoL programs by base and housing location

Preferences for and availability of QoL programs are likely to differ by servicemembers' location and housing situation. For example, servicemembers who live outside the United States and U.S. territories

or off base are likely to have more years of service and, thus, may have different preferences across the QoL programs and services. Further, civilian alternatives for these QoL programs may be limited near bases outside the United States, or servicemembers living off base may live closer to civilian alternatives.

We examine availability and use by whether a servicemember is stationed within or outside the United States under the hypothesis that availability and civilian QoL program alternatives may differ by base location. Being at a base in the United States is defined as being at a duty station in 1 of the 50 states, DC, Puerto Rico, or a U.S. territory or possession.¹⁹ We find that availability of programs is lower for servicemembers not stationed within the United States. Library service was the only program where availability was indicated as being just as available outside as within the United States. The largest differences in availability between these two groups were for child care, youth centers/sports, and arts and crafts programs. Of servicemembers at bases within the United States, 2.9 percent said that an arts and crafts program was not available compared with 6.2 percent of servicemembers stationed at bases outside the United States. Among servicemembers at U.S. bases, 2.0 percent stated that child care services were not available compared with 5.6 percent of servicemembers at non-U.S. bases. Overall, however, the share of servicemembers without availability to any of these nine QoL programs is low, with the highest percentage—6.2 percent—being for arts and crafts for non-U.S.-stationed servicemembers (see figures 4 and 5).

While availability at non-U.S. located bases is lower, use rates of the QoL programs were higher among these servicemembers. Non-U.S.-stationed servicemembers are comparatively more likely to use all of these QoL programs, especially the library, community centers, and outdoor recreation programs. Different use rates could be from a different composition of servicemembers with different tastes from those

19. Our definition for being at a base in the United States was constructed from a permanent duty station question on the Status of Forces survey that distinguishes between the 50 states, DC, Puerto Rico, or a U.S. territory or possession and all other locations. About 2 percent of the sample did not answer this question. In those cases, DMDC imputed the information from record data.

Figure 4. Use of QoL programs among servicemembers at U.S. bases located in the United States

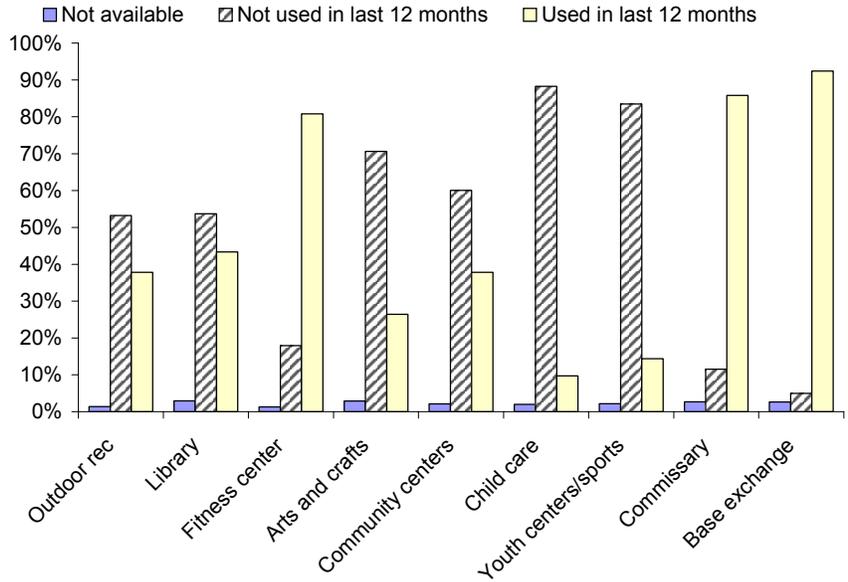
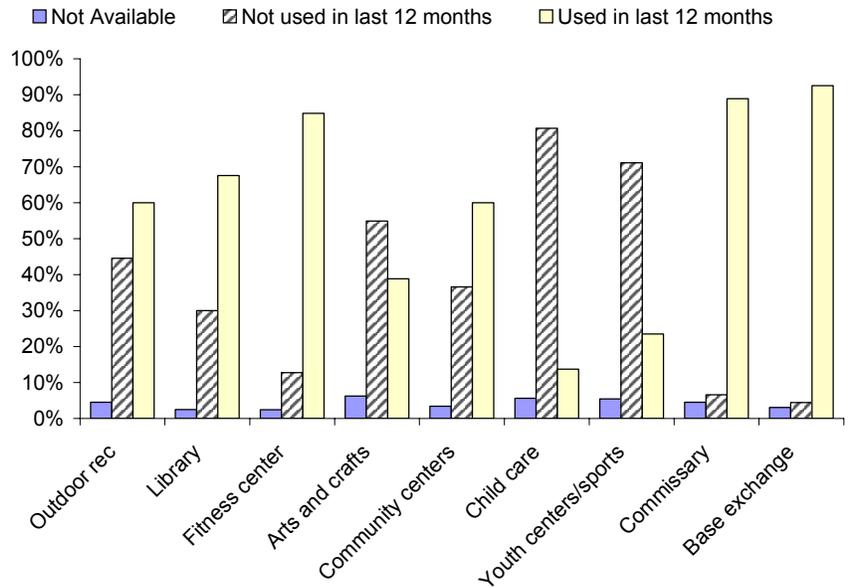


Figure 5. Use of QoL programs among servicemembers at U.S. bases located outside the United States



who are at bases inside vs. outside the United States or differences in available civilian alternatives. Alternatively, servicemembers stationed at bases outside the United States may have fewer civilian alternatives available or unfamiliar civilian alternatives.

We next examine how availability and use differed by housing. We separate servicemembers by whether they live on or off base.²⁰ Given that those on base live where the services are located, it isn't surprising that use among onbase servicemembers is for the most part higher. For example, 55 percent of servicemembers living on base have used the library in the past 12 months vs. 42 percent of servicemembers living off base. Servicemembers living off base are less likely to use the outdoor recreation programs, community center, library, fitness center, or youth sports/center, probably due to living a longer distance from these programs. Both groups are equally likely to have used the following programs in the past 12 months: arts and crafts, child care, commissary, and exchange (see figures 6 and 7).

Use of the commissary and the base exchange is similar among these two groups. Among servicemembers living on base, 85 percent have used the commissary in the last 12 months vs. 87 percent who don't live on base. Among both groups, over 90 percent have used the exchange in the past 12 months. Frequency of use of the exchange within the past 12 months is slightly different, with servicemembers living on base using the base exchange on average more times in a year. Of those who have used the base exchange in the past year, 72 percent of servicemembers living on base used it over 21 times compared with 61 percent of servicemembers who don't live on base. This suggests that servicemembers living off base are using civilian stores more than servicemembers who live on base, potentially because of where these civilian alternatives are located relative to their home.

20. Living on base was constructed from a question on the Status of Forces survey. Based on the answers to the question, onbase living includes living aboard ship, in barracks/military facility, in onbase military housing, or in onbase privatized military housing. For the approximately 2 percent of respondents who did not answer the question, the variable was imputed from DMDC record data. In those few cases, if the member is receiving Basic Allowance for Housing, that member is classified as living off base.

Figure 6. Use of QoL programs among servicemembers living on base

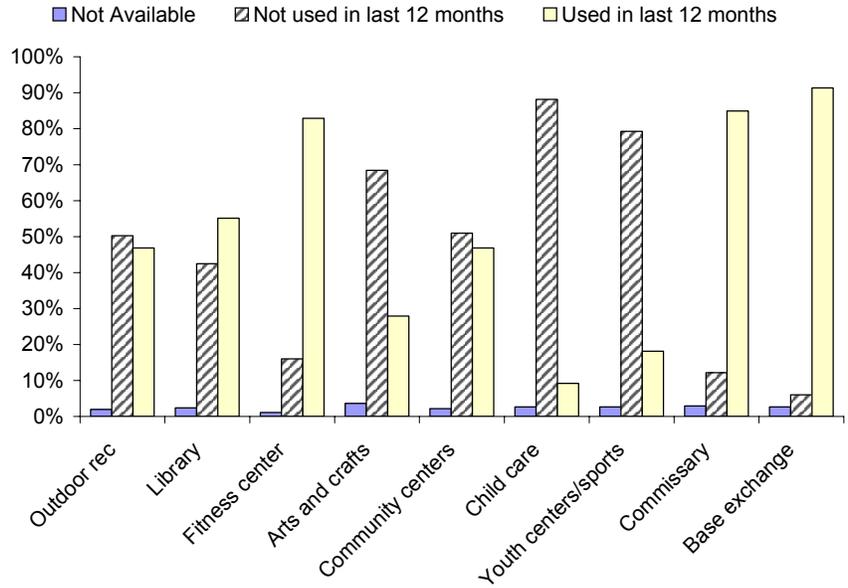
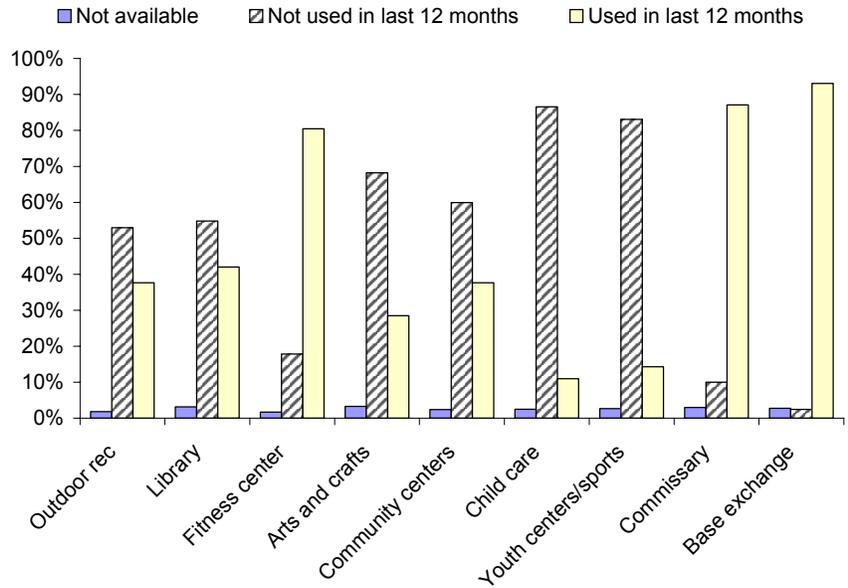


Figure 7. Use of QoL programs among servicemembers living off base



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Continuation intentions and use of QoL programs

Figure 8 displays nine QoL programs with the percentage selecting “likely to stay” broken out by whether the programs were available. We find no statistically significant difference in the continuation intentions of those with and without availability to these programs.²¹ This does not imply, however, that QoL programs have no relation to the decision to stay in the military. Locations without access to QoL programs are likely to be different in many ways from locations with access. Reference [4] notes that using use and access to programs to predict actual retention outcomes is problematic because of the non-random aspects of both access to and use of QoL programs. For example, as noted earlier, only a small share of servicemembers indicated that they did not have access to one or more of these programs, and those rates were higher for servicemembers stationed outside the United States and U.S. territories. Thus, the use of nonavailability as a “control” to determine whether access to these QoL programs influences continuation behavior is problematic. In addition, even those who currently don’t have availability to these QoL programs at their current posting probably have had availability in the past—and probably will in the future. For these reasons, we focus our discussion on the correlation between use and continuation intentions.

