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Soldier Preferences and Retention Effects of Changes in Army Reserve Training Requirements

An Exploration of Revealed and Stated Behavior

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About This Report

This report documents research and analysis conducted as part of a project entitled *Breaking Point: The Effect of Operationalizing the Army Reserve on Drilling Reservists*, sponsored by the Office of the Chief, Army Reserve. The purpose of this project was to examine the effects of individual and collective training requirements across the readiness cycle on retention of U.S. Army Reserve (USAR) soldiers, including indirect effects on family members and employers, and to identify mitigating steps that the Army Reserve could take to improve retention while maintaining an operational reserve.

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Summary

The research reported here was completed in October 2020, followed by security review by the sponsor and the Office of the Chief of Public Affairs, with final sign-off in September 2021.

The U.S. Army Reserve (USAR) traditionally required soldiers to attend 39 days of training per year: one weekend per month (24 days, which is equivalent to 48 periods of inactive duty training [IDT]) and 15 days (about two full weeks) of annual training (AT). However, since 2001, many units have increased training requirements prior to mobilization to prepare for deployments to Iraq and Afghanistan. In recent years, fewer USAR units have deployed, but training requirements have fluctuated because of cyclical readiness models. USAR soldiers have competing priorities in life, including family, professional, and personal pursuits, and may find it difficult to devote additional time to training.

The Office of the Chief, Army Reserve, asked RAND Arroyo Center to examine how changes in training requirements affect soldiers' interest in staying in the USAR, and how their civilian employment and family situations influence that decision. As part of this research, we used administrative data to examine the effects of past variations in training requirements on soldier retention and conducted a survey of soldiers to gather information on the effects of changing baseline training requirements on their retention intentions and their preferences for different training options. The survey used two types of questions to explore the trade-offs associated with variations in training requirements over the readiness cycle. Contingent behavior questions addressed the effects of changes in the minimum number of IDT periods or AT days on the soldier's intentions to stay in the USAR. Choice experiment questions examined soldiers' preferences for different attributes of training by asking them to choose between alternative required training regimes, based on the number and timing of IDT periods and AT days.

Administrative Data Results

We used data from the USAR and the Defense Manpower Data Center to identify trends in unit-level training requirements and their effects on soldier retention decisions. For USAR units with at least 100 soldiers assigned, we found that the median number of training days held fairly steady at 39 or 40 per year through 2012, but in more recent years it had increased to about 50 days. This was more pronounced for some unit types than others, with training, training support, and combat service support units having a higher number of median training days, and quartermaster, transportation, and military police units having a lower number of median training days. Over the same period, about 10 percent of soldiers separated or retired each year, and 12–13 percent transferred between USAR units or to the Army National Guard or active component each year. At the unit level, however, we did not find any increase in separations or transfers associated with an increase in the median number of training days.

We also examined the effects of unit-level training requirements on individual soldiers' retention decisions using regression analysis to control for the soldiers' service-related characteristics (including military occupation and pay grade group, months of service, total months deployed, and whether they received a bonus) and demographic characteristics (age, gender, race, marital status, dependents, and education level at entry). We found that soldiers who attended more training days¹ were less likely to separate (likely indicating a stronger affiliation with service), but that higher unit-level training requirements were associated with a higher probability of separation. Overall, soldiers were less likely to separate if they had more months of service, were in higher pay grades, received a bonus, or had one or more children. They were more likely to separate if they had been deployed for more months or were older, female, or married.

Survey Results

The survey was fielded in March and April 2019 to approximately 60,000 randomly selected USAR soldiers. The final sample size was 2,570 complete responses, which corresponds to a response rate of 4.3 percent. Officers and enlisted personnel in higher pay grades were more likely to respond than more junior enlisted personnel. The sample was also more likely to be married, to be white, and to have a higher education level than the USAR as a whole. This response rate is low even relative to prior research using Army surveys and raises the possibility of nonresponse bias. Therefore, we make no claims as to the representativeness of the sample overall, but we believe our statistical models provide information about relevant relationships between USAR soldiers' characteristics and preferences. Approximately 89 percent of officers and 79 percent of enlisted personnel in the sample reported that they intended to stay in the USAR beyond their current obligation. We focused our analysis of the survey results on this group of soldiers.

On average, they prefer a slight increase in the number of AT days (two and a half to three weeks, or 18–21 days) and prefer the status quo of 48 IDT periods. However, retention intentions begin to decrease at three weeks of AT for officers and four weeks for enlisted personnel. We found no evidence that a reduction in IDT is needed to compensate for an increase in AT to maintain soldier well-being. In addition, most soldiers prefer a weekend IDT schedule to shifting some training to weeknights, and one continuous period of AT rather than splitting it into multiple periods.

However, these averages obscure important differences in preferences across the sample. Soldiers who reported that they expected no severe employer or family problems (about 70 percent of the sample) were indifferent to increases in training, but those who expected severe employer or family problems reported decreasing intentions to stay in the USAR as AT days increased and were more likely to prefer fewer AT days and IDT periods. Those with higher incomes and who are self-employed were more likely to report serious employer problems, while those with higher incomes, those who are Hispanic, or those who have been deployed were more likely to report serious family problems. In terms of occupation, there is some evi-

¹ Units will typically tolerate some absences for work or personal reasons, and some soldiers may be paid for additional active duty days to support the unit or to attend military occupational specialty training or other types of professional military education.

dence that those in maintenance (in terms of AT) and engineering and military intelligence occupations (in terms of IDT) are more likely to experience employer or family problems related to training expansion. Any expansion of AT or IDT would thus be expected to have a negative effect on the retention decisions of soldiers who perceive severe costs to employers or families but may be welcomed by others.

Recommendations

From our analysis of the evidence, we offer the following recommendations (in no particular order):

- AT should not be expanded beyond three weeks if retention is a priority.
- IDT periods do not need to be reduced to compensate for an increase in AT in order to maintain retention intentions.
- Shifting IDT to weeknights or breaking up AT into more than one continuous period would not be preferred by most soldiers.

In addition, the results suggest that offering options with varying levels of training requirements could help meet the preferences of a wider range of soldiers, allowing for self-selection into positions with higher or lower training requirements based on individual circumstances.

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Abbreviations

AT	annual training
CSS	combat service support
DMDC	Defense Manpower Data Center
FY	fiscal year
IDT	inactive duty training
MOS	military occupational specialty
TPU	Troop Program Unit
USAR	U.S. Army Reserve

Introduction

Under the Army's Sustainable Readiness model, most U.S. Army Reserve (USAR) units are expected to be on a five-year readiness cycle: four years of preparation and one year of availability for deployment or sustained training to maintain readiness. Years one and two are generally devoted to individual readiness and leader development.¹ To be prepared for possible missions in the fifth year of the cycle, units may need to schedule additional training days in the third and fourth years to build collective readiness. In addition, Army Total Force initiatives, such as the Associated Units Pilot Program (which establishes formal training relationships between active and reserve component units) and Main Command Post Operational Detachments (designed to augment corps and division headquarters), will require some USAR units to maintain a higher level of readiness and schedule additional training days beyond the typical training requirements of one weekend per month and two weeks of annual training (AT).²

However, soldiers serving in Troop Program Units (TPUs) have competing priorities in life, and the amount of time they can offer the USAR may be limited by family, professional, and personal pursuits. Many may have joined with the expectation that they would serve the minimum USAR duty requirements of 39 days per year for drilling reservists. U.S. Code, Title 10, Section 10147, states the following:

(a) Except as specifically provided in regulations to be prescribed by the Secretary of Defense, or by the Secretary of Homeland Security with respect to the Coast Guard when it is not operating as a service in the Navy, each person who is enlisted, inducted, or appointed in an armed force, and who becomes a member of the Ready Reserve under any provision of law except section 513 or 10145(b) of this title, shall be required, while in the Ready Reserve, to—

(1) participate in at least 48 scheduled drills or training periods during each year and serve on active duty for training of not less than 14 days (exclusive of travel time) during each year; or

(2) serve on active duty for training not more than 30 days during each year.

In addition to variations in unit-level training requirements across the readiness cycle, professional military education or military occupational specialty (MOS) training may place additional demands on their time. These variations in training load could affect retention of USAR soldiers.

¹ See U.S. Army Reserve, 2016, and Feickert, 2017. Although the Army implemented Sustainable Readiness in fiscal year (FY) 2017, the relevant Army Regulation was not revised until October 1, 2019 (Department of the Army, 2019).

² See Vergun, 2016, and Myers, 2017, for descriptions of these two initiatives.

The USAR asked RAND Arroyo Center to conduct a project examining (1) how changes in training requirements affect a soldier's interest in staying in the USAR, (2) how the soldier's personal situation affects his or her availability and/or motivation to participate in the USAR as training demands change, and (3) whether employers would hesitate to give additional time off for the extra duty. If varying and increasing drilling day requirements affect soldier propensity to stay in the USAR, the study should recommend mitigation options that would be amenable to soldiers and their families and employers.

As part of this project, we conducted four research tasks:

- **Task 1: Identify key attributes of USAR service that the project will address.** In coordination with the sponsor, we defined typical TPU training requirements across the readiness cycle for units that are not preparing for deployment, as well as other time demands, such as professional military education, that affect the number of duty days served by individual soldiers. This analysis focused on a steady-state readiness cycle of years 1–3 for all units and years 4–5 for units not scheduled for mobilization. We also identified potential mitigation strategies or incentives that could help improve retention.
- **Task 2: Design and field a survey of USAR soldiers.** We constructed a survey to measure the effects of changes in training load on retention using techniques that are designed to capture information about the decision process of individual soldiers (e.g., stated preference analysis). This data collection included information about soldier pay grade, demographic characteristics, and other personal circumstances. The survey also collected information about the influences of family members and employers on soldier retention decisions.
- **Task 3: Examine additional data sources to measure the effects of training load on retention.** Using USAR and Defense Manpower Data Center (DMDC) databases, we estimated the association between unit-level median training days and individual duty days, on the one hand, and retention, on the other, controlling for demographic and service characteristics and local economic factors. This analysis was also used to supplement information gathered through the soldier survey.
- **Task 4: Identify effects of training load on retention and recommend mitigation strategies.** We used information from the survey and other data analysis to examine the potential effects of variations in expected training requirements on retention, and how these effects vary by pay grade and personal circumstances. We identified some potential mitigation strategies for groups of soldiers who are negatively affected by increases in training requirements.

Research Methodology

Our research involved two main approaches: an analysis of administrative data maintained by the USAR and DMDC to examine the effects of past variations in training requirements on individual retention, and a survey of currently serving TPU soldiers to gather information on the effects of changes in training requirements on their retention intentions and their preferences for different training options and potential mitigation strategies or incentives.

Our data analysis first involved constructing a unit-level database to identify the training expectations for soldiers in units with at least 100 members. We used the median number

of training days for soldiers who belonged to the unit for the full year and were not activated or deployed. We did this in order to reduce the effects of “outliers”—individuals who did not attend required training events or who had an unusually high number of training days because they were attending residential training courses during the year or were on active duty orders to support the unit, for example. We then matched the unit-level data with individual-level data on soldiers belonging to those units to examine the association between training requirements and retention, while controlling for the soldier’s service-related characteristics (MOS, pay grade, years of service, previous deployments) and demographic characteristics (age, gender, race/ethnicity, marital status).

Second, we designed and fielded a survey to gather information on Reserve soldiers’ preferences for type (weekend versus annual) and length of training requirements. The survey used two types of questions to explore the trade-offs associated with variations in unit training requirements over the readiness cycle. Contingent behavior questions address the soldier’s likely behavior if one or more elements of the training regime changed. For example, what would be the effects on the soldier’s retention plans if AT periods were increased from two weeks to three weeks? Choice experiment questions examine soldiers’ preferences for different attributes of training by asking them to choose between alternative training regimes. For example, would soldiers prefer to meet additional training requirements during weekends or AT periods? The survey also gathered information about the soldier’s demographic and service-related characteristics and the effects of changes in training requirements on their family and civilian employment or education.

Organization of This Report

In Chapter Two we describe the results of our analysis of USAR and DMDC data. In Chapter Three we discuss our survey design and sampling strategy. In Chapter Four we describe the survey results and implications, and in Chapter Five we summarize our findings and offer recommendations. Appendix A provides a copy of the survey, and Appendixes B and C provide the results of the statistical modeling in table form. Additional summary statistics for the survey are reported in an online appendix, *Soldier Preferences and Retention Effects of Changes in Army Reserve Training Requirements: Appendix D. Summary Statistics*.

Recent Trends in Training Requirements and Retention

As a first step in addressing the research questions, we examined DMDC administrative data on USAR soldiers and units. The purpose of this analysis was to examine past changes in unit-level training requirements and whether they affected soldier retention or transfers to other reserve component units. In this chapter, we describe our data sources, including the construction of our unit- and individual-level administrative databases, recent trends in training requirements and personnel turnover, and our analysis of the association between changes in unit-level training requirements and individual-level retention, while controlling for soldiers' demographic and service-related characteristics.

Data Sources

Our analysis is primarily based on data obtained from DMDC, including

- the Work Experience file, which provides an overall picture of the soldier's career experience, including MOS, pay grade, and unit assignments
- the Activation and Deployment File (Contingency Tracking System), which identifies prior deployment experiences
- Active and Reserve Component Pay Files, which are used to identify both the number of training days soldiers reported for duty and periods of deployment to locations eligible for hostile fire pay
- the Defense Enrollment Eligibility Reporting System, which provides information on demographic characteristics such as age, gender, race/ethnicity, marital status, and number of dependent children.

We used these data to construct two files for analysis. The first was a unit-level file with one observation per year for each unit (based on the first four characters of the unit identification code, or UIC) that had at least 100 soldiers assigned. This file included information on the unit name, type, and authorized number of personnel;¹ the median number of weekend drill days,² active duty days (including AT days), and total training days for the year; the percentage of soldiers activated and/or deployed; and the number of soldiers joining and leaving the unit each year. The second was an individual-level file with one observation per year for each sol-

¹ We obtained this information from the Force Management System Website for each UIC in the file.

² One weekend drill day is equivalent to two inactive duty training (IDT) periods.

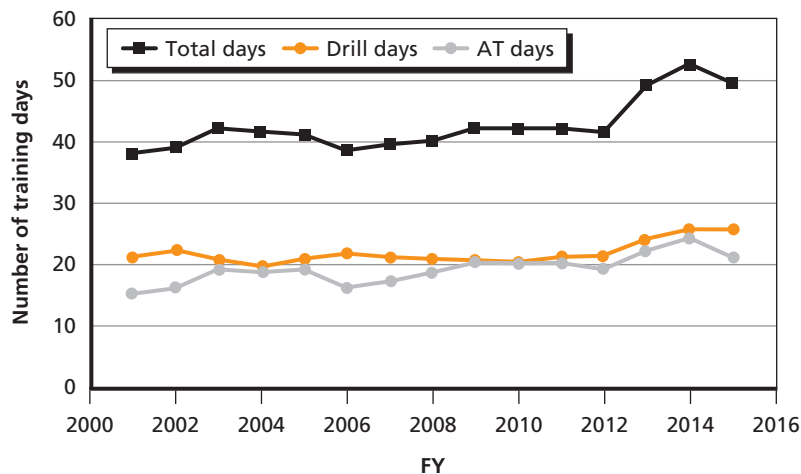
dier. This file contained data on the soldier’s demographic and service-related characteristics, including current and prior activations and deployments; the number of drill days and active duty days the soldier reported for duty; and the median number of training days for the unit(s) the soldier was assigned to during that year.

Unit-Level Training Requirements and Personnel Turnover

Figure 2.1 shows trends in the median number of drill days, AT days, and total training days from FY 2001 through FY 2015 for units with at least 100 soldiers assigned.³ We focused on the median as the most representative of a typical soldier in the unit, because the average number of training days is affected by outliers—individuals who are absent from training events attended by most soldiers or who are paid for additional active duty days to support the unit or to attend MOS training or other types of professional military education. We also examined monthly training days, but the patterns were less consistent from month to month than for the year as a whole. In addition, we found that some soldiers who attended fewer drill days had additional AT days, or vice versa, so we concluded that the median total training days were the most representative of the training requirements for the unit.