Breaking out the data further (to “not available” and “used/not used in last 12 months”) reveals differences in continuation intentions. Figure 9 shows the cross-tabulation of likely to stay and availability and

21. Figure 8 is the cross-tabulation of likelihood to stay and availability of these nine QoL programs using the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse. When controlling for servicemembers’ individual and work characteristics, we still find no statistically significant effect of availability of the programs on likelihood to stay.

Figure 8. Continuation intentions by availability of QoL programs

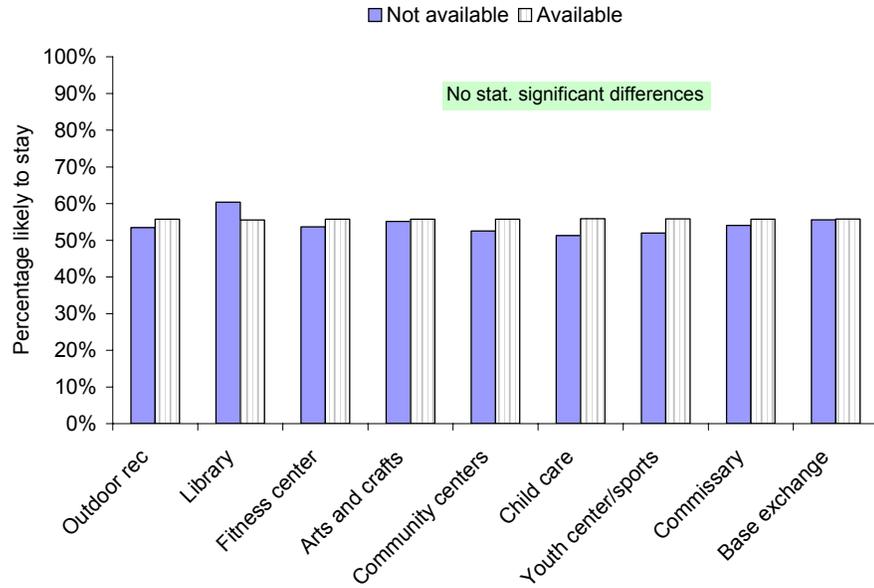
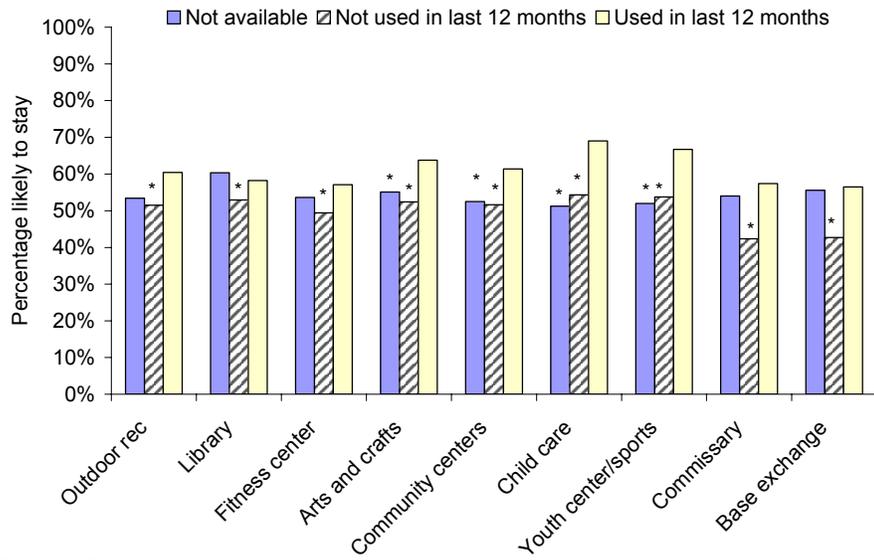


Figure 9. Continuation intentions by use of QoL programs^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

use of nine QoL programs using the weighted survey data. We find statistically significant differences at the 5-percent level between continuation intentions of those who used a program and those who didn't have access for just four of the nine programs. For those four programs, the continuation intentions of those without availability was less than for servicemembers who had used the QoL programs.

Figure 9 shows a clear pattern in continuation intentions between program users and nonusers. Respondents who used the various QoL programs stated more often that they were likely to stay than those who did not use the programs. The largest difference in likelihood-to-stay intentions is between users and nonusers of the commissary and base exchange. Of users of the commissary (exchange), 57 percent (57 percent) state that they plan to stay in the military vs. 42 percent (43 percent) of nonusers of the commissary and exchange.

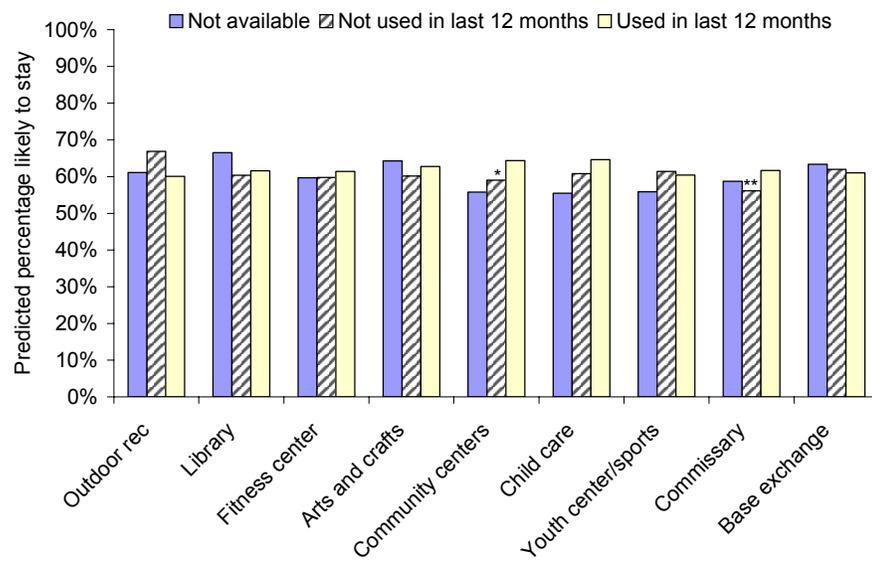
Users of child care and youth centers indicate that they are likely to stay in much higher numbers than users of the other programs. However, rates of use of these programs are lower than for the other programs. Rates of use for child care and youth centers average 12 and 18 percent, respectively, across the services. Lower use in onbase child care is potentially due to capacity limitations.

We found similar results for the individual services (i.e., those who use the programs intend to stay in the military at higher rates), but the differences between the users and nonusers are smaller in the Navy and Air Force. Other than the library and arts and crafts programs, the difference between users and nonusers is largest in the Marine Corps. For example, the differential in continuation intentions between Marine Corps users and nonusers of the child care and commissary programs are 37 and 22 percentage points, respectively. Results for the individual services are in the appendix.

Use of QoL programs may be correlated with other factors that influence the likelihood to stay. For example, servicemembers with families—who are more likely to use child care and youth services—are more likely to have more years of service with higher continuation rates. To account for this, we estimate the effect of availability and use of QoL programs on likelihood to stay, controlling for demographic characteristics, housing location, years of service, branch of service,

and paygrade categories.²² Figure 10 shows that, for the majority of these QoL programs, there is no statistical difference in continuation intentions by use or availability when accounting for servicemembers' characteristics. Even controlling for all these factors, we find a statistical difference in stay intentions by use of the community center and commissary.²³

Figure 10. Predicted continuation intentions by use of QoL programs^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from full sample logit regressions controlling for marital status, dependent child status, gender, housing, duty station location, length and branch of service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

22. The continuation intentions logit regression includes the following dummy variables: availability and lack of use of these nine QoL programs, marital status, dependent child status, onbase housing, stationed at a base within the United States or U.S. territory, male, length of service categories (less than 3 years, 3–5 years, 6–9 years), branch of service dummies (Army, Navy, Marine Corps), and paygrade categories (E1–E3, E4–E6, E7–E9, O1–O3, O4–O6).

23. The differences in continuation intentions by use of the community center and commissary are statistically different at the 5-percent level.

Servicemembers who use the community center have a predicted likelihood-to-stay rate of 64 percent vs. 59 percent among those who do not use the center. Among commissary users, the predicted continuation intention rate is 62 percent compared with 56 percent among nonusers. While we find that the use of these QoL programs is correlated with higher continuation rates, we are unable to determine causality simply by analyzing these survey data. It could be that the programs create an incentive to stay, but it could also be that servicemembers who intend to stay in the military are more involved and take part in as many programs as possible.