As Figure 2.1 indicates, the median number of total training days for USAR units with at least 100 soldiers assigned was close to 40 for most of this period, except for FY 2013–2015, when the median was close to 50 days.⁴ However, there is considerable variation in the median number of training days across unit types and among individual units. Figure 2.2 shows the

Figure 2.1
Trends in Median Number of Training Days

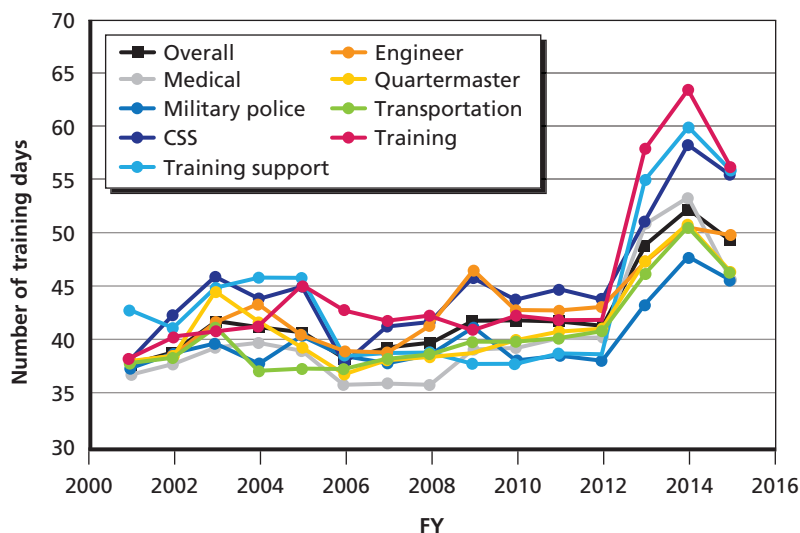


SOURCE: RAND Arroyo Center analysis of DMDC data.

³ These calculations exclude soldiers assigned to the unit for less than the full year, those who were activated and/or deployed for all or part of the year, and Active Guard and Reserve who provide full-time support for the unit.

⁴ Beginning in FY 2013, the USAR increased funding for AT for selected units “to attend training events designed to attain the proper readiness level to provide trained and ready units to the available force pool for possible deployment as needed” (i.e., to meet cyclical readiness goals) (Department of the Army, 2012, p. 5).

Figure 2.2
Median Number of Total Training Days by Unit Type



SOURCE: RAND Arroyo Center analysis of DMDC data.

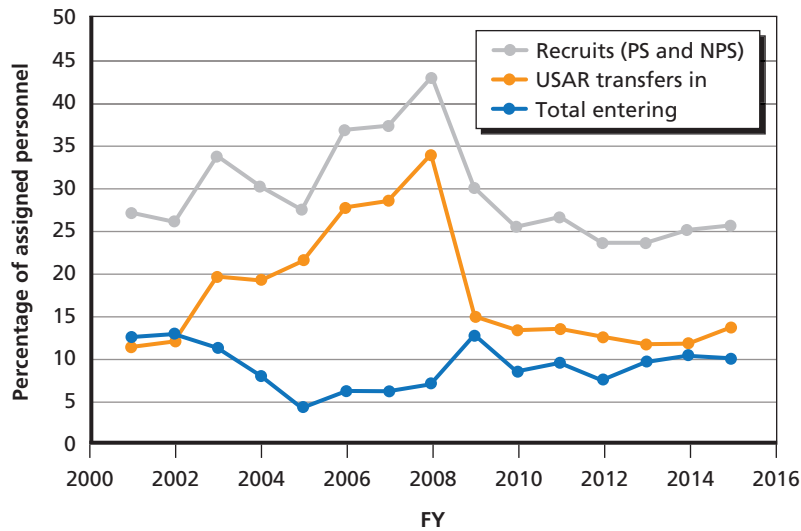
median number of training days for unit types that include at least 50 units with 100 or more soldiers assigned, in comparison with the overall median. Some unit types, such as training, training support, and combat service support (CSS) units, tended to have more than the overall median number of training days, whereas quartermaster, transportation, and military police units tended to have fewer training days.

We also examined the number of soldiers entering and leaving USAR units each year, as a percentage of the total number of soldiers assigned to the unit. In addition to prior-service and non-prior-service recruits, separations, and retirements, we calculated the numbers of transfers between USAR units. Figure 2.3 shows the median number of soldiers entering USAR units as a percentage of soldiers assigned over the period from FY 2001 through FY 2015. In recent years, recruits have represented about 10 percent of soldiers assigned, and transfers into units accounted for 11–13 percent. The total share of new soldiers has been close to 25 percent during this period. The large share of transfers between FY 2003 and FY 2008 is most likely due to transfers of soldiers into units that were preparing to deploy. Some of these soldiers may also have returned to their original unit after the deployment.

The percentage of soldiers leaving units each year, shown in Figure 2.4, is roughly symmetrical to the percentage entering. In recent years, the share of separations and retirements⁵ has been 10 percent or less, while 12–13 percent of soldiers transfer out of units, including transfers between USAR units and transfers to the Army National Guard or active component. Thus, overall personnel turnover has been 23–24 percent. Again, the large share of transfers

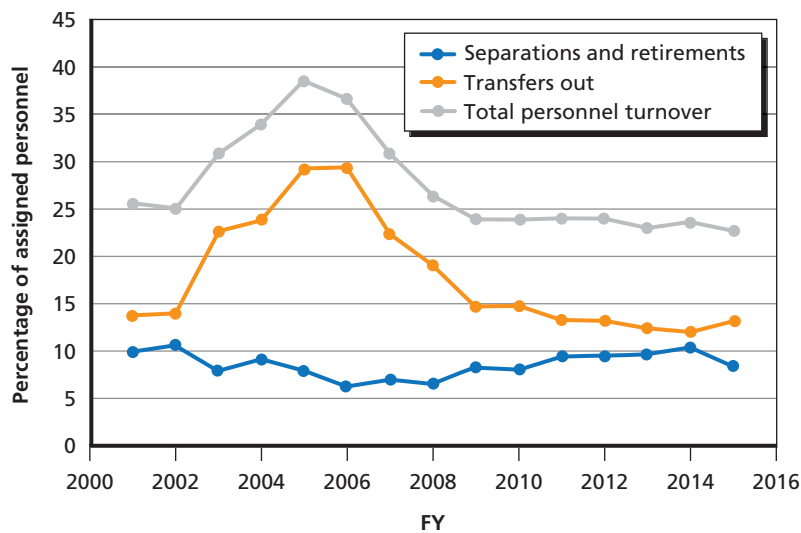
⁵ The DMDC databases did not include the appropriate variables to distinguish between separations before and after the soldier had qualified for retirement benefits, so we combine separations and retirements into one category. We also count soldiers who transfer to the Individual Ready Reserve or the Standby Reserve as separations from the Selected Reserve, since these soldiers no longer serve in drilling units. In addition, soldiers who do not meet Selected Reserve participation requirements may be involuntarily transferred to the Individual Ready Reserve or the Standby Reserve. See Under Secretary of Defense (Personnel and Readiness), 2015, pp. 8–9.

Figure 2.3
Median Gains as a Percentage of Soldiers Assigned



SOURCE: RAND Arroyo Center analysis of DMDC data.
 NOTE: PS = prior service; NPS = nonprior service.

Figure 2.4
Median Personnel Turnover as a Percentage of Soldiers Assigned



SOURCE: RAND Arroyo Center analysis of DMDC data.

between FY 2003 and FY 2008 is most likely due to transfers into units preparing to deploy and transfers back to the original unit after the deployment.

Since the focus of this project is on the effects of changes in peacetime training requirements on retention, the remainder of our analysis concentrates on the period after large-scale deployments ended (FY 2009 through FY 2015). We chose this period so that our results are not confounded with the effects of deployments on retention. At the unit level, we did not find any evidence of a positive correlation between the number of training days and separations or

total personnel turnover (including separations and transfers out of the unit). In fact, we found small negative correlations between training days and personnel losses and small positive correlations between training days and personnel gains. These results are shown in Table 2.1.

Individual-Level Associations between Training Requirements and Separation

To examine the association between training requirements and the retention decisions of individual TPU soldiers, we conducted a regression analysis, using a dependent variable that was equal to 1 if the soldier separated during the year and 0 otherwise.⁶ Predictor variables included service characteristics such as the soldier's own training days, median unit training days in the previous year, the soldier's total months of service and total months deployed, MOS group (combat, combat support, or CSS), pay grade group (E1–E4, E5–E9, O1–O3, or O4–O6), and whether the soldier received a bonus; and demographic characteristics such as age, race, gender, marital status, whether the soldier had any children, and education level at entry. We also controlled for the state-level unemployment rate and year. The estimated coefficients for enlisted personnel and officers are shown in Table 2.2.

As we would expect, the soldier's own training days are negatively correlated with separation for both enlisted personnel and officers, because participation in training is likely to indicate a stronger affiliation with service. However, higher training expectations at the unit level, as measured by median unit training days in the previous year, are positively correlated with separation. In general, both enlisted personnel and officers were less likely to separate if they had more months of service, were in higher pay grades, received a bonus, had one or more children, or lived in states with higher unemployment rates. Enlisted personnel who were African American, Asian, or Pacific Islander or who had higher education levels were also less likely to separate, but these patterns were less consistent or not statistically significant for officers. Both

Table 2.1
Unit-Level Correlations Between Training Days and Personnel Gains and Losses

Relationship with Training Days	Correlation
Separations	-0.099
Total personnel turnover	-0.068
Recruits	0.036
Total personnel gains	0.160

SOURCE: RAND Arroyo Center analysis of DMDC data.

NOTE: Excludes units in years when more than 10 percent of personnel were deployed.

⁶ The reported results are estimated using a linear probability model with robust standard errors. Logistic regression is normally preferred when the dependent variable takes on the values 0 and 1, but in this case the model did not reach a solution unless we restricted the data.

Table 2.2
Estimated Coefficients for Linear Probability Model

Variable	Enlisted		Officers	
	Coefficient	P Value	Coefficient	P Value
Soldier's own training days	-0.001558	0.00	-0.000918	0.00
Median unit training days in previous year	0.000146	0.00	0.000277	0.00
Total months of service	-0.000337	0.00	-0.000383	0.00
Total months deployed	0.003364	0.00	0.001703	0.00
MOS group (CSS omitted)				
Combat	0.019799	0.00	0.036110	0.00
Combat support	0.001768	0.05	0.020499	0.00
Pay grade group (E1-E4/O1-O3 omitted)				
E5-E9/O4-O6	-0.048528	0.00	-0.023877	0.00
Bonus pay amount	-0.000009	0.00	-0.000003	0.00
Age	0.001757	0.00	0.008614	0.00
Race (white omitted)				
African American	-0.011690	0.00	0.000337	0.94
Asian	-0.015459	0.00	-0.020421	0.00
Native American	0.013987	0.00	0.006220	0.65
Pacific Islander	-0.031252	0.00	-0.002917	0.88
Other	-0.006985	0.04	-0.028761	0.00
Gender (male omitted)				
Female	0.013218	0.00	0.021099	0.00
Marital status (unmarried omitted)				
Married	0.009528	0.00	0.004743	0.20
One or more children	-0.021266	0.00	-0.033031	0.00
Education				
No high school diploma	0.029468	0.00	-0.021424	0.21
High school graduate (omitted for enlisted)			0.033612	0.00
Some college	-0.015569	0.00	0.020324	0.07
Baccalaureate degree (omitted for officers)	-0.016258	0.00		
Graduate school	-0.012859	0.00	-0.028551	0.00
Other	0.037273	0.00	0.022336	0.24
State unemployment rate	-0.369746	0.00	-0.216186	0.04

Table 2.2—Continued

Variable	Enlisted		Officers	
	Coefficient	P Value	Coefficient	P Value
Year (2010 omitted)				
2011	0.001361	0.37	0.009558	0.10
2012	-0.025133	0.00	0.001422	0.81
2013	-0.035850	0.00	-0.021847	0.00
2014	-0.025167	0.00	-0.021981	0.00
2015	-0.055964	0.00	-0.058437	0.00
2016	-0.105187	0.00	-0.084830	0.00
Constant	0.298029	0.00	-0.058270	0.00
Sample size	740,104		55,181	
R^2	0.1075		0.0759	

SOURCE: RAND Arroyo Center analysis of DMDC data.

enlisted personnel and officers were more likely to separate if they had been deployed for more months, were in combat or combat support occupations, or were older, female, or married.

These results on individual- and unit-level training are consistent with the organizational psychology literature on organizational commitment, which is defined as “an individual’s psychological bond with the organization, as represented by an affective attachment to the organization, internalization of its values and goals, and a behavioral desire to put forth effort to support it” (Judge and Kammeyer-Mueller, 2012, p. 349). Higher organizational commitment is associated with higher job satisfaction and job performance. Conversely, negative job attitudes are associated with psychological withdrawal, absenteeism, turnover, and decisions to retire. In addition, there is evidence that individuals who perceive a psychological contract breach in their organization (such as changes in job expectations) have declining organizational commitment (Judge and Kammeyer-Mueller, 2012, pp. 357–359). The literature on work-life balance indicates that work-family conflict is associated with more frequent absenteeism and intentions to quit, greater attrition, and lower job performance and career success. Greater supervisor and coworker support, schedule control, and family-friendly work policies are associated with lower work-family conflict, but these types of policies may be difficult to implement in the context of USAR training (Williams, Berdahl, and Vandello, 2016, pp. 518, 525).

These results also suggest that higher training requirements could have negative effects on retention of TPU soldiers. In the next two chapters, we discuss how the survey was designed to examine changes in soldier retention intentions in response to potential changes in training requirements and our analysis of the survey results.

Survey Development and Methodology

Stated preference methodologies use survey data to estimate the preferences of a sample of individuals.¹ Based on utility theory, respondents are asked to choose their preferred option from a set on one or more occasions. By varying the attributes of the options using appropriate experimental designs and by using (discrete choice) econometric methods, analysts are able to estimate a preference function to evaluate the trade-offs between the attributes. Stated preference methods can be used to investigate options that do not currently exist, but the fact that the choice is not binding can lead to “hypothetical bias” in preference estimates under circumstances where there is no incentive to reveal true preferences.²

For this project, two stated preference methods were used in a survey of USAR soldiers to estimate their preferences over the level and scheduling of minimum required AT days and IDT periods.³ The first method, termed contingent behavior, asked respondents if they would extend their service by one year, conditional on a given distribution of AT days and IDT periods for that year. This provides some insight into stated retention behavior as it relates to varying levels of USAR training.

The second method is termed a choice experiment. In this method, respondents were asked to identify their favored option from a set of three offerings. Four attributes described the number of AT and IDT periods and the schedule of that training for each option. Respondents were asked to make choices for four different sets of attributes.⁴ This experiment allowed for an estimation of preferences of the sample (and subsets thereof) over the attributes conditional on having to make a choice, thus providing insight into the desirability and trade-offs perceived among AT, IDT, and relevant schedules.

For more information on stated preference methods in general, we refer the reader to Champ, Boyle, and Brown, 2017. We discuss the specifics of each method and development of the survey instrument below.

¹ Human Subjects Protection (HSP) protocols have been used in this report and project in accordance with the appropriate statutes and Department of Defense regulations governing HSP.

² A key element of incentive compatibility is that the respondents believe that information provided by way of choice is consequential to any related policy decisions. Therefore, we used a cover letter signed by MG Scottie D. Carpenter, Deputy Commanding General of U.S. Army Reserve Command.

³ A typical IDT weekend is four IDT periods.

⁴ Choice experiment questions were “blocked” into four choice occasions per respondent to decrease the length of the survey and the cognitive burden of respondents, and respondents were randomly assigned to one of the two blocks. Econometric identification was based on eight choice occasions with three (differing) options each.

Survey Development

The survey instrument developed involved a combination of author-developed contingent behavior and choice experiment questions and complementary socioeconomic and preference questions that appeared in past surveys and that were related to respondent attitudes toward the USAR in general and USAR training specifically. The latter were used in order to be consistent with past research regarding preferences for Army service. In particular, questions were adapted from Griffith et al., 1989: *Survey of United States Army Reserve (USAR) Troop Program Unit Soldiers Technical Report: The Research Plan*.

The survey included seven major sections:

- questions about service in the USAR and other services or Army components, including pay grade, MOS, and retention plans and reasons
- contingent behavior questions (see below)
- general questions about training, including training completed last year, how important certain types of training are, and what happens if others miss IDT periods
- choice experiment questions (see below)
- questions about non-Reserve employment and the service member's employer, including the extent to which training requirements are a problem or might be a problem if changed
- questions about spousal employment, support for service, and the extent to which training requirements are a problem or might be a problem for the service member's family
- sociodemographic questions, such as family structure, race, and gender.

The order of the contingent behavior and choice experiment questions appearing in subsections 2 and 4 of the survey was randomly chosen in order to test for sequencing bias. We discuss the contingent behavior and choice experiment methodology later in this chapter; Appendix A provides a copy of the survey, and an online appendix, *Soldier Preferences and Retention Effects of Changes in Army Reserve Training Requirements: Appendix D. Summary Statistics*, provides summary statistics for all survey questions.

Because of budget constraints, the existence of many of the background questions in Griffith et al., 1989, the authors' experience with stated preference methods, and the respondents' familiarity with IDT and AT, no focus groups or pretests were held. However, the survey was reviewed by the sponsor, the project team, and RAND's Survey Research Group, and the skip logic was tested by the authors before launch.

Sampling Frame

Our sponsor provided a list of valid .mil and alternate (where available) email addresses for approximately 60,000 randomly selected USAR soldiers via a password-protected file. We divided these addresses into three blocks of 20,000, with an overall target of 2,000 responses. Invitations to complete the online survey were sent via email to the first block on March 5, 2019 ($n = 19,769$), the second block on March 13, 2019 ($n = 20,475$), and the third block on March 20, 2019 ($n = 19,756$). Follow-up invitations were sent to nonrespondents in each group one and two weeks after the initial invitation. The survey was formally closed on April 29, 2019. No incentives for response were given for participation.

The final sample size was 2,570 complete responses, with 135 respondents ineligible or screened out because they were not a current USAR soldier. This corresponds to a final response rate of 4.3 percent. In addition, 370 responses were categorized as “partial,” indicating that respondents did not complete the survey. The response rate is low compared with civilian surveys but similar to response rates for previous research on younger Air National Guard and Air Force Reserve personnel (Miller and Aharoni, 2015), though certainly on the low end of the scale.⁵ The Department of Defense has acknowledged the problem of declining response rates for surveys of service personnel.⁶

Nevertheless, the low response rate raises the possibility of nonresponse bias, in which soldiers who did not respond are systematically different from those who did respond. Therefore, we make no claims as to the representativeness of the overall sample—that is, there are systematic differences between the sample and the Reserve population (see Chapter Four), and so reported shares are relevant only to the sample.

However, the analysis we perform with the stated preference questions is to estimate preferences *conditional* on observable characteristics (such as enlisted/officer) in order to understand if there are differences in preferences, on average within the sample, between individuals with differing characteristics, as has been done in past literature (Johnston and Abdulrahman, 2017). It is possible that nonresponse bias within a category of soldiers (e.g., enlisted) can still lead to misleading results if respondents and nonrespondents within the category are different, but the stratification approach should help mitigate (though not eliminate) the bias. Readers are thus reminded that results presented in Chapter Four may be biased and may not necessarily be representative of the Reserve population.

Contingent Behavior Questions

Contingent behavior exercises are useful for estimating stated behavior in response to a hypothetical situation—in this case, how retention outcomes might change if training policy (in terms of unit training requirements) changed. Each respondent was asked two contingent behavior questions to gauge the likelihood of a one-year extension under two sets of minimum training requirements. The first question used the current levels of AT and IDT to establish a baseline of expected retention behavior:

Suppose that you have to decide whether to stay in the Army Reserve for a one-year extension to your current contract at the current mandatory training requirements of 15 annual training (AT) days per year (about two weeks) plus mandatory 48 periods of inactive duty training (IDT) (about one weekend per month on average) per year. Would you extend your term of service?

Yes No

The second question was similar, but different levels of AT and IDT were chosen at random from a set of values determined by the authors and the research sponsor. Because hypothetical bias could be exacerbated by the perceived infeasibility of choices, the set of AT

⁵ Bond et al., 2019, had a response rate of around 10 percent, though this survey was of more senior officers.

⁶ See Under Secretary of Defense (Personnel and Readiness), 2016.

days ranged from 18 to 29 days (corresponding to two and one-half to four weeks) and the set of IDT periods ranged from 40 to 48 periods per year. This experimental design purposefully increases AT and decreases (or keeps the same) the level of IDT, thus providing a means of estimating the decrease in IDT necessary to compensate for increased AT in a given year while keeping retention outcomes the same.

The second contingent behavior question took the following form:

Now suppose that you have to decide whether to stay in the Army Reserve for a one-year extension, but the mandatory annual training (AT) requirement will increase from 15 annual training (AT) days per year (about two weeks) to [A] days per year (about [B] weeks), and mandatory inactive training (IDT) requirements would [C]. Under these conditions, would you extend your term of service?

_____ Yes _____ No

Table 3.1 defines the set from which A, B, and C were randomly drawn. We note that A and B (which refer to AT) are perfectly correlated (i.e., they are one draw) and that C (which refers to IDT) is drawn independently.

Table 3.1
AT and IDT Levels for Second Contingent Behavior Question

AT		IDT
A (days)	B (weeks)	C (periods)
18	Two and one-half	Decrease to 40 periods per year (from the current 48)
22	Three	Decrease to 44 periods per year (from the current 48)
26	Three and one-half	Remain at 48 periods per year
29	Four	

NOTE: Each respondent was presented with a unique random draw for AT requirements and IDT periods. AT and IDT draws were independent. AT days and weeks are perfectly correlated. Respondents were randomly assigned one of 12 possible scenarios.

Logit models were used to analyze the responses to the first and second contingent behavior questions. The logit model is appropriate for discrete dependent variables such as the contingent behavior questions. Independent variables included the sociodemographic characteristics collected with the survey instrument.

Formally, the average preference function takes the form

$$\widehat{V} = \widehat{\beta}_0 + \widehat{\beta}_1 A + \widehat{\beta}_2 C + \sum_{k=3}^K \widehat{\beta}_k X_k, \quad (3.1)$$

where A and C are indicator variables as defined above, X_k are included sociodemographic variables, and the $\widehat{\beta}$ s are estimated coefficients from the model. The ratio $\widehat{\beta}_2/\widehat{\beta}_1$ gives the estimated decrease in the number of IDT periods necessary to compensate for an increase of one day of AT while keeping Reserve soldier satisfaction the same, on average.

Choice Experiment Questions

Choice experiments are useful for evaluating the relative importance of included attributes. A choice experiment is structured such that respondents are prompted to make a “most preferred” decision between multiple alternatives (a *choice question*). The presentation of each possible decision is called a *choice occasion*. Each alternative is composed of *attributes* (or characteristics) that vary in predetermined levels according to an experimental design. For this study, the attributes with potential levels (in brackets) were

- the number of weeks of AT [1, 2, 3, 4]
- the number of IDT periods [24, 32, 40, 48, 56]
- the number of AT periods [one continuous period of training, two separate continuous periods]
- the IDT drill schedule [mostly weeknights, mostly weekends, a mix of weekends and weeknights].

Eight choice occasions were prepared using a D-optimal design in order to ensure identification of model coefficients and blocked into two groups of four choice occasions. Each respondent was randomly assigned to one of the two blocks.⁷

Note that, unlike the contingent behavior questions, the levels of AT and IDT requirements include both increases and decreases to current minimum training levels, allowing for analysis of the effects of overall scale of training in addition to relative trade-offs. Table 3.2 provides an example of a sample choice occasion.

Table 3.2
Sample Choice Occasion for the Choice Experiment

Attribute	Choice A	Choice B	Choice C
AT weeks	1 week	2 weeks	4 weeks
IDT periods	48 periods	40 periods	32 periods
Number of AT periods	One continuous period of training	Two separate continuous periods of training	Two separate continuous periods of training
IDT drill schedule	Mostly weeknights	Mix of weekends and weeknights	Mostly weekends

My preferred choice is

- Choice A
- Choice B
- Choice C.

Conditional logit models were used to analyze the responses to the choice experiment questions. The conditional (or multinomial) logit, like the simple logit, is a model appropriate

⁷ D-optimal designs maximize the determinant of the information matrix associated with a linear model, assuming a prior distribution that all coefficients are zero and ensuring identification of model coefficients. Experimental designs were completed in SAS.

for discrete dependent variables when the data are organized as a choice between more than two options. However, for choice experiments, the independent variables are the levels of the attributes of each of the choices available at a given choice occasion.⁸ The estimated coefficients give the marginal utility of a one-unit change in the level of the attribute, and the ratios describe the trade-offs necessary to keep utility constant if a one-unit change in the attribute in the denominator of the ratio occurs.

Formally, the statistical model takes the form

$$\widehat{V} = \sum_{j=1}^4 \widehat{\gamma}_k X_k, \quad (3.2)$$

where X_k is the level of attribute k for $k = 1, \dots, 4$ and the $\widehat{\gamma}_k$'s are coefficients to be estimated. For attributes with more than two levels, indicator variables can be used to allow for nonlinear marginal utilities as the levels of attributes change.⁹

In the next chapter, we describe the results of the survey and our stated preference analysis.

⁸ Given the structure of the conditional logit, sociodemographic and other variables that do not vary over the choice set cannot be directly included as regressors because of a lack of identification. They can, however, be interacted with the attributes of the choices.

⁹ The conditional logit model is ordinal, and as such it requires the use of a baseline level for each attribute corresponding with a utility level normalized to zero. Thus, there is no constant term in the model.

Survey Results

This chapter presents selected results from the survey, with a focus on the contingent behavior and choice experiment questions that are used to estimate possible behaviors and preferences. Summary statistics are available in the associated online appendix, *Soldier Preferences and Retention Effects of Changes in Army Reserve Training Requirements: Appendix D. Summary Statistics*, and the survey instrument is presented in Appendix A.

We acknowledge the following limitations and caveats. First, although randomly sampled, survey results have not been weighted to represent the USAR force overall; rather, we seek insight into the preferences of individuals who did respond. However, to at least partially account for differences in preferences, we estimate separate models for enlisted personnel and officers, as well as control for sociodemographic variables in the contingent behavior models.

Second, not all respondents answered all the questions asked. If item nonresponse is not random, then estimated coefficients in the statistical models may be biased. We have no evidence one way or the other that this is the case. Furthermore, in the analysis and results, we used as much statistical information as possible; in other words, when estimating or reporting, we include the observation so long as the appropriate information was provided through the survey. We did not use imputation to fill in missing information.

Third, contingent behavior and choice experiment questions may suffer from what is termed “hypothetical bias,” defined as the difference between stated actions or choices from a survey and how respondents might actually behave or what they would choose in a real-world situation. Successful approaches to mitigate bias include “cheap talk” scripts, in which the respondent is explicitly reminded that the survey questions are hypothetical; adjusting for self-reported certainty in the answers provided; and best-practice survey design, in which the respondent believes his or her answers to be consequential (Loomis, 2011). We rely on the latter in the form of the cover letter email, which was signed by the Deputy Commanding General of U.S. Army Reserve Command and stated, in part,

These studies are very important to helping the U.S. Army Reserve understand complex problems which ultimately allows senior leadership to make more informed strategic decisions on mission readiness. Your support is critically important to ensuring the best possible analyses.

Fourth, the response rate to the survey is quite low. As noted earlier, this is not necessarily problematic if those who did not respond are not systemically different from Reserve soldiers who did respond; but if this is not the case, the results could be misleading. We do not recommend interpreting the sample as fully representative of the USAR (see Figures 4.1 and 4.2).

Finally, virtually all surveys are subject to various types of response bias, and spurious correlations are possible. Nevertheless, we believe that respondents had good reasons to believe in the consequentiality of their responses, and that the information provided through their responses, while possibly flawed, generates useful information about the likely implications of changing training regimes for the USAR.¹

The next section compares the sociodemographic profile of our respondents with the observed profile of the USAR. We then present direct survey results about training experience, attitudes toward training expansion, and preferred IDT schedules as a complement to the stated preference analysis. We then look at the contingent behavior and choice experiment results, focusing on estimated probabilities from the models. To speak to the question of whether employers hesitate to give additional time off for extra duty, we report the distribution of severity of employer problems with AT and IDT expansion, as well as use a statistical model to determine whether observed characteristics are correlated with such problems. We also reestimate the contingent behavior and choice experiment results, conditioning on the severity of employer problems. We repeat this exercise for the severity of family problems. Interested readers can find statistical results in Appendixes B and C.

Demographic Profile of Respondents

The final sample was split almost equally between enlisted personnel and officers (50.7 percent enlisted, 49.3 percent officers, $n = 2,994$). According to *2018 Demographics: Profile of the Military Community*, the true percentage of officers in the USAR was about 20 percent, suggesting considerable overrepresentation of officers in the sample (Department of Defense, Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy, 2018). Figures 4.1 and 4.2 show the pay grade and demographic profile of the sample and the 2018 USAR for enlisted personnel and officers, respectively.

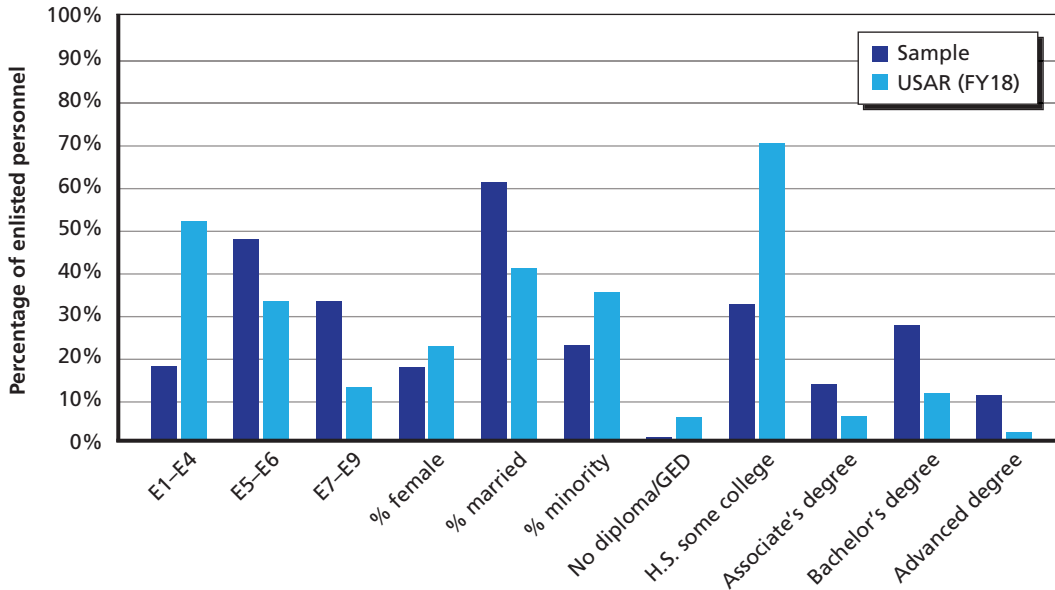
In general, for both enlisted personnel and officers, higher pay grades are overrepresented. The sample also slightly underrepresents female personnel and overrepresents married personnel, as well as underrepresenting minorities. Finally, consistent with the pay grade statistics, the sample is skewed toward those with higher levels of formal education.

While we estimate separate models for officers and enlisted personnel to control for the overrepresentation of officers, we chose not to split the sample further into pay grades in order to preserve statistical power. Thus, if there are significant differences in preferences or contingent behaviors between lower and higher pay grades within enlisted and officer categories, then estimated results may not be fully representative of these groups as a whole. This may be particularly important if E1–E4 and O1–O3 personnel have significantly different preferences than more senior enlisted personnel and officers.

Keeping these differences in mind, we now turn to a description of the sample's actual training experiences and the respondents' general perceptions about and preferences for increasing training and IDT scheduling.

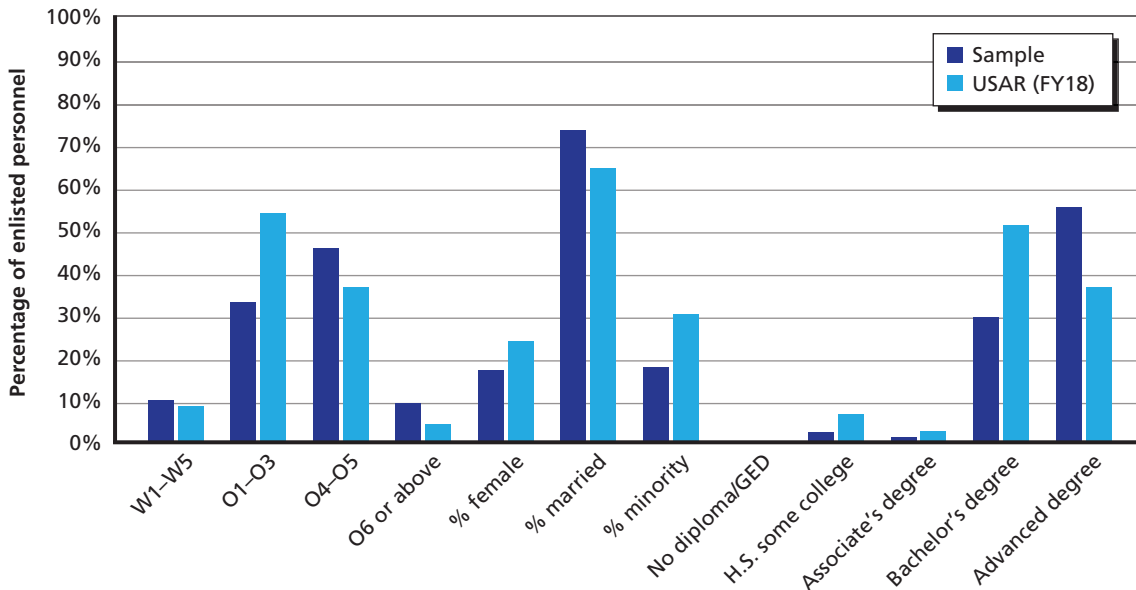
¹ Readers interested in learning more about the strengths and weaknesses of stated preference methods should see the symposium on contingent valuation in the 2012 *Journal of Economic Perspectives*, which includes a critical article by Hausman (2012). Haab et al., 2013, provides a formal response.