By dependent child status

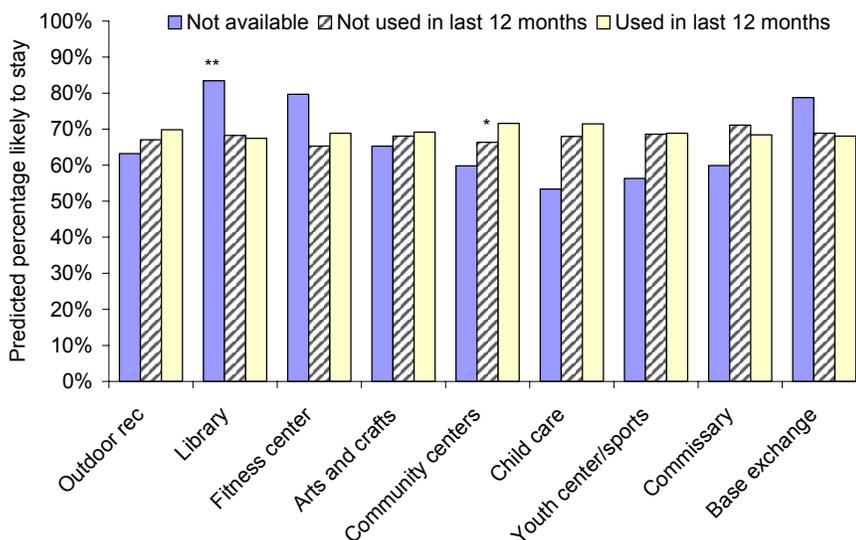
As stated before, 48 percent have dependent children and 66 percent of servicemembers with children indicated that they were likely to stay compared with 46 percent for those without children. Without controlling for other characteristics that influence continuation decisions, we find that those who use the programs indicate that they are likely to stay more often than those who do not use the programs. However, when we account for characteristics other than use and availability of QoL programs, the difference in continuation intentions weakens considerably for most of the programs.

Figure 11 shows predicted continuation intentions for servicemembers with dependent children, accounting for servicemembers' other characteristics. Use of the community center is independently correlated with intentions to stay. The predicted continuation rate among servicemembers with dependent children who are using the community center is 72 percent—6 percentage points higher among those who don't use the community center.

As a comparison with figure 11, which shows the predicted continuation intentions of servicemembers with children, figure 12 displays the predicted continuation intentions of servicemembers without children by their use of QoL programs. As in figure 11, there is a significant difference in continuation intentions between those who did use the community center in the last 12 months and those who did not use it. The largest differential in predicted continuation intentions shows up in the commissary, where nonusers indicate a

likelihood to stay in the military of only 43 percent compared with 55 percent among users. Perhaps absence of use of this QoL program indicates a distancing of the member from the military or a general lack of engagement.

Figure 11. Predicted continuation intentions by use of QoL programs: servicemembers with children^a



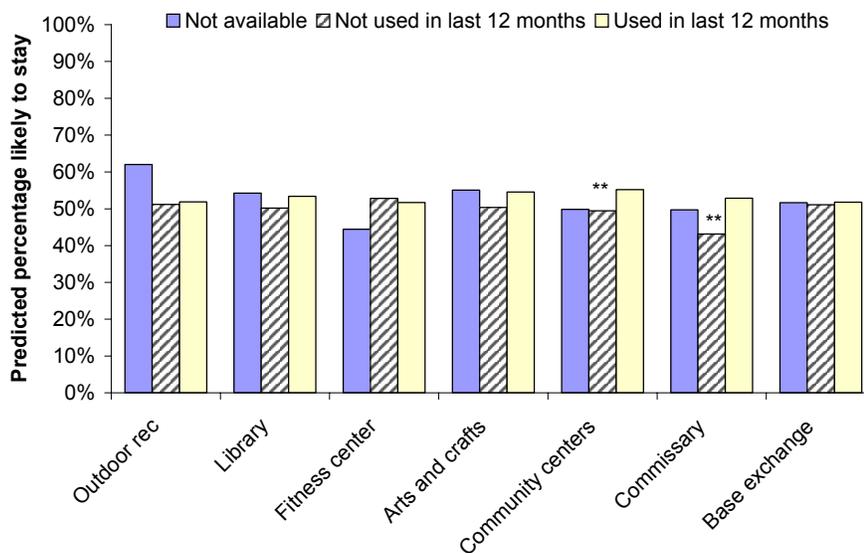
Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from dependent-children sample logit regressions controlling for marital status, gender, housing, duty station location, length of service, branch of service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

By base and housing location

As shown in figures 4 and 5, use rates of QoL programs are lower among those stationed at U.S. bases (i.e., at a duty station in 1 of the 50 states, DC, Puerto Rico, or a U.S. territory or possession). Most servicemembers, however, 85 percent, are stationed at U.S. bases. In addition to differences in the use of QoL programs, servicemembers' continuation intentions are slightly lower at U.S. bases than at bases outside the United States, at 55 vs. 58 percent being likely to stay.

Figure 12. Predicted continuation intentions by use of QoL programs: servicemembers without children^a



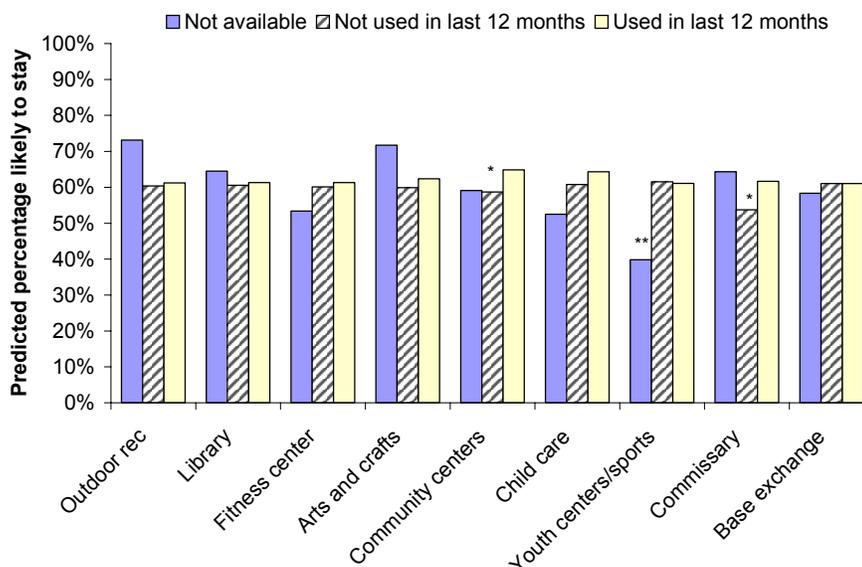
Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from no-dependent-children sample logit regressions controlling for marital status, gender, housing, duty station location, length of service, branch of service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Figure 13 shows the predicted percentage of servicemembers at U.S. bases who are likely to stay, stratified by availability and use of nine QoL programs. Among servicemembers at U.S. bases, users of the community center and commissary are more likely than nonusers to intend to stay in the military. For the seven other programs, there is no statistically significant difference in stay rates between users and nonusers. For youth centers/sports, we do find that not having that program available is correlated with lower continuation intentions.

At non-U.S. bases, nonavailability of different programs is correlated more with continuation intentions. Nonavailability of youth and fitness centers is correlated with higher continuation intentions, while nonavailability of arts and crafts and child care is associated with lower continuation intentions. These findings may be due to unique characteristics of the non-U.S. bases that are correlated with availability but are not accounted for in our model (see figure 14).

Figure 13. Continuation intentions by use of QoL programs: servicemembers at bases within the United States^a

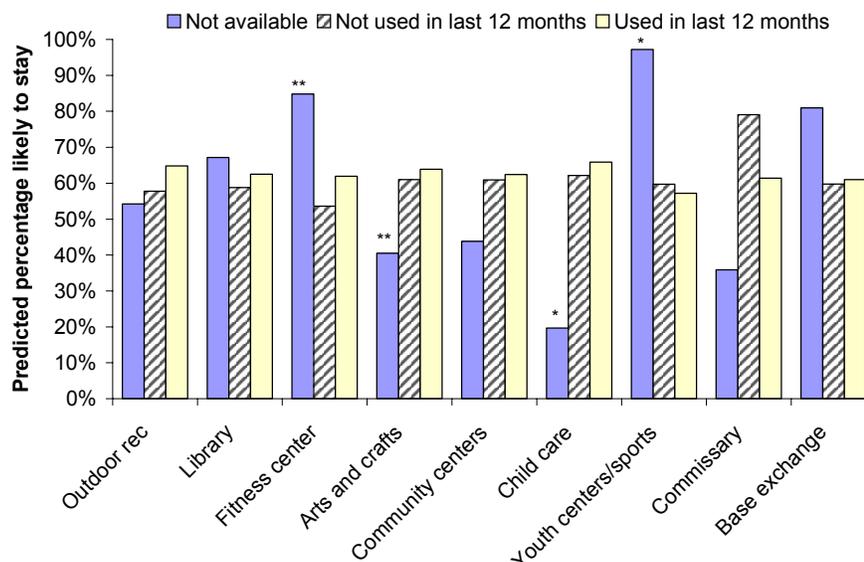


Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from within the U.S. sample logit regressions controlling for marital status, dependent child status, gender, housing, length of service, branch of service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

In figures 6 and 7, we saw that a considerably larger share of servicemembers living on base than off base used the outdoor recreation program, library, and community center. Use of the six other QoL programs was fairly equal between these groups. While use is lower for those three programs, servicemembers living off base have higher continuation intention rates (60 vs. 49 percent), but QoL use is not necessarily a factor. Those living off base are more likely to be married, have children, have a higher paygrade, and have more years of service—all factors typically correlated with higher continuation behavior. We account for those factors in figures 15 and 16, which show the predicted likelihood to stay based on availability of these nine QoL programs for servicemembers living on and off base, respectively.