Figure 4.1
Comparison of Sample and Population Pay Grade and Demographics, Enlisted Personnel, 2018



SOURCE: Department of Defense, Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy, 2018 (Selected Reserve only), and survey data.
 NOTE: All variables statistically significantly different at $p = 0.05$.

Figure 4.2
Comparison of Sample and Population Pay Grade and Demographics, Officers, 2018



SOURCE: Department of Defense, Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy, 2018 (Selected Reserve only), and survey data.
 NOTE: All variables except "No diploma/GED" statistically significantly different at $p = 0.05$.

Training Experience, Attitudes Toward Training Expansion, and Preferred Inactive Duty Training Scheduling

This section reports selected results from survey questions that directly asked respondents about their training experience and preferences regarding training levels and schedules.

Training Experience

Figure 4.3 shows the distribution of the self-reported number of AT days reported by respondents. The question asked,

In the last calendar year (2018), how many days (including travel) did you participate in annual training (AT)?

No additional information defining AT was provided; therefore, respondents interpreted this question in accordance with their own understanding of what constituted an AT day. Policy is that Reserve soldiers will participate in 15 days of AT (including travel); given that these data are self-reported, we assume that those with fewer than 14 days of AT have not, for whatever reason, met minimum requirements.

Approximately half of all respondents self-reported more than 20 days of AT in 2018, with the median being 20 days for enlisted personnel and 21 days for officers. Ten percent of officers and 15 percent of enlisted personnel reported no AT days during the year, while 31 percent of officers and 29 percent of enlisted personnel reported between 14 and 20 days of AT. On average, this is greater than the standard “two weeks per year” AT for Reserve soldiers (U.S. Army, undated), but it is unclear what explains the differential.

A similar question was asked about IDT in 2018:

In the last calendar year (2018), how many periods did you participate in inactive duty training (IDT)?

Figure 4.4 shows the distribution of self-reported IDT reported by respondents.

Figure 4.3
Distribution of Self-Reported AT Days, 2018

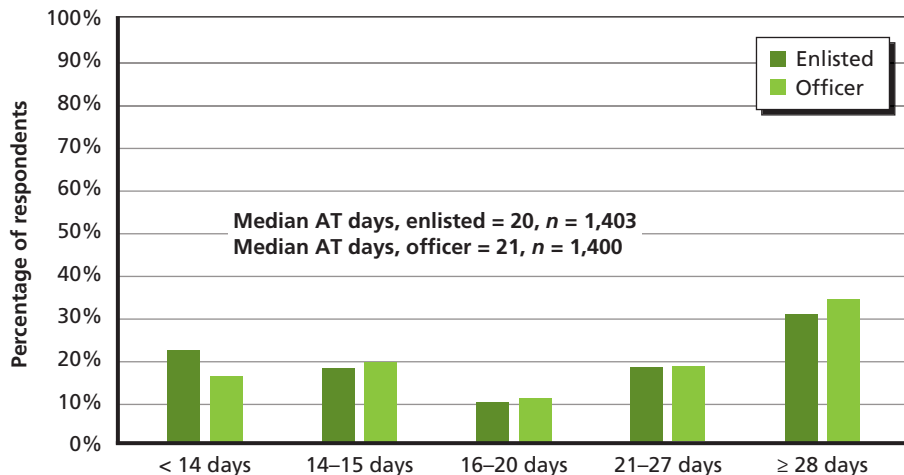
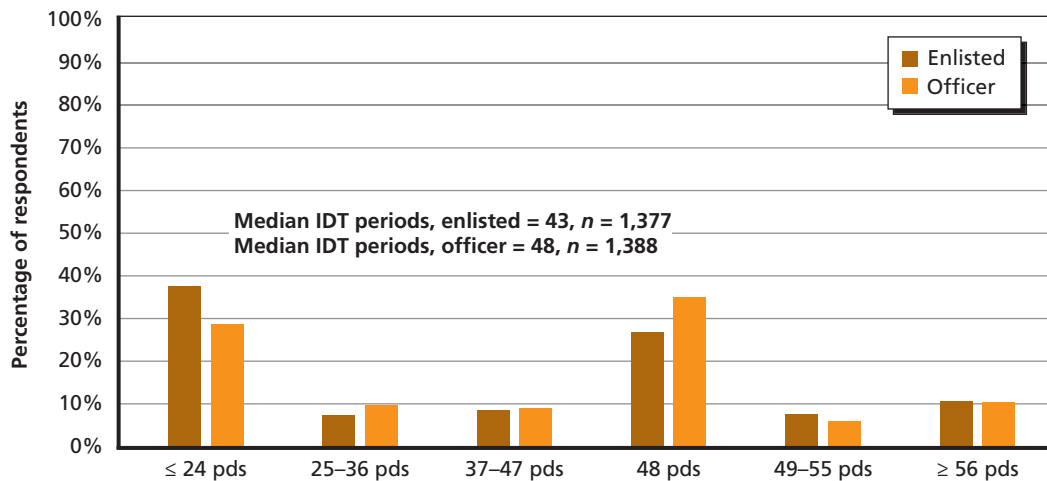


Figure 4.4
Distribution of Self-Reported IDT Periods, 2018



NOTE: Policy is a minimum of 48 periods of IDT per year.

Approximately one-fifth of all respondents self-reported more than 48 periods of IDT in 2018, with the median being 43 periods for enlisted personnel and 48 periods for officers. Seven percent of officers and 11 percent of enlisted personnel reported no IDT during the year, while 44 percent of officers and 37 percent of enlisted personnel reported between 44 and 52 periods of IDT. Compared with the self-reported results on AT, these statistics are closer to the standard of 48 periods of IDT per year for Reserve soldiers.²

Attitudes Toward Training Expansion

In an effort to gauge support for (or opposition to) expansion of training without asking about specific behavioral choices or preferences, respondents were asked to indicate their agreement with the following statements on a 5-point Likert scale:³

- More scheduled inactive duty training (IDT) periods are needed in the Army Reserve.
- Annual training (AT) should be longer than two weeks.

Percentages within each category are presented in Figure 4.5.

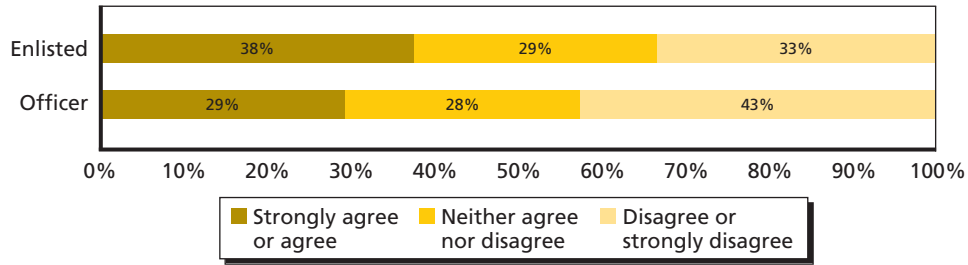
Overall, respondents are split on the need for more IDT and AT, with 33 percent of enlisted and 43 percent of officers disagreeing or strongly disagreeing for IDT and 30 percent of enlisted and 33 percent of officers disagreeing for AT. On the other hand, 38 percent of enlisted and 29 percent of officers strongly agreed or agreed for IDT, and 45 percent of enlisted and 43 percent of officers agreed or strongly agreed for AT. By this metric, there is relatively more support for expansion of AT than IDT in the sample, though the median response is indifference and the distribution of responses across the categories is relatively flat.

² Given the observed distribution in the sample, it is possible that some respondents misinterpreted the question as “days” rather than “periods,” and 12 percent of the sample indicated being with their unit for less than a year, which may be associated with incomplete information about training requirements. If so, the variance in IDT days may be overstated. We thank a reviewer for these possible explanations.

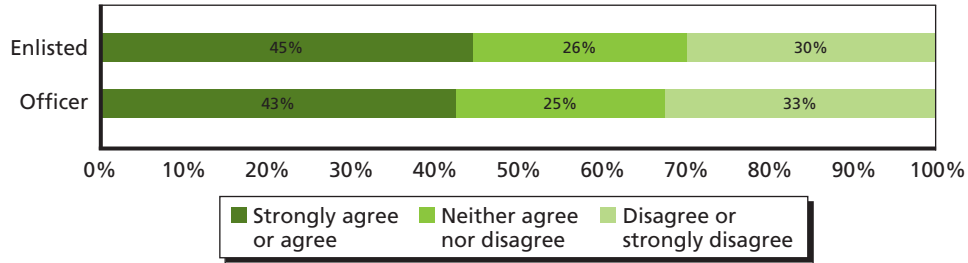
³ The scale was Strongly agree, Agree, Neither agree nor disagree, Disagree, and Strongly disagree.

Figure 4.5
Distribution of Agreement and Disagreement about Expansion of USAR AT and IDT

More scheduled IDT periods are needed in the Army Reserve



AT should be longer than two weeks



Preferred Inactive Duty Training Scheduling

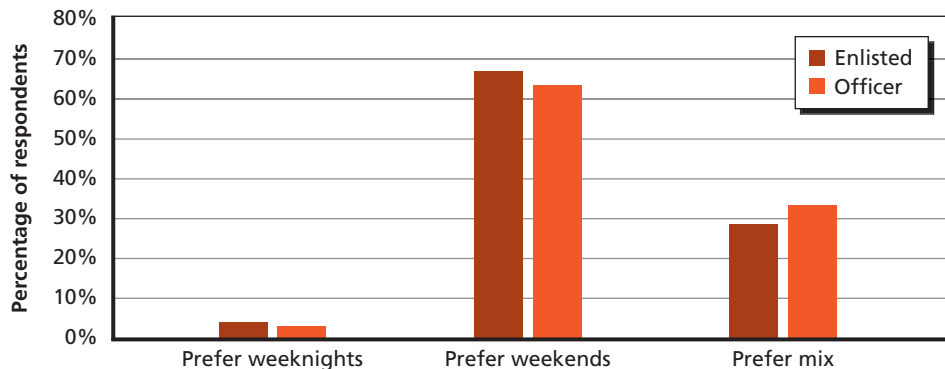
One aspect of training that is of interest to the USAR is scheduling—particularly, preferences related to IDT schedules. The survey asked respondents the following question:

Which type of IDT drill schedule would work best for you?

- Mostly weeknights
- Mostly weekends
- A mix of weeknights or weekends.

Figure 4.6 displays the results. While between 29 and 33 percent of respondents prefer a mix of weekends and weeknights ($n = 2,730$), a solid majority (67 percent of enlisted respondents and 63 percent of officer respondents) prefers the status quo of weekends.

Figure 4.6
Distribution of Preferences for IDT Scheduling



Stated Preference Results

This section reports the results of the contingent behavior and choice experiment analysis. For these analyses, we restricted attention to Reserve soldiers who reported intending to stay beyond their current obligation as the policy-relevant subsample that may ultimately change their retention behavior as a result of training changes. As seen in Figure 4.7, approximately 89 percent of officers and 79 percent of enlisted personnel in the sample (84 percent of the sample overall) reported that they intended to stay in the USAR beyond their current obligation. These observations provided the data used to estimate the models that follow.

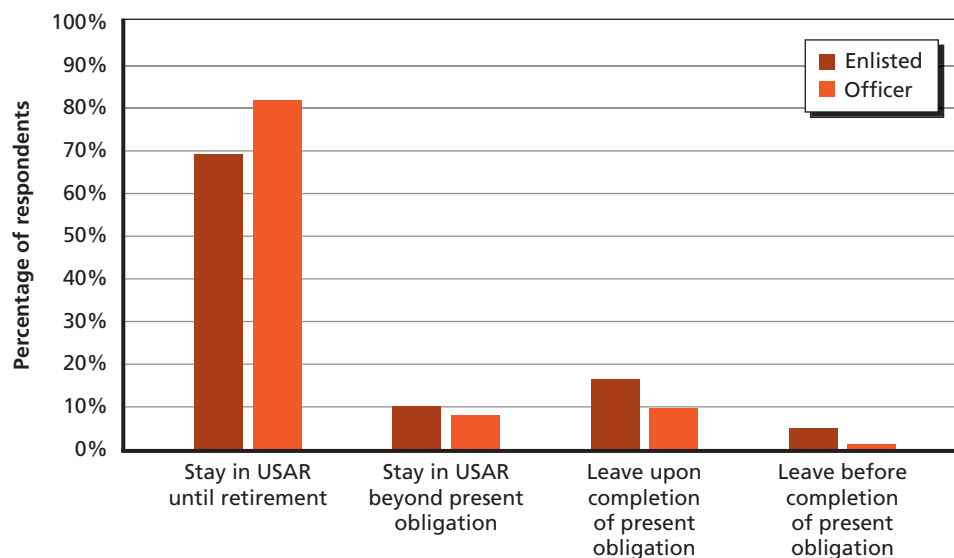
Contingent Behavior Results

Data from the two contingent behavior questions (both the current and a new randomly assigned hypothetical training regime) were combined in order to model the stated behavioral retention effects relative to current policy. The results presented in this subsection do not include additional covariates; however, models estimated with and without observable characteristics are reported in Appendix B. For ease of interpretation, we report estimated probabilities of stated retention from the logit model in Equation (3.1).

We first present results from models that do not distinguish between categories of Reserve soldiers other than their status as officers or enlisted personnel (baseline results). Functionally, these models estimate the average preferences of respondents without allowing for differences between individuals. Thus, while these models do represent averages, they can mask important differences.

To account for this potential, we also present models that differentiate between those who reported very serious or extremely serious problems (hereafter, severe) with employers or families as a result of AT or IDT expansions and those who did not. We also explore the character-

Figure 4.7
Retention Intentions Under Current Training Regime



istics of those who reported severe problems.⁴ Finally, as a robustness check, we discuss results related to variation in the level of training experienced in the prior year.

Baseline Annual Training Results

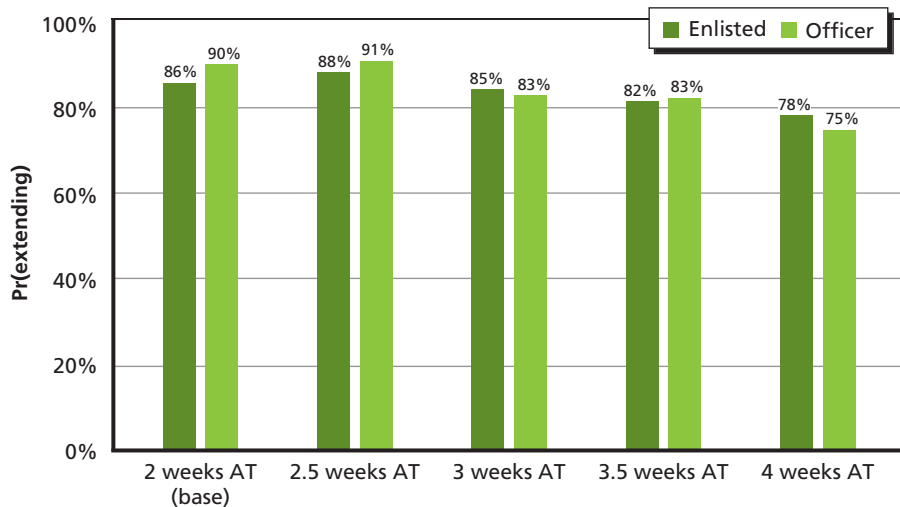
Predicted retention probabilities associated with expanding AT requirements for enlisted personnel and officers, assuming IDT requirements remain at 48 training periods per year, are reported in Figure 4.8.

Results are qualitatively similar for officers and enlisted personnel, with all coefficients on AT indicator variables greater than or equal to three weeks significantly different from the baseline for officers, but only the four-week indicator is significant for enlisted personnel. For both categories of soldiers, the largest point estimate of the probability of extending is for two and a half weeks, suggesting a slight preference for expanded AT of about half a week (though this preference is not statistically significant).⁵ However, as expansion of AT requirements increases, the average probability of extension declines (more precipitously for officers), suggestive of a retention impact should AT be extended to three or four weeks.

Baseline Inactive Duty Training Results

Predicted retention probabilities associated with reducing IDT requirements for enlisted personnel and officers, assuming AT requirements remain at two weeks per year, are reported in Figure 4.9.

Figure 4.8
Contingent Behavior Results for AT Expansion for Reserve Soldiers Intending to Stay Beyond Current Obligation

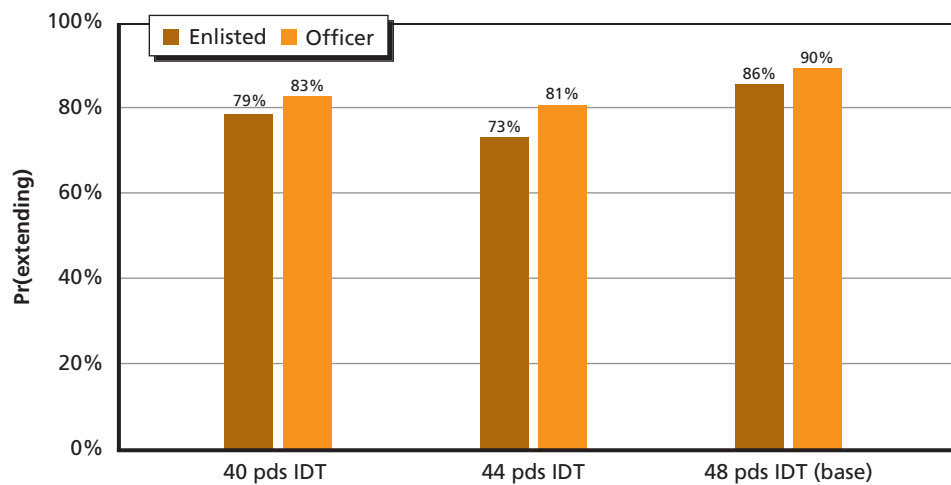


NOTE: Estimated probability of one-year extension given by logit regression of response on IDT and AT indicator variables. Assumes 48 periods of IDT. All AT greater than or equal to three weeks is significantly different from baseline for officers; only four weeks, AT is significantly different from baseline for enlisted personnel. Seventy-nine percent of enlisted personnel and 89 percent of officers indicated an intent to stay.

⁴ Exploratory regressions suggested that controlling for those reporting severe problems helped explain stated behavior considerably better than sociodemographic characteristics.

⁵ Readers are reminded that median training for both officers and enlisted personnel in the sample exceeded the two-week AT requirement.

Figure 4.9
Contingent Behavior Results for IDT Decreases for Reserve Soldiers Intending to Stay Beyond Current Obligation



NOTE: Estimated probability of one-year extension given by logit regression of response on IDT and AT indicator variables. Assumes two weeks of AT. IDT periods of 40 and 44 are significantly different from baseline for enlisted personnel and officers. Seventy-nine percent of enlisted personnel and 89 percent of officers indicated an intent to stay.

Both officers and enlisted personnel appear to prefer, on average, the status quo of 48 periods (one weekend per month, four periods per weekend) of IDT per year. This is contrary to our hypothesis that decreased IDT could compensate for increased AT and keep soldier well-being the same. One possible explanation is that respondents do not consider AT and IDT to be training substitutes; another (not necessarily mutually exclusive) is that soldiers do not typically view current training requirements as binding constraints on their welfare.

Unlike the AT results, respondents appear to prefer reducing the IDT requirement by two weekends per year as compared with reducing it by one weekend per year; that is, the decline in probability of extension from 48 periods may not be monotonic (though the differences in coefficients representing 40 periods and 44 periods is not statistically significant). It is unclear what is driving this result.

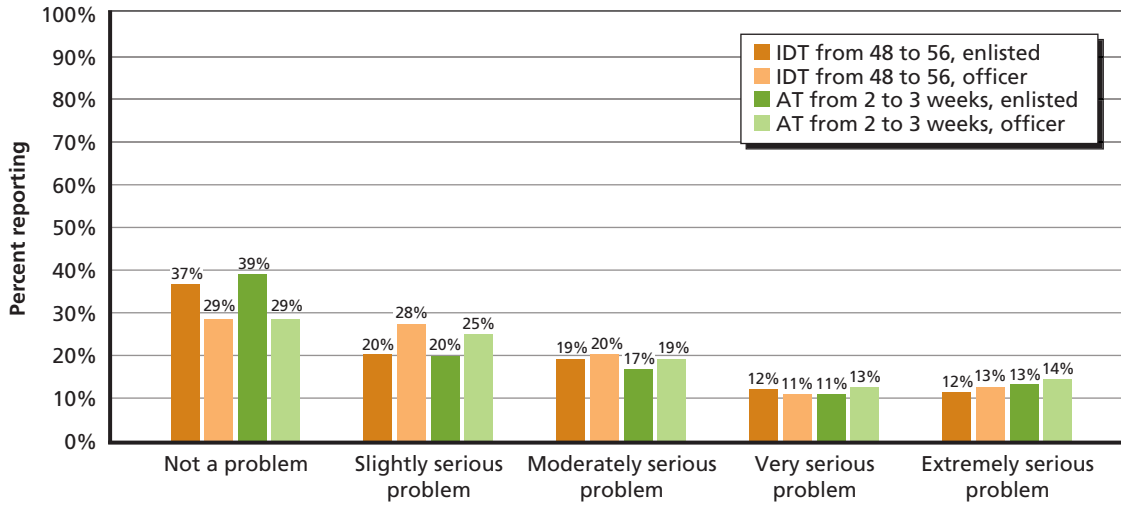
Severity of Employer Problems with Annual Training/Inactive Duty Training Expansion

Survey respondents were asked to rate, on a 5-point Likert scale, how much of a problem an extension of AT from two to three weeks or an extension of IDT from 48 to 56 periods would be for their non-Army employer. Results are reported in Figure 4.10.

Training extensions are reported as a severe problem for about a quarter of respondents for each training type, and reported as not a problem at all for between 29 and 39 percent. Respondents who report a potential problem for one type of training are likely to report the other type as a problem, with a total share of 28 percent reporting a severe employer problem. A slightly greater share of officers than enlisted report likely employer problems with training expansion for each training type.

To explore the observable characteristics of those who report severe employer problems with training expansion, we estimated a logistic regression model with the dependent variable indicating a severe employer problem and the independent variables containing the observable

Figure 4.10
Distribution of Severity of AT and IDT Expansion Problems for Employer



sociodemographic and employment characteristics of the sample. Table 4.1 reports the results of the significant variables for this exercise; the statistical model is reported in Appendix B.

Respondents with greater income are more likely to report a severe employer problem for both IDT and AT increases, and African American respondents are less likely to report such problems.⁶ Those who are self-employed are also statistically more likely to report an employer problem with expanded AT, and those with a government job are less likely. Finally, respondents with more dependents are statistically less likely to report a problem with expanded IDT. With the exception of the racial variable, one explanation for the results is the likely opportunity costs of training.

Despite the significance of these variables, the model does not explain a large proportion of the variance in the dependent variable (pseudo R^2 values range from .014 to .032). This sug-

Table 4.1
Significant Explanatory Variables in Severe Employer Problem Logistic Regression

Trend/Direction	IDT Increase from 48 to 56 Periods a Problem for Employer	AT Increase from 2 to 3 weeks a Problem for Employer
More likely	Income (greater income)	Income (greater income) Self-employed
Less likely	Number of dependents (more dependents) African American ^a	Government job African American

NOTE: Table reports variables significant at 5-percent level from multivariate logit regression of very serious/extremely serious employer problems on sociodemographic and civilian employment variables.

^a African American is significant at the 6-percent level for IDT ($t = -1.94$).

⁶ African American is significant at the 6-percent level ($t = -1.94$) for IDT.

gests that identification of Reserve soldiers with potential employer problems (should training regimes change) is difficult to do on the basis of standard observable characteristics. In other words, potential employer problems tend to be specific to individuals and their own employment circumstances, rather than systemic over variables that can be measured.

To explore this notion further, Table 4.2 reports the proportion of the sample who report serious employer problems related to the expansion of AT and IDT by military occupation. As seen in the table, those in maintenance, legal, and medical occupations appear to be more likely to report a serious problem with AT expansion than those in other occupations by percentage, but these estimates tend to be statistically indistinguishable from the other occupations, except for the largest and smallest percentages. In terms of IDT, the highest point estimates were for

Table 4.2
Proportion of Military Occupations with Severe Employer Problems

MOS	% Serious AT Employer Problem	N	% Serious IDT Employer Problem	N
Adjutant general/personnel/human resources	12	118	8	118
Aviation	13	126	17	126
Chemical, biological, radiological, and nuclear specialists	15	104	13	104
Civil affairs	18	368	17	368
Engineer	19	364	24	364
Finance	13	30	13	30
Headquarters organization	16	232	16	232
Legal/judge advocate general	25	142	18	142
Medical	24	920	20	916
Military Intelligence	20	374	24	372
Military police (MP)	20	258	23	258
Signal	16	172	14	172
Special operations/psychological operations/ information operations	16	182	15	182
Maintenance	27	44	23	44
Ordnance/ammunition	11	56	7	56
Quartermaster/supply	21	234	13	234
Transportation	16	368	14	366
Other CSS/logistics	22	264	20	264
Training	19	546	17	546
Training support	21	168	12	168
Not assigned to unit	22	18	33	18
Other (specify)	15	418	15	418

NOTE: Percentages are not statistically different from each other in all cases.

engineers and military intelligence (again, with little statistical difference between occupations except in the tail of the distribution).

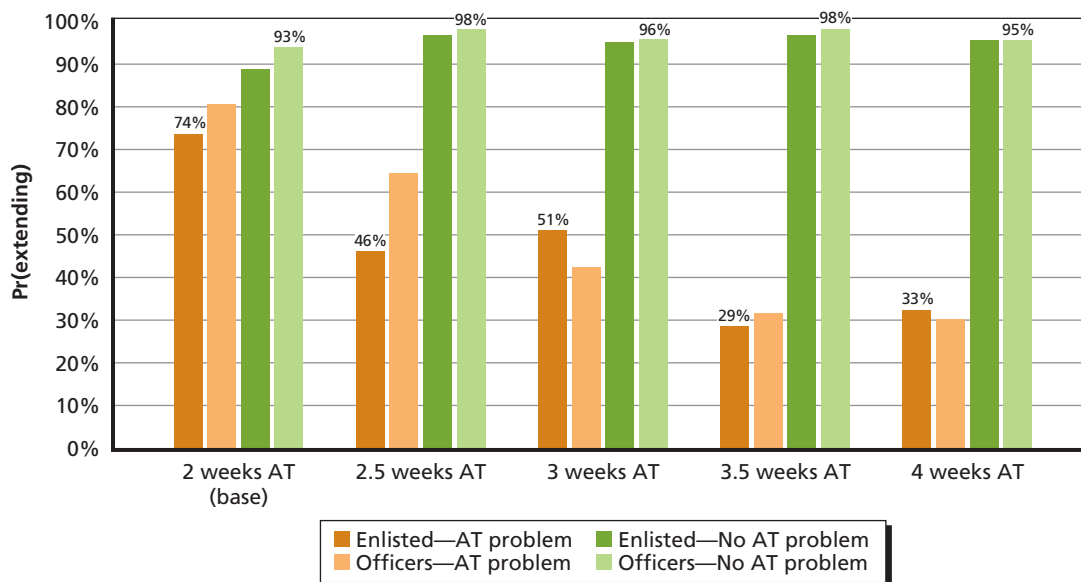
Annual Training Results by Employer Problem Severity

In order to explore the impact of perceived employer problems on the responses to the contingent behavior questions (indicative of potential retention behavior), we reestimated the conditional logit models for two groups: those who reported a likely severe problem with their employer should training be expanded (i.e., those stating the problem would be very serious or extremely serious), and those who reported no problem with the expansion. These groups constitute between 55 and 65 percent of the available survey responses. We focus on the impact of AT expansion on the estimated probability of extending, estimating models for reported AT problems (Figure 4.11) and reported IDT problems (Figure 4.12). Appendix B reports results for IDT expansion.

As seen in the figures, there are considerable differences in the probabilities of extending between the severe and no problem groups. First, those respondents reporting no employer problems with AT or IDT expansion tend to be more willing to extend under current policy than the severe problem group. Second, and perhaps more importantly, the patterns of response as AT requirements increase are very different. Those reporting no problem are far less responsive to changes in AT requirements than those reporting a severe problem, as might be expected.

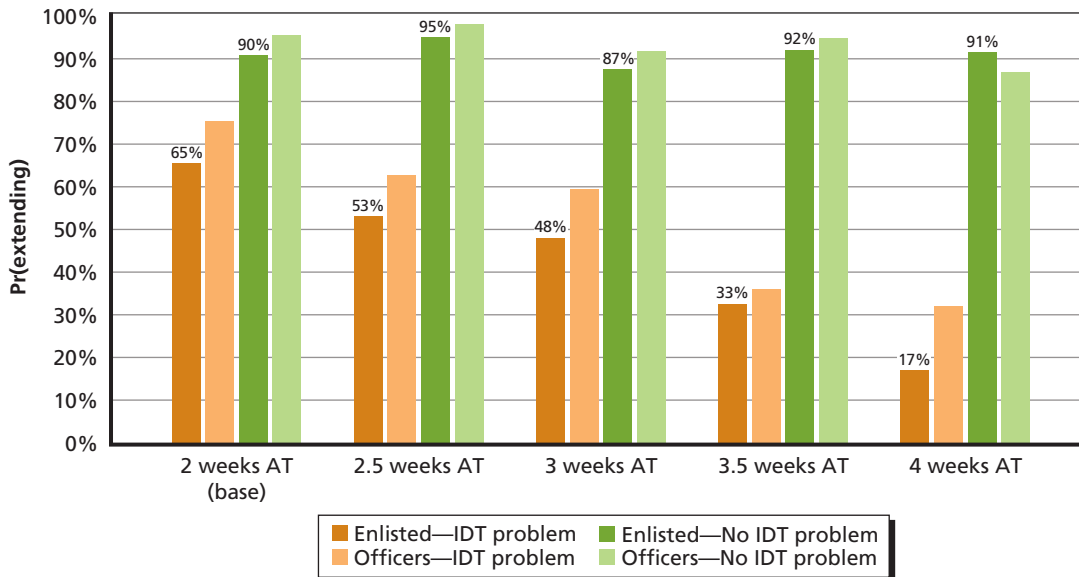
When comparing these results with those in Figure 4.8, it becomes clear that the baseline results that report averages across the sample hide considerable differences in likely response within enlisted and officer soldier groups depending on the perceived costs borne by their civilian employers. Approximately 25 percent of respondents would likely be quite sensitive

Figure 4.11
Contingent Behavior Results for AT Increases by Employer AT Problem Severity



NOTE: Estimated probability of one-year extension. Assumes 48 periods of IDT. AT problem = employer would have a very serious or extremely serious problem with an AT increase from two to three weeks. No AT problem = no employer problem with an AT increase from two to three weeks. Data include only those Reserve soldiers planning to stay in the Reserves beyond their current obligation.

Figure 4.12
Contingent Behavior Results for AT Increases by Employer IDT Problem Severity



NOTE: Estimated probability of one-year extension. Assumes 48 periods of IDT. IDT problem = employer would have a very serious or extremely serious problem with an IDT increase to 56 periods. No IDT problem = no employer problem with an IDT increase to 56 periods. Data include only those Reserve soldiers planning to stay in the Reserves beyond their current obligation.

to changes in AT requirements, especially if said requirements increased by a week or more. On the other hand, approximately 30–40 percent would likely be indifferent (at worst) about increases in AT. Given the averages reported in Figure 4.8, it appears that the remaining portion of the sample would fall somewhere in between.