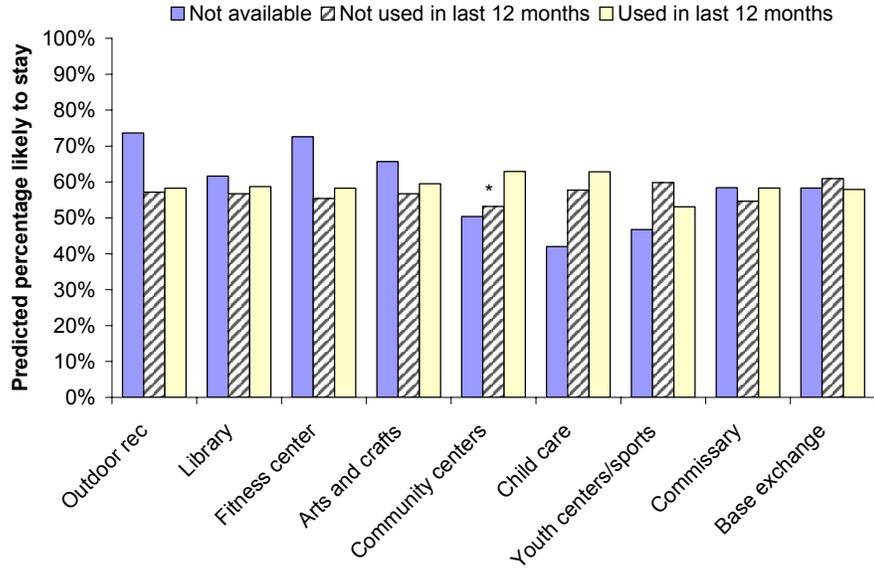
Figure 14. Continuation intentions by use of QoL programs: servicemembers at bases outside the United States^a



a. Predicted likelihood-to-stay shares from outside the U.S. sample logit regressions controlling for marital status, dependent child status, gender, housing, length of service, branch of service, and paygrade categories using December 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

For both groups, availability and use for most of the QoL programs is not a predictor of continuation likelihood. For servicemembers who live on base, those who use the community center have statistically higher continuation intentions—63 percent vs. 53 percent among nonusers. Use of the community center among servicemembers living off base is not correlated with continuation intentions once we control for other characteristics of the servicemember. Use of the commissary, however, is correlated. We predict a continuation rate of 63 percent among commissary users vs. 57 percent among nonusers. This suggests that lack of use of the community center by onbase servicemembers and lack of use of the commissary by offbase servicemembers living off base may reflect a lack of engagement.

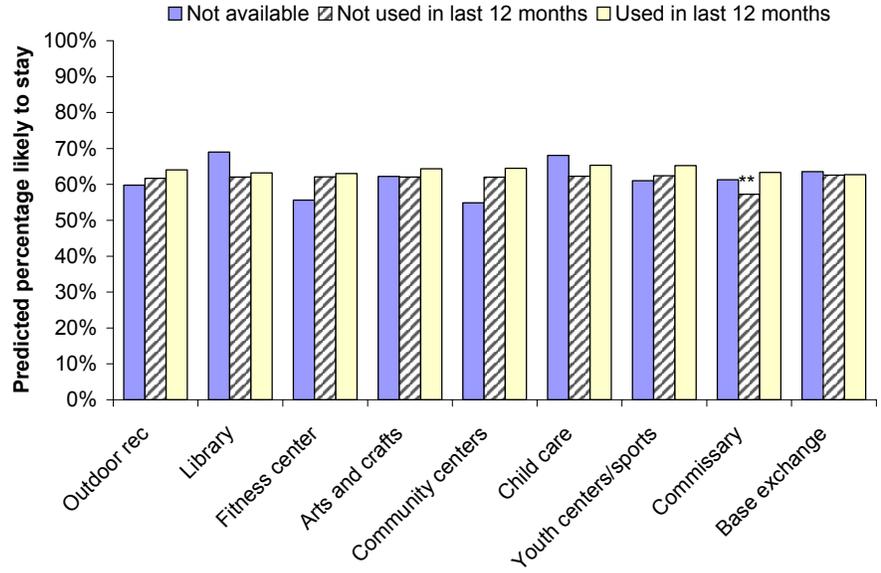
Figure 15. Predicted continuation intentions by use of QoL programs: servicemembers living on base ^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from onbase sample logit regressions controlling for marital status, dependent child status, gender, duty station location, length of service, branch of service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Figure 16. Continuation intentions by use of QoL programs: servicemembers living off base^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Predicted likelihood-to-stay shares from offbase sample logit regressions controlling for marital status, dependent child status, gender, duty station location, length of service, of branch service, and paygrade categories using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

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Servicemembers' perceptions of QoL benefits

Comparison with civilian pay and benefits

The military competes with the civilian sector in recruiting and retaining its members. While the presence of civilian jobs with comparable pay and benefits enables a smooth transition from military to civilian life for those thinking about leaving, it possibly draws them away from the military. The Status of Forces survey asked respondents to indicate whether it would be easy, difficult, or neither to find a job with a civilian employer with approximately the same income and fringe benefits that they currently receive in the military. We group responses into two categories: easy and not easy. Not easy includes “neither easy nor difficult” and “difficult.” The second column of table 2 lists the percentage of respondents who indicated that it would be easy to find a civilian job with comparable income and fringe benefits. The next two columns are the predicted shares indicating likely to stay of those who indicated that it would be easy or not easy to find civilian jobs with comparable income and fringe benefits. The predicted shares control for characteristics that may influence respondents' likelihood-to-continue intentions, such as availability and use of quality-of-life programs, demographic characteristics, length of service, branch of services, and paygrade.

It is not surprising that those indicating that it would be easy to find a comparable civilian job intended to stay less often than those who thought it would be difficult. Overall, those who said it would be easy indicated that they were likely to stay 50 percent of the time, compared with 61 percent for the others.

Enlisted and officers have access to many of the same QoL programs, such as the commissary and fitness center, but their pay differs significantly. Looking at the breakdown by paygrade, we find that officers are more likely to state that it would be easy to find a civilian job with comparable income and benefits. The difference between enlisted

and officers is quite large, which is surprising given that [14] shows that military officers earn more than their civilian counterparts on average, even when looking only at regular military compensation (RMC). Reference [14] shows that RMC is \$10,000 higher for officers than their civilian counterparts, on average, and \$3,600 higher for enlisted servicemembers compared with equivalent civilians. When benefits are included in the valuation, the differences rise substantially in favor of military compensation.

Table 2. Ease in finding civilian jobs with comparable income and benefits: by paygrade

How easy would it be for you to find a job with a civilian employer with approximately the same income and fringe benefits that you currently have in the military?			
Paygrade	Percentage who responded "easy" ^a	Percentage likely to stay of "easy" responders ^b	Percentage likely to stay of "not easy" responders ^b
All	45	56 ^c	67
E1–E3	44	31 ^c	44
E4–E6	43	49 ^c	62
E7–E9	37	67 ^c	70
O1–O3	60	56 ^c	65
O4–O6	62	75	77
W1–W5	56	68	70

- a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.
- b. Predicted likelihood-to-stay shares from full sample and separate paygrade category sample logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts/crafts, community centers, child care, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/off-base housing, within/outside U.S. duty station location, length of service, branch of service, and paygrade categories (in the full sample regression) using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.
- c. Estimate is statistically significantly different from "not easy" at the 5-percent level.

While all the services are authorized to have the same level of pay and benefits, we find that the Army and Marine Corps stand out a bit, with 50 and 49 percent, respectively, stating that it would be easy to find a civilian job with comparable income and benefits. For the Marine

Corps, however, our continuation intention estimates by ease of finding a civilian job with comparable pay and benefits are not statistically significant at the 5-percent level. Of those who said it was easy vs. not easy to find a comparable job, we find similar results across the Army, Navy, and Air Force, with a 10- to 14-percentage-point difference in likelihood to stay in the military. It might be worthwhile to publicize benefits even more so that servicemembers realize the value of what they are getting from the service, particularly in comparison to private-sector employers (see table 3).

Table 3. Ease in finding civilian jobs with comparable income and benefits: by service

How easy would it be for you to find a job with a civilian employer with approximately the same income and fringe benefits that you currently have in the military?

Service	Percentage who responded "easy" ^a	Percentage likely to stay of "easy" responders ^b	Percentage likely to stay of "not easy" responders ^b
All	45	56 ^c	67
Army	50	53 ^c	63
Navy	42	56 ^c	70
Marine Corps	49	59	66
Air Force	41	57 ^c	69

a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

b. Predicted likelihood-to-stay shares from full sample and separate service sample logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts/crafts, community centers, child care, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade, and branch of service (in full sample regression) using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

c. Estimate is statistically significantly different from "not easy" at the 5-percent level.

Servicemembers' perceptions of DoD's QoL benefit costs

Most servicemembers underestimate what DoD spends on benefits. The 2006 Status of Forces Survey asked servicemembers to indicate how much they thought their benefits cost the military per dollar they earned. While the spread between the possible choices was fairly

even, almost 21 percent stated that benefits cost less than 10 cents per dollar they earn, and 48 percent indicated less than 26 cents. The true cost to DoD is closer to 41 cents per dollar earned.²⁴ Although a majority underestimated the true cost to DoD, one-fifth still overestimated the amount DoD spends on benefits. Results varied slightly by paygrade, but about half of each subgroup selected the two lowest categories, indicating an overall underestimation of the cost of military benefits (see table 4).

Table 4. Perception of DoD expenditures on QoL benefits ^a

Paygrade	Percentage (by estimated cost to DoD per dollar earned)				
	Less than 10 cents	10–25 cents	26–40 cents	41–55 cents	More than 55 cents
All	21	27	22	11	19
E1–E3	22	26	23	10	19
E4–E6	23	25	21	10	21
E7–E9	19	30	23	11	17
O1–O3	14	31	25	13	17
O4–O6	12	29	29	15	16
W1–W5	24	31	22	11	12

a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

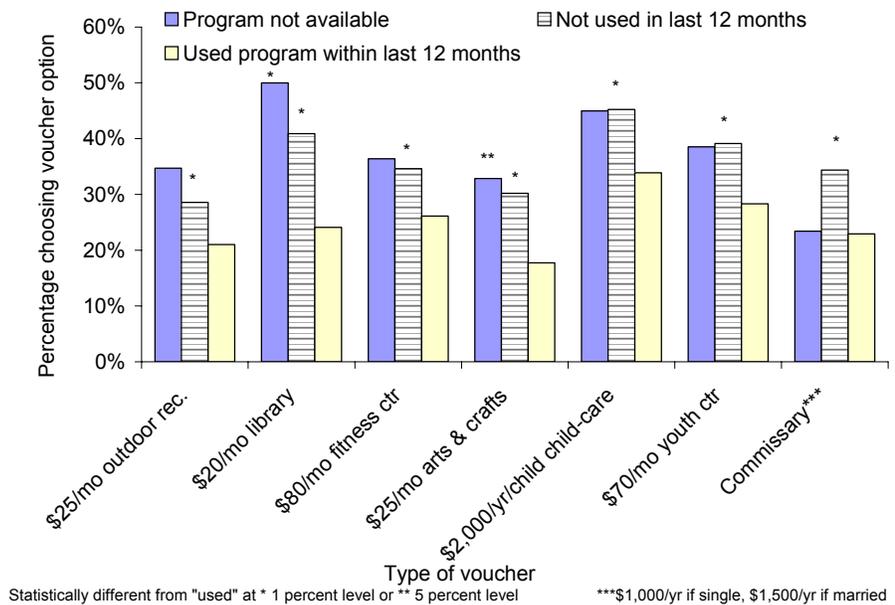
Cash vouchers vs. onbase QoL program access for families

The Status of Forces survey asked respondents to select between onbase access for family members and cash voucher options. For example, respondents were asked, “For fitness centers, which option would you prefer the military give servicemembers with families?” and offered the choice of onbase access or a monthly voucher of \$80 per family, off base only. Adjusting for servicemembers’ demographic characteristics, service, and so on, we find that the overwhelming

24. Many benefits are paid for by other agencies (e.g., U.S. Department of Veterans Affairs), and including those expenses would increase the 41-cent figure.

majority prefers maintaining the access to these programs, even in the cases where the programs aren't available. However, servicemembers who have access to the program and have used the program within the past 12 months are much more likely to choose keeping access to the program over the cash voucher amounts presented on the 2006 Status of Forces survey. The difference between voucher preference by use of the program is most striking for the library and arts/crafts programs, however, that may be because those programs were matched up with some of the lowest cash voucher offerings (see figure 17).

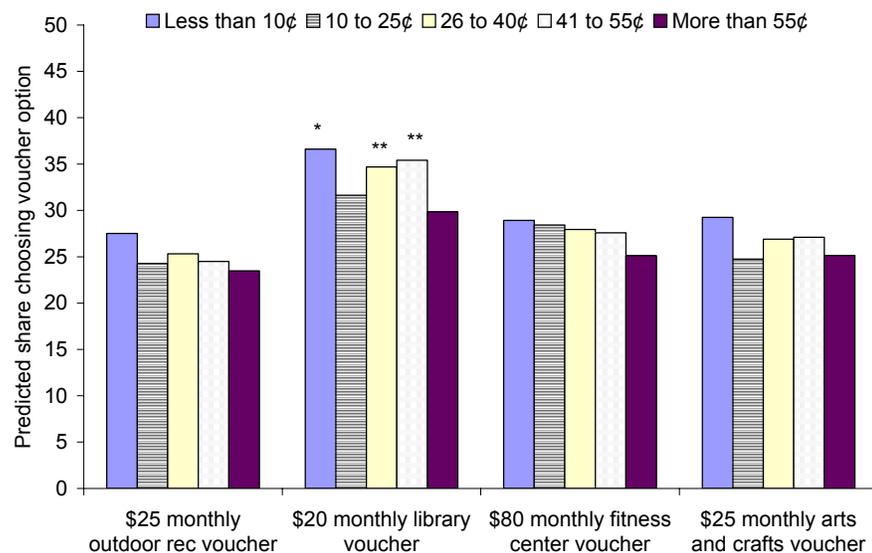
Figure 17. Preference for cash voucher by availability and use of QoL programs^a



a. Predicted likelihood to select the cash voucher estimated from seven separate voucher logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care, youth/sports, commissary, and exchange), perceived DoD expenses on QoL programs, marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade, and branch of service using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Since most respondents underestimated what DoD spent on benefits, we hypothesize that servicemembers would prefer vouchers for purchasing QoL programs on the civilian market. We estimated the percentage who would select the voucher option based on perceived DoD expenses, controlling for use and availability of these programs as well as servicemembers' individual characteristics. The seven voucher options are shown in figures 18 and 19, with the predicted percentage choosing the voucher program shown on the y-axis. In each case, the majority of respondents selected having family access to the onbase programs, though to varying extents. The program that received the most support for a cash voucher was child care; overall, 40 percent of respondents selected the voucher option. This finding may be due to onbase child care being less available than offbase child care and not a reflection of the quality of the program.

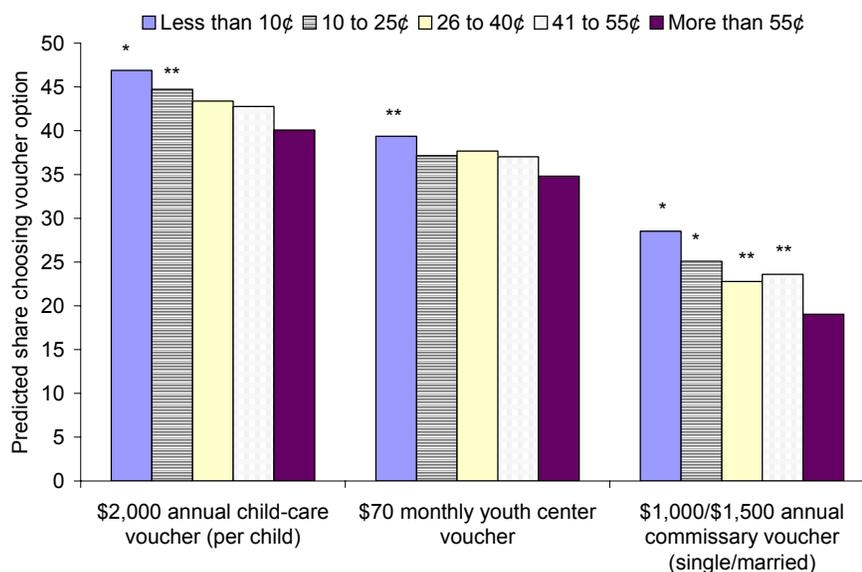
Figure 18. Perceived cost of programs to DoD vs. voucher preference^a



Statistically significant at from "greater than 55 cents" at the * 1 percent level or ** 5 percent level

a. Predicted likelihood to select the cash voucher estimated from four separate voucher logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness center, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade categories, and branch of service using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Figure 19. Perceived cost of programs to DoD vs. voucher preference (continued)^a



Statistically significant at from "greater than 55 cents" at the * 1 percent level or **5 percent level

a. Predicted likelihood to select the cash voucher estimated from three separate voucher logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade categories, and branch of service using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Responses to the voucher option questions varied based on the perceived amount that the benefits cost the military. For most of the programs, the lower the perceived cost, the more likely they were to select the voucher option. By perceived cost to DoD, there were differences for the outdoor recreation programs, fitness center, and arts and crafts programs; however, those differences were not statistically significant.

The difference in responses is greatest for the commissary option. Respondents who believed that benefits cost the military less than 10 cents per dollar they earned selected the voucher option 29 percent of the time, while respondents selecting more than 55 cents per

dollar chose the voucher option only 19 percent of the time. Though there are differences by perceived cost, there is less support for the voucher options overall at the monetary levels offered.

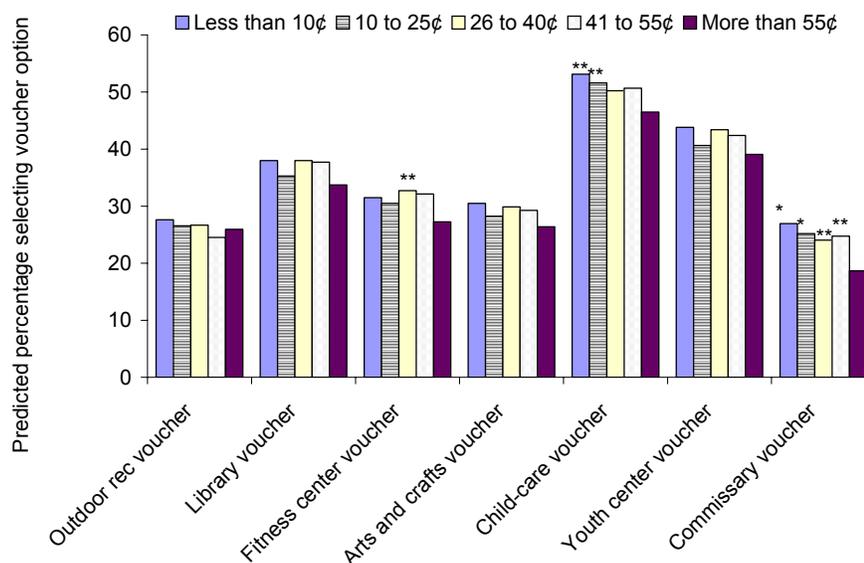
Preference for cash voucher by dependent status

While the wording of the cash voucher question was targeted at onbase access for the family members of servicemembers, both servicemembers with dependent family members and those without may have a preference on this topic. For example, servicemembers without dependent children may be interested in onbase access vs. a voucher if they are planning on having children in the future or believe that onbase access for families has a smaller marginal cost than the voucher expense. Conversely, servicemembers without children may prefer fewer or no dependents crowding or disturbing them at onbase facilities.

Figure 20 shows that, for most of the voucher options, servicemembers with a dependent spouse and/or child prefer having access to onbase programs for family members over a cash voucher to purchase those programs in the civilian market. For child care services and the commissary, we find that those who thought DoD spent the least (less than 10 cents) were more likely to select the voucher option than those who thought DoD spent the most (more than 55 cents).