Severity of Family Problems with Annual Training/Inactive Duty Training Expansion

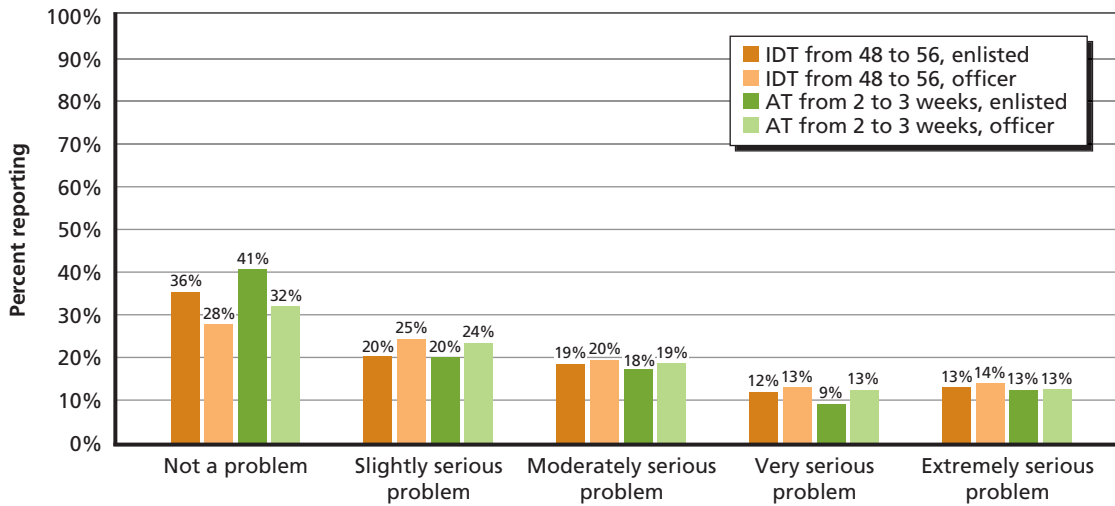
As with employer problems, survey respondents were asked to rate, on a 5-point Likert scale, how much of a problem an extension of AT from two to three weeks or an extension of IDT from 48 to 56 periods would be for their family. Results are reported in Figure 4.13.

Extensions of training are reported as a severe problem for families for about a quarter of respondents overall, and reported as not a problem at all for between 28 and 41 percent, which is very similar to the shares of respondents who reported a potential problem with their employers. Similarly, respondents who report a likely IDT problem with their family are also likely to report an AT problem, with the total share of at least one severe problem reported for 28 percent of respondents. Furthermore, there is considerable correlation across the problem types, as seen by the fact that about 30 percent of all respondents report at least one type of severe problem.

As we did with employer problems, we employed logistic regression to explore the correlation between reported family problems with training expansion and observable characteristics. Table 4.3 reports the results of the significant variables for these models, with additional detail provided in Appendix B.

Not surprisingly, given the correlations between possible employer problems and family problems, many of the explanatory variables are similar (e.g., income and African American).

Figure 4.13
Distribution of Severity of AT and IDT Expansion Problems for Family



There are a few additions; for example, Hispanics and Native American/Pacific Islanders are more likely to report family problems than are whites, and those who have never been married are less likely. Furthermore, those who are separated, divorced, or widowed or who have deployed are more likely to report a problem with AT expansion. However, as before, the explanatory power is low (pseudo R^2 values range from .026 to .035), suggesting that accurate identification of likely family problems using observable characteristics is unlikely.

Table 4.4 shows the proportion of the sample who report serious family problems related to the expansion of AT and IDT by military occupation. Those in chemical/CBRN occupations have the highest percentage of severe family problems associated with potential AT expansion, while maintenance organizations are the second highest (similar to employer problems). Those in finance and military intelligence (with the latter in the top tier for both employer and family problems) are the most likely to report severe family problem from IDT expansion, but these estimates tend to be statistically indistinguishable from the other occupations except for

Table 4.3
Significant Explanatory Variables in Severe Family Problem Logistic Regression

IDT Increase from 48 to 56 Periods a Problem for Family	AT Increase from 2 to 3 weeks a Problem for Family
Income (greater income, more likely)	Deployment (if ever deployed, more likely)
Never married (less likely)	Income (greater income, more likely)
Hispanic (more likely) ^a	Never married (less likely)
African American (less likely)	Separated/divorced/widowed (more likely)
Native American/Pacific Islander (more likely) ^a	Hispanic (more likely)
	African American (less likely)

NOTE: Table reports variables significant at 5-percent level from multivariate logit regression of very serious/extremely serious family problems on sociodemographic and civilian employment variables.

^a Indicates significance at 10-percent level.

Table 4.4
Proportion of Military Occupations with Severe Family Problems

MOS	% Serious AT Family Problem	N	% Serious IDT Family Problem	N
Adjutant general/personnel/human resources	8	118	15	118
Aviation	26	116	26	114
Chemical, biological, radiological, and nuclear specialists	35	92	25	96
Civil affairs	24	356	27	358
Engineer	25	342	33	342
Finance	29	28	36	28
Headquarters organization	16	226	23	222
Legal/judge advocate general	24	132	30	134
Medical	28	852	27	850
Military intelligence	26	360	35	360
Military police (MP)	20	236	26	236
Signal	22	162	20	162
Special operations/psychological operations/information operations	27	172	34	172
Maintenance	30	40	30	40
Ordnance/ammunition	19	54	22	54
Quartermaster/supply	24	214	23	214
Transportation	26	340	25	342
Other CSS/logistics	24	252	25	252
Training	23	516	25	518
Training support	30	154	27	154
Not assigned to unit	25	16	38	16
Other (specify)	16	388	20	388

NOTE: Percentages are not statistically different from each other in all cases.

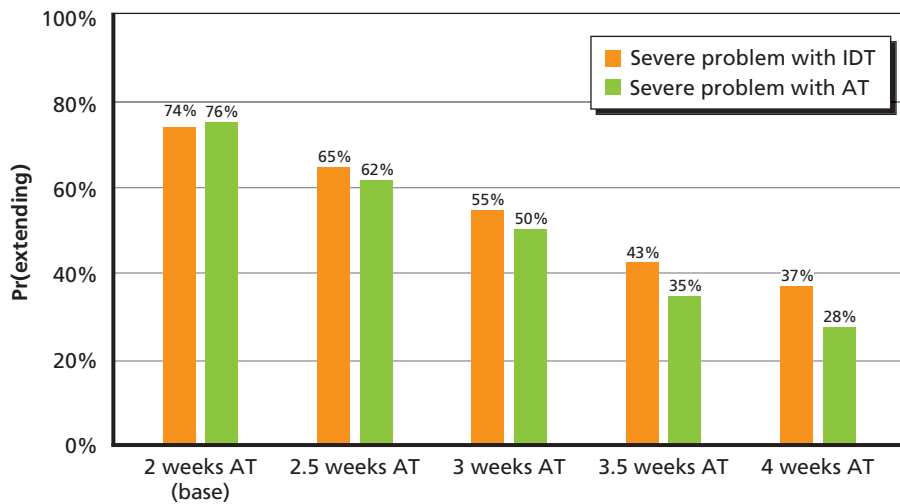
the largest and smallest percentages. Proportions are statistically significant only for the highest and lowest percentages.

Annual Training Results by Family Problem Severity

Figure 4.14 shows the results of the contingent behavior exercise for AT expansion for those who reported a likely severe family problem with increasing IDT and AT requirements. In this figure, we pool officers and enlisted and do not report those with no likely family problems.⁷

⁷ The results are qualitatively similar to those in Figures 4.11 and 4.12.

Figure 4.14
Contingent Behavior Results for AT Increases for Respondents Reporting Severe Family AT and IDT Problems



NOTE: Estimated probability of one-year extension. Severe problem with IDT = family would have a very serious or extremely serious problem with an IDT increase from 48 to 56 periods. Severe problem with AT = family would have a very serious or extremely serious problem with an AT increase from two to three weeks.

As seen in the figure, the pattern in the probability of extension for those reporting likely severe family problems is similar to that of respondents reporting severe employer problems (a fairly steep drop-off from two weeks through four weeks of AT), though the overall probability levels are lower. This suggests greater responsiveness (in terms of attrition from those with family problems as opposed to those with employer problems) to increases in AT requirements.

Results by Level of Training in the Previous Year

Because experience may affect preferences, we tested whether there were systemic differences in preferences related to the reported levels of AT and IDT by respondents in the sample.⁸ First, we included the reported number of AT and IDT days/periods as linear covariates in the baseline regression. For enlisted personnel, there was a positive and statistically significant ($p = 0.03$) relationship between number of AT days and probability of extending, and a negative and statistically significant ($p = 0.03$) relationship between number of IDT periods and probability of extending. For officers, the AT results were similar, but the IDT results were not significant ($p = 0.12$). When including covariates (with missing observations coded), these variables are no longer statistically significant ($p = 0.17$ for AT and $p = 0.97$ for IDT) for enlisted personnel; the AT variable is insignificant for officers ($p = 0.22$), but the IDT variable is negative and significant ($p = 0.024$).

Finally, we coded the conditional logit contingent behavior model to split the sample into those with less than the median AT and IDT levels (enlisted and officer specific) and those with more. For the AT results, we found no difference in responses between these groups for officers; however, we did find a statistically significant difference for the four-week AT choice. More specifically, those with less AT experience are less likely to extend when offered four

⁸ Results are available from the authors.

weeks of AT as an option, all else equal. It thus appears that these responses are driving the aggregate result, as those with greater than the median experience with AT are indifferent between the levels asked. One explanation is that the policy change might be considered non-binding to these individuals.

For the IDT results, we found no significant difference in preferences between enlisted personnel and officers on either side of the median IDT.

Choice Experiment Results

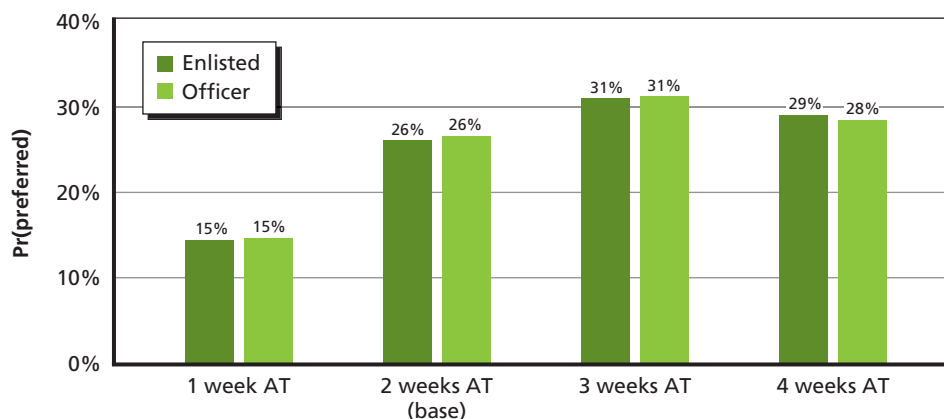
The choice experiment allowed us to manipulate possible training regimes over the dimensions of AT length, IDT length, IDT drill schedule, and number of consecutive AT periods, and uncover the average preferences of the respondents by estimating the conditional logit model in Equation (3.2). Unlike the contingent behavior exercise, the choice experiment simply asked respondents to choose their most preferred option from a three-option set over four different choice occasions. As in the previous section, we report the estimated probabilities of choice for each option and present the details of the models in Appendix C.⁹ We highlight the results for AT and IDT length but note a strong preference for one continuous AT period and weekend IDT schedule across all model specifications. Statistical results are presented in Appendix C.

Baseline Annual Training Results

Predicted probabilities associated with the preferred AT regime for enlisted personnel and officers are reported in Figure 4.15.

As seen in the figure, preferences between enlisted personnel and officers are quite similar. Results suggest that, on average, Reserve soldiers would favor an expansion of AT over the current two-week baseline to three weeks and are (statistically) indifferent between two weeks and four weeks of AT. Reducing the length of AT to one week is the least preferred option.

Figure 4.15
Choice Experiment Results for AT Changes for Reserve Soldiers Intending to Stay Beyond Current Obligation



NOTE: Marginal probability of preferred choice. Four weeks AT coefficient not significantly different from baseline for enlisted personnel and officers.

⁹ Formally, we report the estimated marginal probabilities of choosing a particular option.

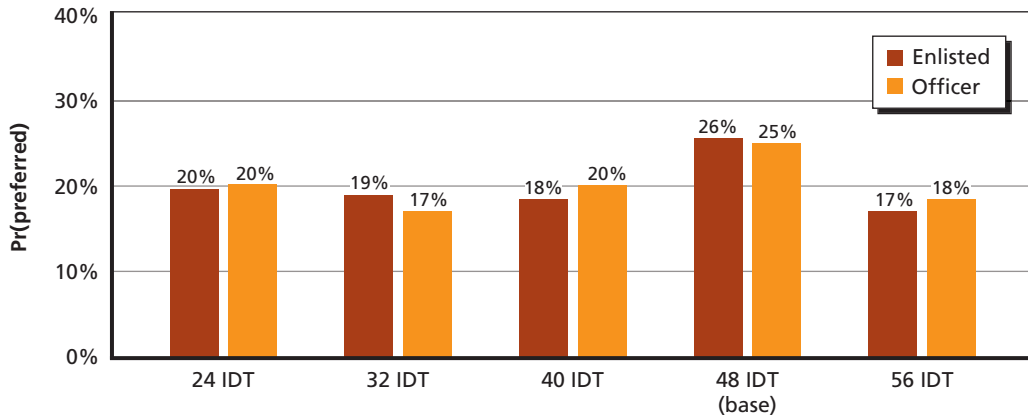
Baseline Inactive Duty Training Results

Predicted probabilities associated with changing IDT requirements for enlisted personnel and officers are reported in Figure 4.16. As with the contingent behavior results, there appears to be a relatively strong average preference for the status quo (48 periods of IDT), and about equal probabilities for the other choices.

Annual Training Choice Experiment Results for Employer and Family Problems

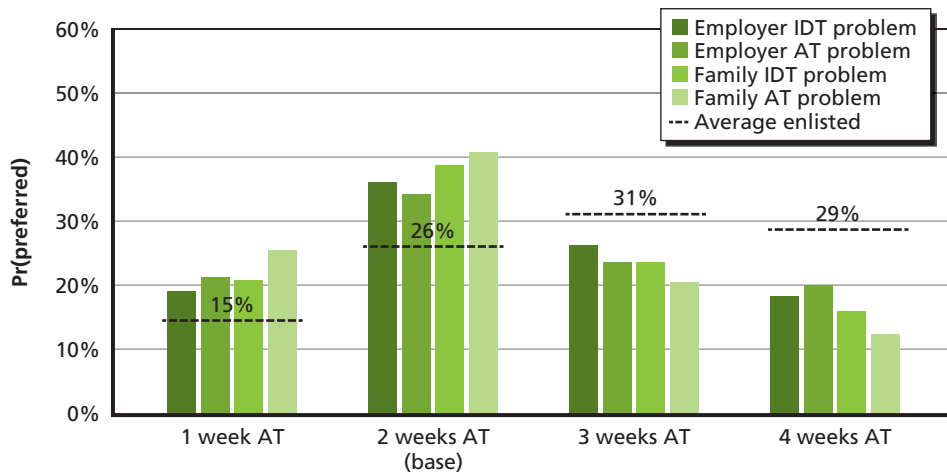
This subsection presents the choice experiment results, accounting for differences in self-reported employer and family problems as in the contingent behavior analysis. Figures 4.17 and 4.18 report the choice probabilities for those expecting severe employer or family problems

Figure 4.16
Choice Experiment Results for IDT Changes for Reserve Soldiers Intending to Stay Beyond Current Obligation



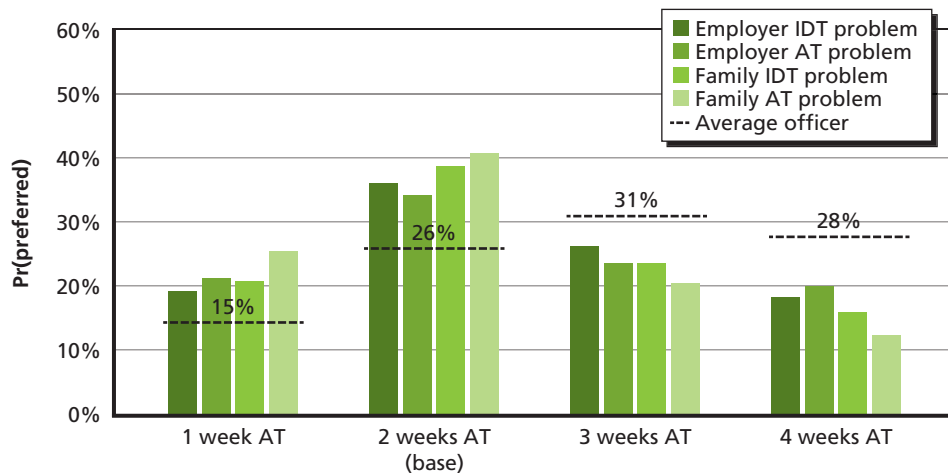
NOTE: Marginal probability of preferred choice. All coefficients significantly different from baseline.