The options for child care on the survey were “fees based on total income; onbase child care services” or “annual voucher of \$2,000 per child; off base child care only.” As we saw earlier, 20 percent of servicemembers with dependent children have used DoD child care facilities in the past 12 months. It was almost evenly split between those who would prefer the current system with onbase program access vs. a cash voucher. The higher share preferring a cash voucher for child care compared with the other voucher questions is not necessarily a reflection of the quality of onbase child care programs. As opposed to a fitness center or a commissary, child care has more definitive capacity limitations, so, even if the program exists on base, there may not be openings for all eligible children. Thus, servicemembers who are unable or perceive an inability to use onbase child care may prefer the cash voucher over the unavailable onbase child care.

Figure 20. Predicted percentage of servicemembers with dependent family members selecting voucher option^a

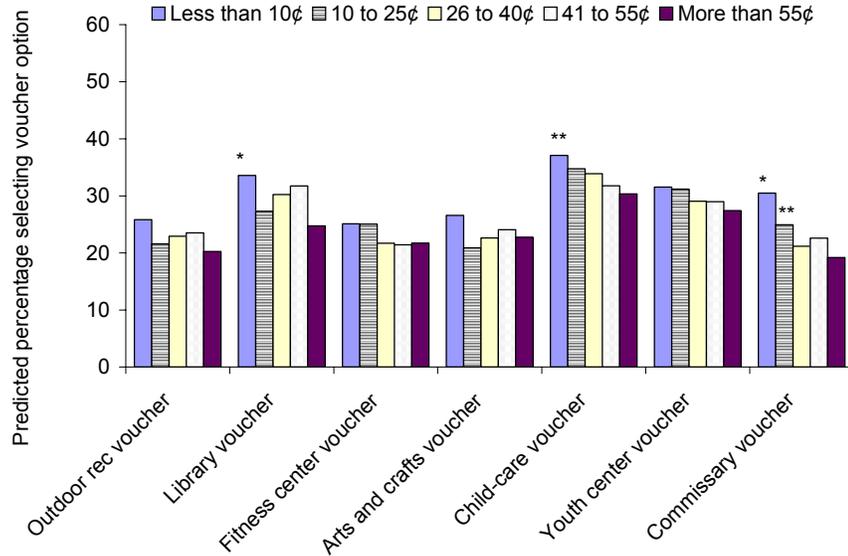


Statistically significant at from "greater than 55 cents" at the * 1 percent level or ** 5 percent level

a. Predicted likelihood to select the cash voucher estimated from seven separate voucher logit regressions controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), perceived DoD expenses on QoL programs, marital status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade categories, and branch of service using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

For the programs in figure 21, regardless of the perception of DoD expenses, single servicemembers without children preferred keeping onbase access open to family members for the library, child care center, and commissary. Compared with servicemembers with families, those without children are less interested, in general, in cash vouchers for other servicemembers' family members. The commissary was the only program for which preference for a cash voucher was similar for members with and without children. Both groups overwhelmingly preferred maintaining access to the commissary.

Figure 21. Predicted percentage of servicemembers without dependent family members selecting voucher option^a



Statistically significant at from "greater than 55 cents" at the * 1 percent level or ** 5 percent level

a. Predicted likelihood to select the cash voucher estimated from seven separate voucher logit regressions controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), perceived DoD expenses on QoL programs, marital status, onbase/offbase housing, within/outside U.S. duty station location, length of service, paygrade categories, and branch of service using Dec. 2006 Status of Forces survey data and weighting to account for survey stratification and nonresponse.

Retirement issues

Alternative retirement payment system

At present, servicemembers are eligible for retirement at 20 years of service; once retired, they receive monthly retirement payments. The December 2006 Status of Forces survey asked respondents about an alternative—a lump sum payment at age 60 with a smaller monthly payment from age 60 until death. Enlisted respondents were asked whether they would prefer the current system or a \$200,000 lump-sum payment at retirement and \$1,800 monthly payments starting at age 60; officers were asked about a \$400,000 lump-sum payment and \$3,400 monthly payments. Table 5 lists the percentage selecting the current retirement system and the alternative.

Table 5. Preferences for current vs. alternative retirement system^a

Suppose that today in 2006 you are one year away from a 20-year military retirement. If you were given the choice between your current retirement which is a payment of \$1,800 (\$3,400) a month for the rest of your life or a lump-sum payment of \$200,000 (\$400,000) at retirement and a payment of \$1,800 (\$3,400) a month beginning at age 60 for the rest of your life, which would you choose?

	Percentage selecting current system	Percentage selecting alternative system
All	56	44
Army	52	48
Navy	58	42
Air Force	61	39
Marine Corps	55	45
E1 to E3	56	44
E4 to E6	55	45
E7 to E9	63	37
O1 to O3	51	49
O4 to O6	63	37

a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

Our findings suggest that the majority—56 percent—of servicemembers would select the current system. The percentage selecting the current system is the highest among those serving in the Air Force, and it increases with paygrade. This suggests that, as servicemembers near retirement, the existing system becomes more attractive, at least compared with this alternative system.

Satisfaction with current retirement system

Overall, 38 percent of respondents indicated satisfaction with the retirement plan. Table 6 lists the percentage indicating satisfaction with the retirement system for the full sample, by paygrade categories, and by service. There were some differences among the services with regard to overall satisfaction with the retirement plan. When we look at the different paygrade groups, there is a stark contrast in responses between young enlisted servicemembers and senior officers. The E1–E3 group of respondents selected “satisfied with the retirement plan” only 29 percent of the time, compared with 58 percent for O4–O6s. Those who are closer to retirement are a selected sample in that they choose to stay at an earlier point. This selection is apparent when we look at satisfaction with the retirement system and predicted stay decisions: those who were satisfied with the retirement plan were much more likely to stay in every case, with large and significant differences.

Responses to likelihood to stay and satisfaction with retirement are likely correlated with other characteristics, such as length of service, because those who elect to stay have more years of service and are closer to retirement. To account for that, we estimate the percentage likely to stay of those satisfied vs. not satisfied with the retirement system controlling for a number of characteristics, including length of service. The last two columns of table 6 list those estimates. Even accounting for other characteristics, including length of service, we estimate that those servicemembers satisfied with the retirement system are more likely to indicate that they will stay in the military. For the full sample, of those who expressed satisfaction with the retirement system, we estimate that 70 percent would select likely to stay compared with 55 percent for those not satisfied with the retirement plan.

Table 6. Retirement plan satisfaction

How satisfied are you with your current retirement plan?			
	Percentage satisfied ^a	Percentage likely to stay of those satisfied ^b	Percentage likely to stay of those not satisfied ^b
All	38	70 ^c	55
Army	33	67 ^c	51
Navy	41	70 ^c	58
Air Force	44	72 ^c	58
Marine Corps	34	69 ^c	59
E1 to E3	29	47 ^c	35
E4 to E6	34	69 ^c	50
E7 to E9	49	71	68
O1 to O3	50	67 ^c	53
O4 to O6	58	80 ^c	70
W1 to W5	51	75 ^c	63

a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

b. Predicted likelihood to stay estimated from 11 full sample, paygrade category, and branch of service logit regressions, controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, branch of service, and paygrade categories.

c. Results are statistically significantly different from not satisfied with the retirement system at the 1-percent level.

The correlation with satisfaction and stay intentions holds true across the services and paygrade categories. Among the services, the largest difference between stay intentions by retirement satisfaction is for the Army. For the Army, 67 percent of those who are satisfied with the retirement system are estimated to indicate likelihood to stay, compared with 51 percent of those who are not satisfied with the retirement system. Among the paygrade categories, the largest percentage difference between stay intentions by retirement satisfaction are for the lower paygrades, E1–E3 and O1–O3. As previously noted, these lower paygrades have lower overall satisfaction levels with the retirement system. Those indicating satisfaction with the retirement plan are much more likely to indicate intentions to stay.

Although the Status of Forces survey asked about satisfaction with the retirement system, it didn't ask about knowledge of retirement benefits. So, while retirement satisfaction and likelihood to stay are correlated, we do not know the degree to which the retirement system is a retention tool for the lower paygrades. The differences in the satisfaction level of the retirement system, particularly by paygrade categories, suggest that there are potential gains in modifying the retirement system or, at the very least, in increasing servicemembers' understanding of the extent of their retirement benefits. Increasing education on the value of the retirement plan earlier in the career could be a short-term option for any effort to increase the retention of more junior servicemembers.

Influence of a midcareer bonus

Respondents were asked a hypothetical question: If you had at least 5 more years of service and were offered a bonus of 40 percent of your basic pay at 10 years, how much would this incentive influence your decision to stay another 5 years? Implicitly, this is a question about retirement. The 5-year bonus would bring the servicemember to 15 years of service, at which point most remain in the military until retirement. In addition, the responses to this question indicate whether servicemembers could be influenced by a separation pay.

We aggregated the responses into Influenced and Not Influenced. Category 1 includes those marking "some influence," "great influence," and "very great influence." Category 2 includes "little influence" and "no influence." Table 7 shows the responses to the bonus influence along with responses on continuation intentions. Overall, 81 percent indicated that they would be influenced by this bonus. Interest increases from the E1-E3 paygrades to E4-E6 and then drops off. This decrease may have to do with the significant share of E7-E9s who have 10 or more years of service and may have considered this question as not addressing them. The continuation intentions varied strongly with the response to this question. As would be expected, this hypothetical bonus is more attractive to those who are already intending to stay in the military. Those indicating an influence said that they were likely to stay in the military 66 percent of the time, compared with 46 percent who responded that the bonus had little or no

influence.²⁵ What is interesting is that 34 percent of those indicating an influence of the bonus currently don't intend to stay in the service, which suggests that this size bonus has the potential to change some servicemembers' retention decisions.

Table 7. Career bonus influence

Suppose you currently have at least 5 more years of service and you were offered a bonus of 40% of your annual basic pay at 10 years of service. How much influence would this have on your decision to continue serving in the Armed Forces for at least 5 more years?

	Percentage with 10 or more years of service ^a	Percentage with some influence ^a	Percentage likely to stay of those influenced ^b	Percentage likely to stay of those not influenced ^b
All	35	81	66 ^c	46
Army	34	79	63 ^c	37
Navy	37	81	67 ^c	49
Air Force	40	82	67 ^c	52
Marine Corps	22	83	66 ^c	45
E1 to E3	0	79	45 ^c	11
E4 to E6	26	81	61 ^c	39
E7 to E9	99	77	70	68
O1 to O3	26	86	63 ^c	38
O4 to O6	97	83	78 ^c	64
W1 to W5	83	73	71	63

a. Tabulations from the Dec. 2006 Status of Forces survey data weighted to account for survey stratification and non-response.

b. Predicted likelihood to stay estimated from 11 full sample, paygrade category, and branch of service logit regressions controlling for availability and use of QoL programs (outdoor recreation, libraries, fitness centers, arts and crafts, community centers, child care centers, youth/sports, commissary, and exchange), marital status, dependent child status, onbase/offbase housing, within/outside U.S. duty station location, length of service, branch of service, and paygrade categories.

c. Results are statistically significantly different from not influenced at the 1-percent level.

There are very different bonus structures across the services, and the services have different retention needs today. The results were similar across services; about 80 percent indicated at least some influence in

25. These differences are not statistically different for E7–E9s and warrant officers.

each case, and there was a significant difference in continuation intentions for those influenced and those not influenced. For example, even controlling for other characteristics, 63 percent of Army members who would be influenced by the bonus also are likely to indicate that they plan to continue in the service, compared with only 37 percent of those who would not be influenced. For E1s to E6s and officers, there are large, statistically significant differences in the continuation intentions as well.

Summary

In our analysis, we focused on more traditional QoL “programs,” such as commissaries and child care services. Each of these benefits involves significant appropriations, has a comparable civilian counterpart that is available to military members, and is a benefit that some military members are more likely to value/use than others.

From our analysis of the literature, we conclude that survey methods are probably the most promising candidates for assessing the value to military members, although it is critical that the surveys be properly designed.²⁶ In particular, surveys in which questions are designed to reveal the preferences of respondents without explicitly asking them to assign a value to each benefit are more complicated but also more likely to yield useful data. An example of this type of survey design is choice-based conjoint, which attempts to replicate real-world decision-making by having respondents make tradeoffs between two (or more) choices that differ in multiple ways.

Unfortunately, that type of survey information on QoL programs across the services does not exist. As a next best alternative, we used data from DMDC’s December 2006 Status of Forces survey, which included 11,163 responses from the roughly 37,000 servicemembers surveyed.

We found that very few servicemembers do not have access to the QoL programs asked about on the survey; only about 2.5 percent of respondents marked programs as “not available.” However, availability is not consistent across all bases: servicemembers stationed at non-

26. Several methodological challenges are associated with measuring the value of QoL programs. Traditional methods, such as pilot programs and experiments, use of DoD data, and analysis of civilian data, all have shortcomings that make it difficult to accurately measure the value of QoL programs.

U.S. bases indicated a lower level of availability than servicemembers at U.S. bases. Despite these differences, we do not find that continuation intentions differ statistically between those who do and do not have access to the programs.

Use of QoL programs is higher among servicemembers who live closer to the programs (i.e., servicemembers living on base) and among servicemembers with fewer familiar or potential civilian alternatives (i.e., servicemembers at non-U.S. bases). Without controlling for servicemembers' characteristics, we find that the use of QoL programs is strongly correlated with the likelihood of continuation. As we expected, that correlation weakens for many of the QoL programs when we account for characteristics that are typically related to both use of QoL programs and continuation, such as length of service. However, even when we account for those characteristics, we still find a statistically significant correlation between continuation intentions and the use of two programs: the community center and the commissary. Overall, those who use these two QoL programs are much more likely to intend to stay in the military than those who have the programs available and do not use them. We do find differences by groups. The link between use of the community center and continuation intentions holds for servicemembers regardless of dependent children, servicemembers serving within the United States, or those who live on base. Use of the commissary is correlated with continuation intentions among servicemembers living off base, stationed within the United States, or without dependent children.

However, causation cannot be proved in this analysis. It could be that the programs create an incentive to stay, but it could also be that servicemembers who intend to stay in the military are more involved and take part in as many programs as possible. Whether QoL programs cause retention, use of all QoL programs represents a type of "engagement" in the military and, therefore, should be encouraged. In addition, the more servicemembers use QoL programs, the more value the services will get out of the programs overall.

We also found that, on average, servicemembers underestimate DoD's expenditures on QoL benefits. It may be for that reason that almost half of servicemembers surveyed stated that it would be easy to

find similar income and benefits in the civilian world. This suggests that there is potentially room here for increased retention gains by educating the servicemembers more about the value of what they already receive. Despite the underestimation of DoD's expenditures, the majority of servicemembers indicated a preference to keep access for family members to onbase QoL programs instead of offering a cash voucher for family members to purchase similar services off base.

A majority prefer the current retirement system over an alternative retirement system that includes an upfront lump-sum payment and monthly retirement payments beginning at age 60. Looking at satisfaction levels with the current system, we found that continuation intentions are correlated with retirement plan satisfaction and the influence of a career bonus. In the case of retirement plans, those who were satisfied were much more likely to continue serving in the military. By paygrade, we saw that continuation intentions are very different for those satisfied and not satisfied, and a large majority of young enlisted servicemembers are not currently satisfied with their retirement plan. This suggests that there are potential gains in modifying the current retirement plan. In addition, this highlights that education about QoL programs—in this case, the retirement benefit's value—might boost retention. Low satisfaction with the retirement plan from junior enlisted members is potentially due to a lack of information about how generous the plan is, and increasing knowledge could lead to increased retention with a minimum cost. For a hypothetical career bonus, some who currently plan to leave stated that the career bonus would influence their decision to stay, suggesting that such a bonus could increase retention.

To aid in future analyses of the value of QoL programs, QoL survey questions should be designed in a way that preferences are revealed without specifically asking servicemembers to create a valuation. Choice-based conjoint survey questions are one method to achieve this because they provide the survey respondent with tradeoff decisions that differ in multiple ways. These questions allow for analysis of the responses and reveal the preferences of the respondent.

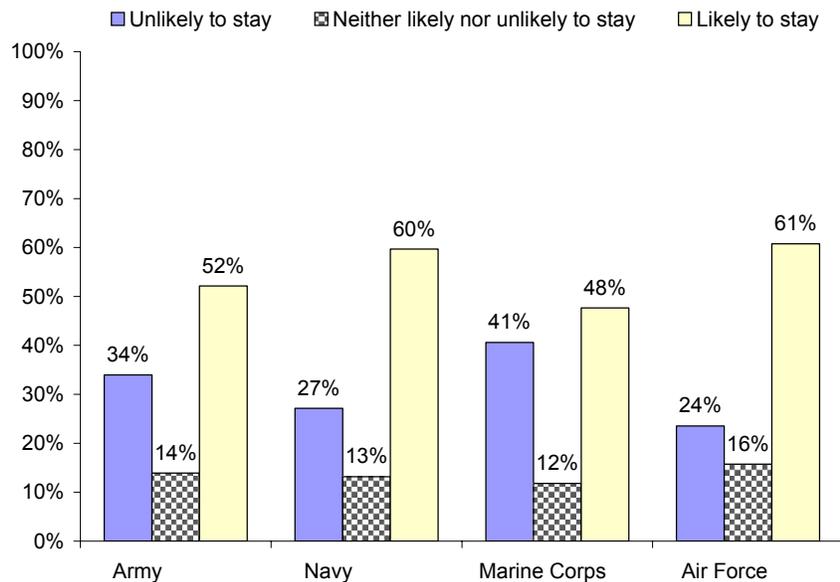
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Appendix: Additional data

In this appendix, we present data that provide some additional background for the data presented in the main text.

Figure 22 shows overall continuation intentions from the December 2006 Status of Forces survey. The Marine Corps had the lowest percentage of respondents stating that they were likely to continue serving, with only 48 percent selecting that option.

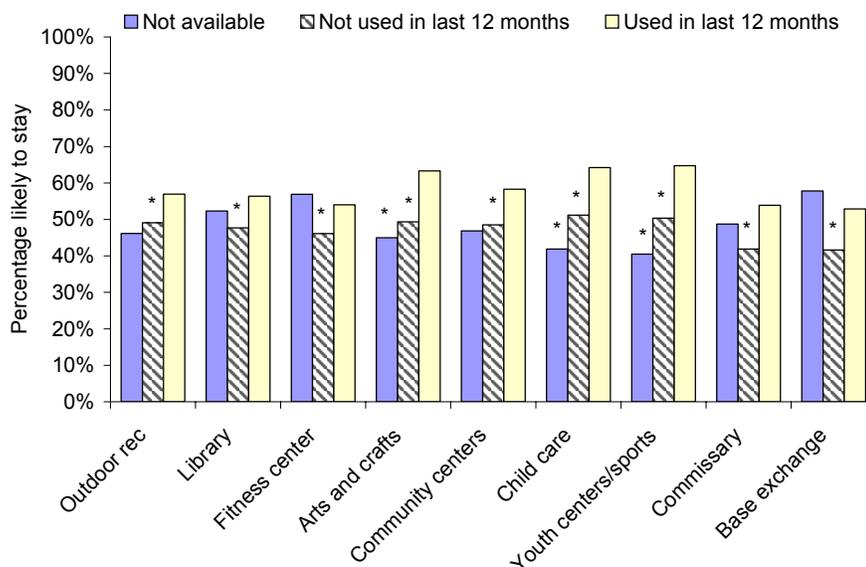
Figure 22. Overall continuation intentions by service^a



a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

Figures 23 through 26 present the continuation intentions of respondents based on their use of QoL programs, broken down by service.