Figure 4.17
Predicted AT Choice Probabilities for Expected Severe Employer and Family Problems Relative to Overall Average, Enlisted Personnel



NOTE: Marginal probability of preferred choice. Lines show predicted probability for all enlisted Reserve soldiers planning to stay beyond current obligation.

Figure 4.18
Predicted AT Choice Probabilities for Expected Severe Employer and Family Problems Relative to Overall Average, Officers



NOTE: Marginal probability of preferred choice. Lines show predicted probability for all Reserve officers planning to stay beyond current obligation.

for enlisted personnel and officers, respectively. The horizontal lines in each figure give the overall average choice probability within each personnel class, allowing for a comparison with the average.

Figure 4.17 shows that for enlisted personnel expecting employer or family problems, the preferred AT regime is the status quo of two weeks, and unlike the overall average, they prefer one week of AT to four weeks. For this group, there is considerably less support for AT expansion. These results are broadly consistent with those in the contingent behavior sections, in that simple averages obscure the differences between respondents with varying employer and family situations.

Officer results are qualitatively similar to those of enlisted personnel, with a preference for the status quo regime for those with expected severe employer and family problems, and less support for AT expansion.

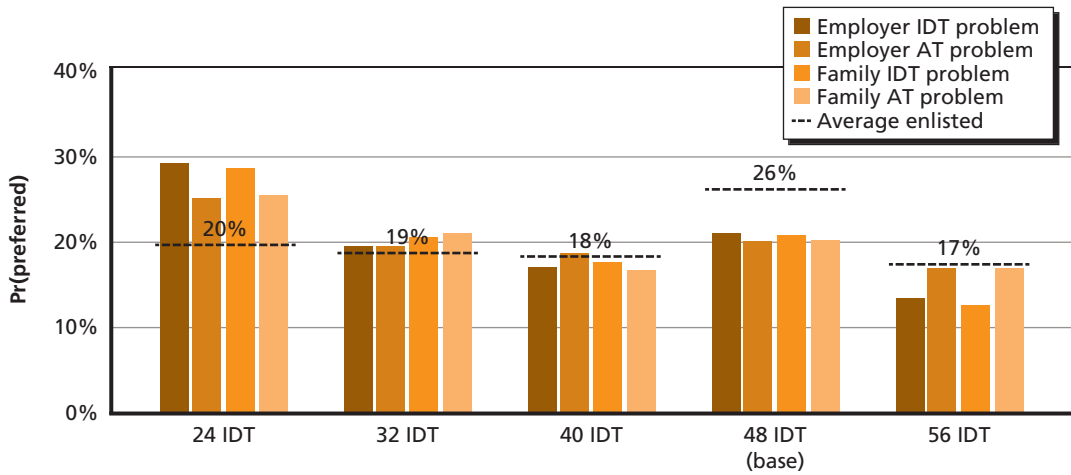
Inactive Duty Training Choice Experiment Results for Employer and Family Problems

Choice experiment results by severity of expected employer and family problems with training expansion for the IDT regime are presented in Figures 4.19 and 4.20, mirroring the results in the previous subsection.

Figure 4.19 shows that enlisted personnel with expected employer or family problems are more likely to prefer a reduced IDT load of 24 periods per year than the average enlisted respondent, with probabilities about equal between 32 periods and the status quo of 48 periods. Perhaps unsurprisingly, those reporting severe expected IDT problems are more likely to prefer reduced IDT and disfavor 56 periods than those reporting AT problems. As with the contingent behavior results, 40 periods of IDT (a reduction of one weekend per year) does not appear to be attractive to enlisted personnel. More research is needed to better understand this preference.

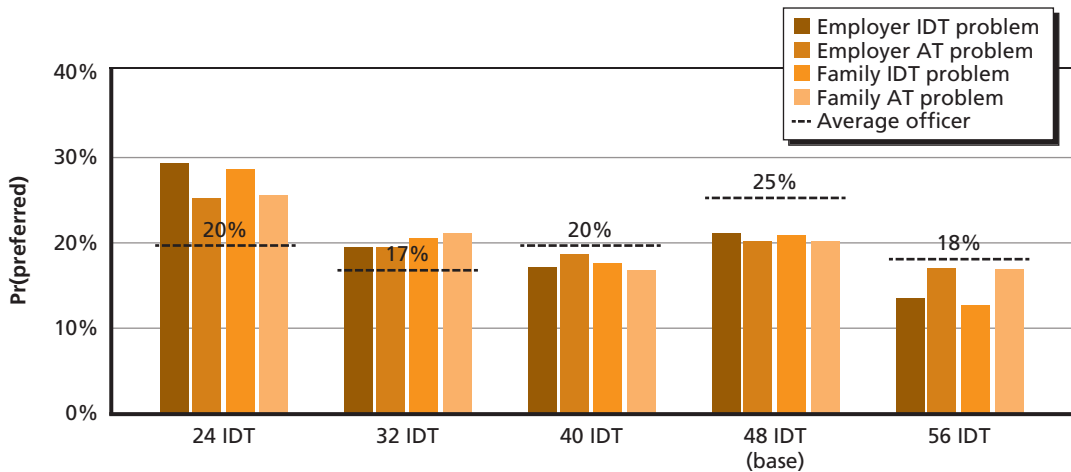
The officer results in Figure 4.20 closely mirror those for enlisted personnel, with probabilities indicating a preference away from the status quo and toward 24 and 32 periods of IDT

Figure 4.19
Predicted IDT Choice Probabilities for Expected Severe Employer and Family Problems
Relative to Overall Average, Enlisted Personnel



NOTE: Marginal probability of preferred choice. Lines show predicted probability for all enlisted Reserve soldiers planning to stay beyond current obligation.

Figure 4.20
Predicted IDT Choice Probabilities for Expected Severe Employer and Family Problems
Relative to Overall Average, Officers



NOTE: Marginal probability of preferred choice. Lines show predicted probability for all Reserve officers planning to stay beyond current obligation.

per year, especially for those with expected problems related to IDT. As we found with the contingent behavior analysis, baseline results for the sample as a whole (i.e., average preferences) hide considerable differences within enlisted and officer soldier groups. Accurately predicting these differences on the basis of observables is difficult, but the results presented herein show that those individuals who perceive an increase in training requirements to be a problem for their civilian employer or their family generally differ in their response to training expansion and place the size of this group on the order of 25–30 percent of the sample.

Results by Level of Training in the Previous Year

As we did with the contingent behavior results, we tested differences in preferences between those who engaged in less than the median level of training over the previous year in the sample and those who engaged in more.¹⁰ We found no statistical differences for enlisted personnel for either AT or IDT levels.

However, for officers, we found that those with less than the median AT were more likely to choose 24 periods of IDT and a weeknight schedule than those with more than the median training levels (though preferences for other attributes were not different, and the general pattern of results is unchanged). Officers with less than the median IDT were more likely to choose 24 periods of IDT than officers with more than the median IDT, with all other preferences over attributes statistically indistinguishable.

¹⁰ Results are available from the authors.

Conclusions and Recommendations

This project used administrative data analysis and a survey incorporating a series of contingent behavior questions and a choice experiment to investigate the likely impacts of changing unit-level USAR training requirements (both AT and IDT) on retention outcomes, as well as the overall preferences of USAR soldiers with respect to training load. The survey also investigated how self-perceived costs to employers and family members from changes in training manifest in different predictions about behavior and estimates of preferred training regimes.

In our analysis of the administrative data, we found that median training days (the sum of AT and IDT days) in units with at least 100 assigned personnel had increased in FY 2013 to FY 2015 relative to earlier years, although some types of USAR units had larger increases than others. We also found that these increases in unit-level training requirements were associated with lower individual-level retention, while controlling for the soldier's own participation in training and other service-related and demographic variables. Soldiers who were older, female, or married and who had lower education levels or more months of prior deployment were also more likely to separate. Soldiers in higher pay grades and who had one or more children and higher education levels were less likely to separate, as were enlisted personnel who were African American, Asian, or Pacific Islanders.

The survey gathered information on USAR soldiers' service-related and sociodemographic characteristics, retention plans, and attitudes toward training and used contingent behavior and choice experiment questions to assess their preferences about the length and timing of AT and IDT and the potential effects of changes in training requirements on retention intentions. It also examined whether soldiers anticipated problems with their civilian employer or family if training requirements changed.

Results from the choice experiment showed that, on average, Reserve soldiers planning to stay in the USAR beyond their current obligation prefer a slight increase in AT (but not up to four weeks) and the status quo 48 periods of IDT per year. From the perspective of the entire sample (as opposed to the "average" respondent), about 60 percent preferred more AT, about a quarter preferred to keep it at the baseline of about two weeks, and about 15 percent preferred a decrease. A weekend IDT schedule and one continuous period of AT are preferred on average, with one continuous period preferred by about 54 percent of the sample, and a weekend IDT schedule preferred by 57 percent of the sample. These predicted percentages from the choice models were based on choice questions that asked respondents to essentially condition on their present situation, explicitly asking them to consider their "own family and employment situation and [their] current obligation to the Army Reserves."

The contingent behavior question was more forward looking and asked respondents to consider their future commitment to service in the USAR if expected training requirements

were to change. Results indicated that if AT increased by a week or more from the current two weeks, then a statistically significant share of officers who were planning to stay under the old policy would choose to leave the USAR, and that share increases as the amount of AT increases. For enlisted personnel, the threshold for statistical significance is four weeks, though the predicted shares are similar to officers and the sign of the coefficients for adding one or one and a half weeks is negative. Compared with the choice experiment results, it seems likely that this attrition would come from the 40 percent subsample that did not prefer an increase in AT minimums.

Retention intentions would also be decreased if the minimum IDT level per policy was decreased to fewer than 48 periods per year for both enlisted personnel and officers. Thus, we find no evidence that reductions in IDT are necessary to accommodate an increase in AT in order to maintain soldier well-being.

These results, however, obscure other important systematic differences in preferences across the sample. Those soldiers with no severe expected employer or family problems (-70 percent of the sample) are indifferent to increases in training, but those who expect severe problems are much more responsive, with family problems driving the most change (though this is the smaller group). Those with larger incomes and who are self-employed are more likely to report serious employer problems with training expansion, while those who are African American, have more dependents, and have government civilian jobs are less likely to report employer problems. Those with larger incomes, who are Hispanic, or who have been deployed are more likely to report serious family problems with training expansion, while those who are African American or who have never been married are less likely to report family problems. In terms of military occupations, there is some evidence that those in maintenance (in terms of AT) and engineering and military intelligence occupations (in terms of IDT) are more likely to experience employer or family problems related to training expansion. Any expansion of AT or IDT would thus be expected to have a negative effect on the retention decisions of soldiers who perceive severe costs to employers or families but may be welcomed by others.

Methodologically, we find generally good qualitative agreement between the preferences implied by the contingent behavior and choice experiment analyses. To the extent that we were able to test the effects of the same variables on separations using the DMDC data, we also found similarities, with higher unit training requirements associated with a higher probability of separations. Both enlisted personnel and officers were more likely to separate if they had been deployed for more months, were female, or were married, and less likely to separate if they had one or more children, while enlisted personnel were less likely to separate if they were African American.

On the basis of this evidence, the authors offer the following recommendations to the USAR:

- **AT should not be expanded beyond three weeks if retention is a priority.** The contingent behavior results suggest that expanding minimum AT by a week or more would result in statistically significant effects on retention of officers. Per the choice experiment results, an extension would be viewed as positive by the average respondent (or about 60 percent of the sample), but more negatively by approximately one-third of our respondents who perceive employer or family problems with expansion.
- **IDT periods should not be reduced if AT is expanded to between two and three weeks in order to maintain retention intentions.** The contingent behavior results sug-

gest that any reduction in IDT minimums would negatively affect retention and is not needed to offset small increases in AT policy. However, the choice experiment results suggest that those who perceive problems with employers or family would likely prefer such a reduction.

- **Changes to a nonweekend IDT schedule or away from one single, continuous period of AT per year are not recommended.** The choice experiment results showed that a majority of respondents preferred the status quo. Again, however, differences in preferences across the USAR force mean that this preference is not necessarily universal.

In addition, the results suggest that offering options with varying levels of training requirements could help meet the preferences of a wider range of TPU soldiers, allowing for self-selection into positions or unit types with higher or lower training requirements based on individual circumstances.

Solicitation Email and Survey Instrument

This appendix provides the solicitation email (including informed consent materials) sent to the approximately 60,000 Reserve soldiers invited to complete the survey, as well as the survey instrument itself. (Note that contact information provided in the survey has been omitted.) The survey was conducted with approval of RAND's Human Subjects Protection Committee and review by the Army. An online appendix, *Soldier Preferences and Retention Effects of Changes in Army Reserve Training Requirements: Appendix D. Summary Statistics*, provides summary statistics from the survey questions.

Solicitation Email

SUBJECT: RAND Operational Reserves Study

Dear Reservist:

I write to request your participation in a survey of Army Reserve personnel conducted by the RAND Corporation. The study seeks to examine the effects of individual and collective training on retention and to identify ways to improve (retention) while maintaining an operational reserve. The survey intends to collect data based off of Army Reserve Soldiers and Families' experiences and preferences with training and civilian employment.

The survey will collect background material, as well as provide an opportunity to choose among a range of potential training distributions. Choices will vary in several dimensions, including the number and continuity of AT weeks and the number and schedule of IDT periods. You will be asked to select the best option from among these choices. RAND Corporation researchers will assess the relative importance of these factors based on their analysis of the survey data.

These studies are very important to helping the U.S. Army Reserve understand complex problems which ultimately allows senior leadership to make more informed strategic decisions on mission readiness. Your support is critically important to ensuring the best possible analyses.

Your participation in this survey is completely voluntary, and any responses you make will be completely confidential. The survey will take between 20–30 minutes to complete.

If you are willing to support this important effort, please follow the link listed below:

URL/Code

If you have any questions about this survey or your rights as a participant, please contact the RAND Arroyo Center's principal investigator . . . [contact information provided in the survey has been omitted].

Similar text was used for the two follow-up emails.

Survey Instrument

INTRO

This survey is designed to obtain the opinions and preferences of soldiers about certain aspects of their Army Reserve service, especially with regard to drilling and training, as part of a larger research project conducted by the RAND Corporation at the request of the Office of the Chief, Army Reserve. The opinions you provide are important for future planning efforts to support the United States Army. As such, it is important that you answer the questions as frankly and accurately as possible.

Your answers to these questions are not traceable to you by the Army Reserve, and will be analyzed and reported along with other soldiers' answers. As such, your answers are strictly confidential.

This survey will take approximately 20 minutes to complete. Your participation in this survey is voluntary. If you refuse to participate, prefer not to answer any individual question, or do not complete the survey, there will be no penalty or loss of benefits to which you are otherwise entitled.

If you have any questions or comments about this survey or the research project, please write to the principal investigator . . . [contact information provided in the survey has been omitted].

Q0

Are you currently serving in the Army Reserve?

- Yes
- No

INELIGIBLE

Thank you very much for your time. This survey is intended for people who are currently serving in the Army Reserve.

Q1a

What is your current paygrade?

- E1
- E2
- E3
- E4
- E5
- E6
- E7
- E8
- E9

- W1
- W2
- W3
- W4
- W5
- O1
- O2
- O3
- O4
- O5
- O6 or above

Q1b

To which type of Army Reserve unit are you currently assigned?