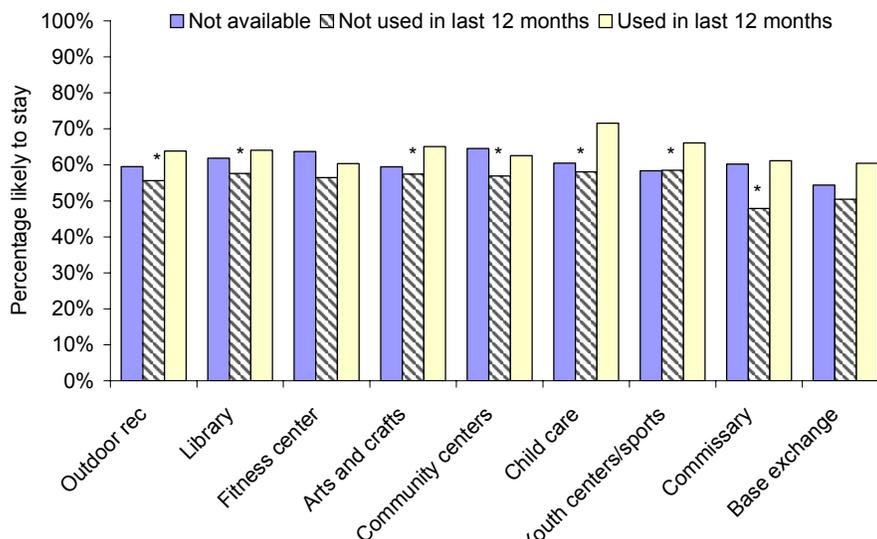
Figure 23. Continuation intentions by use of QoL programs—Army^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

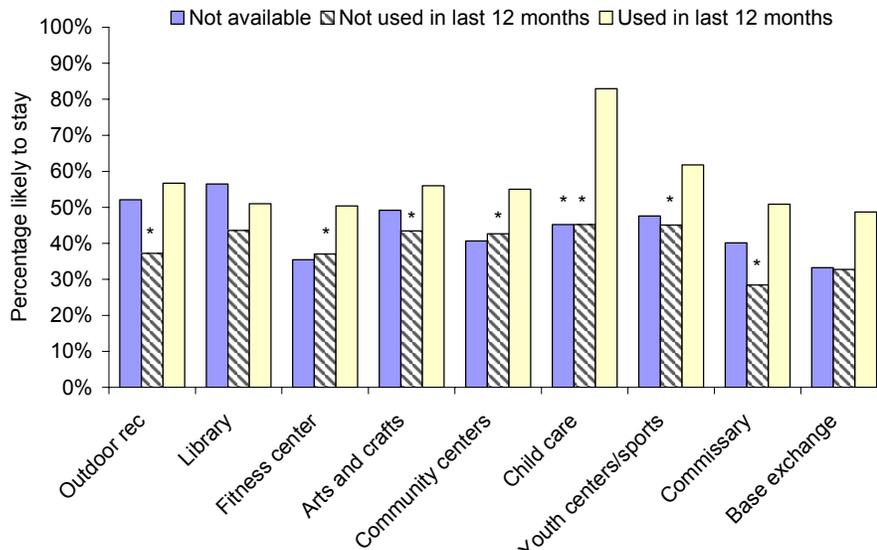
Figure 24. Continuation intentions by use of QoL programs—Navy^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

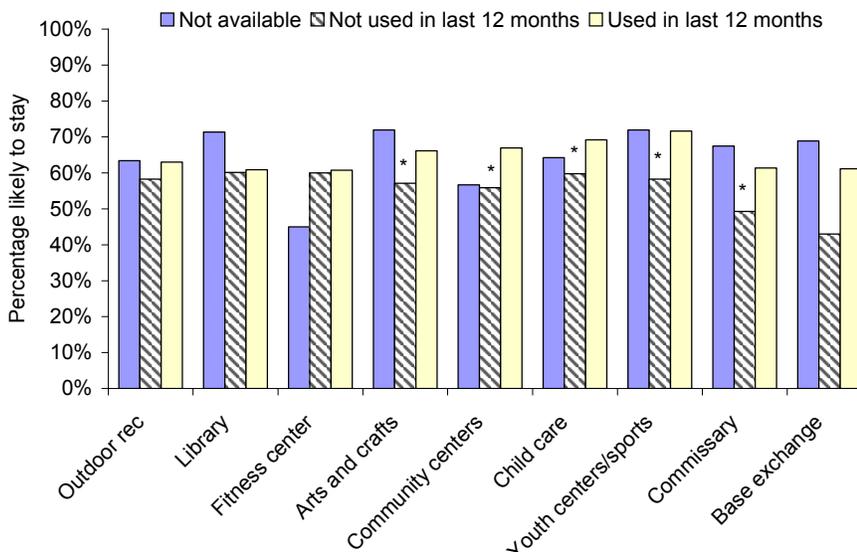
Figure 25. Continuation intentions by use of QoL programs—Marine Corps^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

Figure 26. Continuation intentions by use of QoL programs—Air Force^a



Statistically different from "used" at * 1 percent level or ** 5 percent level

a. Tabulations from the December 2006 Status of Forces survey data weighted to account for survey stratification and nonresponse.

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References

- [1] Defense Advisory Committee on Military Compensation. *The Military Compensation System: Completing the Transition to an All-Volunteer Force*. Washington, DC: United States Government Printing Office, Apr 2006
- [2] Michael Hansen and Jennie Wenger with Anita Hattiangadi. *Return on Investment of Quality-of-Life Programs*, Oct 2002 (CNA Research Memorandum D0006807)
- [3] Carla Tighe Murray. "Transforming In-Kind Compensation and Benefits." In Cindy Williams (ed.), *Filling the Ranks: Transforming the U.S. Military Personnel System*. Cambridge, MA: The MIT Press, 2004
- [4] Richard Buddin. *Building a Personnel Support Agenda: Goals, Analysis Framework and Data Requirements*, 1998 (RAND Report MR-916-OSD)
- [5] Paul Oyer. *Salary or Benefits?* 2005 (National Bureau of Economic Research Working Paper No. 11817)
- [6] Anita Hattiangadi. *Private-Sector Benefit Offerings in the Competition for High-Skill Recruits*, Dec 2001 (CNA Research Memorandum D0003563)
- [7] Samuel Kleinman and Michael Hansen. *Military Compensation: When 50-Year-Olds Decide What 20-Year-Olds Want*, Sep 2005 (CNA Research Memorandum D0012938)
- [8] Amanda Kraus and Diana Lien with Bryan Orme. *The Navy Survey on Reenlistment and Quality of Service: Using Choice-Based Conjoint To Quantify Preferences for Pay and Nonpay Aspects of Naval Service*, Aug 2003 (CNA Research Memorandum D0008416)

- [9] Carla Tighe Murray. *Military Compensation: Balancing Cash and Noncash Benefits*, Jan 2004 (Congressional Budget Office Economic and Budget Issue Brief)
- [10] Michael Hansen and Jennie Wenger. *Use of and Satisfaction With Quality-of-Life Programs*, Oct 2002 (CNA Research Memorandum D0006805)
- [11] Diana Lien and Aline Quester. "Developing Tools To Assess Future Choices." In Cindy Williams (ed.), *Filling the Ranks: Transforming the U.S. Military Personnel System*. Cambridge, MA: The MIT Press, 2004
- [12] Martha Koopman and Dan Goldhaber. *Return on Quality-of-Life Investment*, Mar 1997 (CNA Research Memorandum 96-147)
- [13] Diana Lien and Michael Hansen. *Compensation and Voluntary Participation in a Continuum of Service*, Mar 2006 (CNA Research Memorandum D0013215)
- [14] James Grefer. *Comparing Military and Civilian Compensation Packages*, Aug 2007 (CNA Research Memorandum D0016569)

List of figures

Figure 1. Use of QoL programs	28
Figure 2. Use of QoL programs among servicemembers with dependent children	28
Figure 3. Use of QoL programs among servicemembers without dependent children	29
Figure 4. Use of QoL programs among servicemembers at U.S. bases located in the United States	31
Figure 5. Use of QoL programs among servicemembers at U.S. bases located outside the United States.	31
Figure 6. Use of QoL programs among servicemembers living on base	33
Figure 7. Use of QoL programs among servicemembers living off base	33
Figure 8. Continuation intentions by availability of QoL programs	36
Figure 9. Continuation intentions by use of QoL programs	36
Figure 10. Predicted continuation intentions by use of QoL programs	38
Figure 11. Predicted continuation intentions by use of QoL programs: servicemembers with children	40
Figure 12. Predicted continuation intentions by use of QoL programs: servicemembers without children	41
Figure 13. Continuation intentions by use of QoL programs: servicemembers at bases within the United States	42

Figure 14. Continuation intentions by use of QoL programs: servicemembers at bases outside the United States	43
Figure 15. Predicted continuation intentions by use of QoL programs: servicemembers living on base	44
Figure 16. Continuation intentions by use of QoL programs: servicemembers living off base	45
Figure 17. Preference for cash voucher by availability and use of QoL programs	51
Figure 18. Perceived cost of programs to DoD vs. voucher preference	52
Figure 19. Perceived cost of programs to DoD vs. voucher preference (continued).	53
Figure 20. Predicted percentage of servicemembers with dependent family members selecting voucher option	55
Figure 21. Predicted percentage of servicemembers without dependent family members selecting voucher option	56
Figure 22. Overall continuation intentions by service.	67
Figure 23. Continuation intentions by use of QoL programs—Army	68
Figure 24. Continuation intentions by use of QoL programs—Navy.	68
Figure 25. Continuation intentions by use of QoL programs—Marine Corps.	69
Figure 26. Continuation intentions by use of QoL programs—Air Force	69

List of tables

Table 1.	FY07 appropriated funds (O&M) for QoL programs	16
Table 2.	Ease in finding civilian jobs with comparable income and benefits: by paygrade	48
Table 3.	Ease in finding civilian jobs with comparable income and benefits: by service.	49
Table 4.	Perception of DoD expenditures on QoL benefits	50
Table 5.	Preferences for current vs. alternative retirement system	57
Table 6.	Retirement plan satisfaction	59
Table 7.	Career bonus influence	61

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