- Adjutant General/Personnel/Human Resources
- Aviation
- Chemical/CBRNE
- Civil Affairs
- Engineer
- Finance
- Headquarters organization
- Legal/Judge Advocate General
- Medical
- Military Intelligence
- Military Police (MP)
- Signal
- Special Operations/Psychological Operations/Information Operations
- Maintenance
- Ordnance/Ammunition
- Quartermaster/Supply
- Transportation
- Other Combat Service Support (CSS)/Logistics
- Training
- Training Support
- Not Assigned to Unit
- Other (Specify) _____

Q1c

Enter your Military Occupational Specialty (MOS) or your primary Area of Concentration (AOC):

- 25B Information Technology
- 25U Signal Support Systems Specialist
- 31B Military Police
- 35F Intelligence Analyst
- 42A Human Resources Specialist
- 68W Health Care Specialist
- 74D CBRN
- 88M Motor Transport Operator
- 91B Wheeled Vehicle Mechanic
- 92A Automated Logistical Specialist
- 92Y Unit Supply Specialist

- 153D UH-60 Pilot
- 153M UH-60M Pilot
- 154F CH-47F Pilot
- 255A Information Services Technician
- 255N Network Management
- 311A CID Special Agent
- 350F All Source Intelligence
- 420A Human Resources Technician
- 915A Automotive Maintenance
- 920A Property Accounting Technician
- 25A Signal
- 31A Military Police
- 35D All Source Intelligence
- 42B Human Resources Officer
- 56A Chaplain
- 66H Medical-Surgical Nurse
- 70B Health Services Administration
- 74A CBRN
- 90A Logistics
- 91A Maintenance & Munitions
- 92A Quartermaster
- Other (specify) _____

Q1d

During the past year, about what percent of your time was spent working in your primary MOS or AOC?

- None
- 1–25%
- 26%–50%
- 51%–75%
- 76%–100%

Q1e

How long have you served in the Army Reserve in years? (Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1).

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- more than 9

Q1f

How long have you been in your present Army Reserve unit in years? (Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1).

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- more than 9

Q1g

Prior to joining the Army Reserve, did you serve in any other military component? Please select all that apply.

- Army active component
- Army National Guard
- Other service active component
- Other service reserve component
- None

Q1h_1

How long was your prior service in the Army active component in years? Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- more than 9

Q1h_2

How long was your prior service in the Army National Guard in years? Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1.

- 0
- 1
- 2
- 3
- 4
- 5

- 6
- 7
- 8
- 9
- more than 9

Q1h_3

How long was your prior service in the other service active component in years? Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- more than 9

Q1h_4

How long was your prior service in the other service reserve component in years? Round to the nearest year—for example, if less than 6 months, mark 0, if 6 months to one year, mark 1.

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- more than 9

Q1i

How many enlistments have you served (including your current enlistment) in the USAR?

- 1
- 2
- 3
- 4
- 5
- more than 5

Q1j

Did you receive a bonus for your current enlistment?

- Yes
- No

Q1k

Under the terms of your current contract, how many total additional years are you obligated to serve in your current enlistment or contract in the Army Reserve from this date? (Please round to the nearest year).

- 0
 1
 2
 3
 4
 5
 6
 7
 8
 9
 more than 9
 Does not apply; I am on voluntary indefinite status

Q1l

Which of the following best describes your current career intentions with the Army Reserve?

- Stay in the Army Reserve until retirement
 Stay in the Army Reserve beyond my present obligation, but not necessarily to retirement
 Leave upon completion of my present obligation
 Leave prior to the end of my present obligation

Q1m

How often do you think about quitting the Army Reserve?

- All of the time
 Most of the time
 Some of the time
 Rarely
 Never

Q1n

How important are each of the following in your decision to stay in the Army Reserve?

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Serving my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educational benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training in a skill that would help me in a civilian job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Importance of the Army Reserve to national defense	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Importance of my unit's mission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Importance of my role in the unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q1p

How important are each of the following in your decision to leave the Army Reserve?

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Superiors don't care about junior soldiers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pressures related to civilian employment or school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failure to get promoted	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of employer support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of spouse/family support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor officer and/or NCO leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Low pay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of credit for doing a good job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too many inactive duty training (IDT) training days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too many annual training (AT) days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schedule of inactive duty training (IDT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schedule of annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too many changes in inactive duty training (IDT) schedules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too many changes in annual training (AT) schedules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too much family separation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wanting to go to school or college	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Can't get training I want	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too many military rules and regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not enough challenging work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not being treated with respect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not enough travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Not liking my unit duty assignment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pay problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor advancement opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of equal opportunity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2a

Suppose that you have to decide whether to stay in the Army Reserve for a one-year extension to your current contract at the current mandatory training requirements of 15 annual training (AT) days per year (about two weeks) plus mandatory 48 periods of inactive duty training (IDT) (about one weekend per month on average) per year. Would you extend your term of service?

- Yes
- No

Q2b

On a scale of 1 (Not sure at all) to 5 (Almost certain), how sure are you about your answer?

- 1—Not sure at all
- 2
- 3
- 4
- 5—Almost certain

Q2c

Now suppose that you have to decide whether to stay in the Army Reserve for a one-year extension, but the mandatory annual training (AT) requirement will increase from 15 annual training (AT) days per year (about two weeks) to X days per year (about $X/7$ weeks), and mandatory inactive training (IDT) requirements would Y . Under these conditions, would you extend your term of service?

- Yes
- No

NOTE: This question was asked two times for each respondent: once at current policy levels, and once with a different draw for X and Y .

Q2d

On a scale of 1 (Not sure at all) to 5 (Almost certain), how sure are you about your answer?

- 1—Not sure at all
- 2
- 3
- 4
- 5—Almost certain

Q3a

In the last calendar year (2018), how many days (including travel) did you participate in annual training (AT)?

- 0
- 1
- 2
- 3
- 4
- 5

- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28+

Q3b

In the last calendar year (2018), how many periods did you participate in inactive duty training (IDT)?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23

- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56+

Q3c

What distance do you typically travel for inactive duty training (IDT)?

- Less than 10 miles
- 10–20 miles
- 21–30 miles
- 31–40 miles
- 41–50 miles
- 51–60 miles
- 61–70 miles
- 71–80 miles
- 81–90 miles
- 91–100 miles
- Greater than 100 miles

Q3d

On average, what percent of your inactive duty training (IDT) time is devoted to training as opposed to other activities?

- None
 1–25%
 26%–50%
 51%–75%
 76%–100%

Q3e

Of the time you spend training, what percent is devoted to MOS skill training?

- None
 1–25%
 26%–50%
 51%–75%
 76%–100%

Q3f

Below is a list of activities you could perform at inactive duty training (IDT). How important to you is performing each of these activities at IDT?

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Doing something related to my MOS skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something that uses my military skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something that draws on my professional skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something for my leaders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something for members of my unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something for which I will be recognized by rewards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something for which I will be recognized by my peers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something for which I will be recognized by my leaders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing something that pushes me to my limits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Doing training that improves how well my unit performs as a team	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3g

If your unit were to go on annual training (AT) of greater than two weeks (for example, in conjunction with overseas exercises), would you be able to put in the extra inactive duty training (IDT) to prepare for it?

- Definitely yes
- Probably yes
- Not sure
- Probably no
- Definitely no

Q3h

In your experience, what happens to those Reservists in your unit who are obligated to attend inactive duty training (IDT) but fail to show up? Mark all that apply.

- Nothing
- They get a call from someone in the unit
- They get a call from the unit Commander
- They get a letter from someone in the unit
- They get a letter from the unit Commander
- A notation is made as a part of their official military record
- They are transferred to the Individual Ready Reserve
- They are involuntarily separated from the Army Reserve
- They receive nonjudicial punishment, such as an Article 15
- They are court-martialed
- I don't know what happens to them

Q3i

Please indicate the extent to which you agree or disagree with each of the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
More overseas training is needed in the Army Reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More scheduled inactive duty training (IDT) periods are needed in the Army Reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More administrative training assemblies (ATA) are needed in the Army Reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Annual training (AT) should be longer than two weeks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3j

Which type of IDT drill schedule would work best for you?

- Mostly weeknights
- Mostly weekends
- A mix of weeknights or weekends

Q4a

We will now present you with 3 choices of different training regimes, consisting of varying levels and distributions of training activities. Given your own family and employment situation and your current obligation to the Army Reserves, please select the training regime that you would most prefer. In each case, please select exactly one choice.

Training Regimen Choice Z

	Choice A	Choice B	Choice C
Annual Training (AT) Weeks	1 week	2 weeks	4 weeks
Inactive Duty Training (IDT) Periods	48 periods	40 periods	32 periods
Number of Annual Training (AT) periods	One continuous period of training	Two separate continuous periods of training	Two separate continuous periods of training
IDT Drill Schedule	Mostly weeknights	Mix of weekends and weeknights	Mostly weekends

My preferred choice is

- Choice A
 Choice B
 Choice C

NOTE: Above is a notional choice occasion. Each respondent was asked to respond to four choice occasions from a randomly assigned block of eight using a D-optimal design.

Q5a_1

Which of the following best describes your current work situation? Please select the option where you spend the most amount of time.

- Working full-time in a civilian job (not government)
 Working part-time in a civilian job (not government)
 Working full-time in a government civilian job
 Working part-time in a government civilian job
 Working as Army Reserve full-time support (AGR, Technician, Active Component, or Civilian)
 Self-employed full-time in own business
 Self-employed part-time in own business
 Have a job, but not at work presently because of temporary illness, strike, etc.
 Unpaid worker (for example, in family-run business)
 Unemployed/laid off
 In school
 Keeping house/homemaker
 Retired
 Other (What is your current work situation?) _____

Q5a_2

Do you work as a first responder (such as police, firefighter, etc)?

- Yes
 No

Q5b

What best describes the kind of work you do in your civilian job?

- Professional, such as social worker, accountant, computer programmer, artist, registered nurse, engineer, librarian, writer
- Manager or Administrator, such as sales manager, office manager, school administrator, buyer, restaurant manager, government official
- Proprietor or Owner, such as owner of a small business, contractor
- School Teacher, such as elementary or secondary
- Sales, such as salesperson, advertising or insurance agent, real estate broker
- Technical, such as draftsman, medical or dental technician, computer operator
- Craftsman, such as baker, auto mechanic, machinist, painter, plumber, telephone installer, carpenter
- Clerical, such as bank teller, bookkeeper, secretary, typist, ticket agent
- Service, such as barber, beautician, practical nurse, private household worker, janitor, waiter, waitress, food service worker
- Operative, such as assembler, machine operator, welder
- Laborer, such as construction worker, car washer, sanitary worker
- Farm laborer
- Child Care, or other day care worker
- Student (full time)
- Other (What kind of work do you do in your civilian job?) _____

Q5c

How long have you been employed with your current civilian employer (round to nearest year)?

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26

- 27
- 28
- 29
- 30+

Q5d

Which category best describes your typical civilian work schedule?

- Fixed weekly schedule
- Irregular weekly schedule (hours vary by day)
- Flexible schedule (hours worked are your choice)

Q5e

Which category best describes how you are paid at your civilian job?

- Hourly
- Salary

Q5f

When comparing an AT day or a typical day in your civilian job, which job pays the most?

- My civilian job
- My Army Reserve job (when training)
- My civilian job and Army Reserve job pay the same

Q5g

What was the total amount that you (individually) earned from your civilian job before taxes and other deductions during the past 12 months? Please give your best estimate.

- Less than \$25,000
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more
- Does not apply, I did not work for pay in the past 12 months

Q5h

How similar are the skills that you use in your civilian job to the skills in your Army Reserve MOS?

- Extremely similar
- Very similar
- Moderately similar
- Slightly similar
- Not at all similar

Q5i

How important to your decision to remain in the reserves is it that your Army Reserve duties be similar to your civilian job?

- Extremely important
- Very important
- Moderately important
- Slightly important
- Not at all important

Q5j

What is your immediate civilian job supervisor's attitude toward your participation in the Army Reserve?

- Extremely favorable
- Very favorable
- Moderately favorable
- Slightly favorable
- Not at all favorable
- Not applicable (no supervisor)

Q5k

How flexible is your civilian job employer in accommodating your Army Reserve training duties?

- Extremely flexible
- Very flexible
- Moderately flexible
- Slightly flexible
- Not at all flexible

Q5l

How much compensated military leave time does your civilian employer allow for training without affecting your other work benefits (including your own vacation time)?

- None
- Less than 1 week
- About 1 week
- Greater than 1 week but less than 2 weeks
- About 2 weeks
- Greater than 2 weeks but less than 3 weeks
- About 3 weeks
- Greater than 3 weeks

Q5m

How are you compensated for your allowable military leave for training by your civilian employer?

- I am not compensated for allowable military leave
- I am partially compensated for allowable military leave
- I am fully compensated for allowable military leave

Q5n

Does your civilian employer offer a military pay offset (i.e., paying the difference between military pay and civilian pay) for AT or deployments?

- No
 Yes, for deployments only
 Yes, for AT only
 Yes, for AT and deployments
 Unsure or do not know

Q5o

How much of a problem is each of these Army Reserve duties for your civilian job supervisor (or, if self-employed, for you)?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Absence for inactive duty training (IDT) drills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for extra time spent with your Army Reserve unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using time at your civilian job for Army Reserve duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unscheduled Army Reserve activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5p

How much of a problem is each of these Army Reserve duties for your educational program?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Absence for inactive duty training (IDT) drills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for extra time spent with your Army Reserve unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using time at your civilian job for Army Reserve duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unscheduled Army Reserve activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5q

How flexible is your unit in accommodating your civilian work schedule?

- Extremely flexible
 Very flexible
 Moderately flexible

- Slightly flexible
 Not at all flexible

Q5r

How flexible is your unit in accommodating your school schedule?

- Extremely flexible
 Very flexible
 Moderately flexible
 Slightly flexible
 Not at all flexible

Q5s

How much of a problem has each of the following situations been for you because of your Army Reserve participation?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Conflicts at your civilian job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promotions at your civilian job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lost vacation time at your civilian job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using vacation time at your civilian job to attend inactive duty training (IDT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using vacation time at your civilian job to attend annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time away from your civilian job due to Army Reserve duties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5t

How do you feel about the amount of time you spend on each activity listed below?

	Too much	About the right amount	Not enough	Not applicable
Your civilian job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Family activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Army Reserve annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Army Reserve inactive duty training (IDT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other Army Reserve activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community/church activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreational/leisure activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5u

How much of a problem for your employer would each of the following be?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Increasing inactive duty training (IDT) from 48 periods to 56 periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing annual training (AT) from 2 weeks to 3 weeks per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing unscheduled Army Reserve activities by a total of 7 extra days per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5v

How much of a problem for your educational institution would each of the following be?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Increasing inactive duty training (IDT) from 48 periods to 56 periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing annual training (AT) from 2 weeks to 3 weeks per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing unscheduled Army Reserve activities by a total of 7 extra days per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6a

What is your marital status?

- Married
- Separated
- Divorced
- Widowed
- Never Married

Q6b

Which of the following best describes your spouse's current work situation? Please select the option where your spouse spends the most amount of time.

- Working full-time in a civilian job (not government)
- Working part-time in a civilian job (not government)
- Working full-time in a government civilian job
- Working part-time in a government civilian job
- Working full-time as an Army Reserve technician or AGR
- Self-employed full-time in own business
- Self-employed part-time in own business
- Have a job, but not at work presently because of temporary illness, strike, etc.
- Unpaid worker (for example, in family-run business)

- Unemployed/laid off
- In school
- Keeping house/homemaker
- Retired
- Other (What is your spouse's current work situation?) _____

Q6c

What best describes the kind of work your spouse does in their civilian job?

- Professional, such as social worker, accountant, computer programmer, artist, registered nurse, engineer, librarian, writer
- Manager or Administrator, such as sales manager, office manager, school administrator, buyer, restaurant manager, government official
- Proprietor or Owner, such as owner of a small business, contractor
- School Teacher, such as elementary or secondary
- Sales, such as salesperson, advertising or insurance agent, real estate broker
- Technical, such as draftsman, medical or dental technician, computer operator
- Craftsman, such as baker, auto mechanic, machinist, painter, plumber, telephone installer, carpenter
- Clerical, such as bank teller, bookkeeper, secretary, typist, ticket agent
- Service, such as barber, beautician, practical nurse, private household worker, janitor, waiter, waitress, food service worker
- Operative, such as assembler, machine operator, welder
- Laborer, such as construction worker, car washer, sanitary worker
- Farm laborer
- Child Care, or other day care worker
- Student (full time)
- Other (What kind of work does your spouse do in his or her civilian job?) _____

Q6d

What was the total amount that your spouse (individually) earned from his/her civilian job before taxes and other deductions during the past 12 months? Please give your best estimate.

- Less than \$25,000
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 to \$149,999
- \$150,000 or more
- Does not apply, my spouse did not work for pay in 2017

Q6e

What is your spouse's attitude toward your participation in the Army Reserve?

- Extremely favorable
- Very favorable
- Moderately favorable
- Slightly favorable
- Not at all favorable

Q6f

How much do you and your spouse agree on your career plans for the Army Reserve?

- Completely
 Very
 Moderately
 Slightly
 Not at all

Q6g

How supportive of your family is each of the following:

	Extremely supportive	Very supportive	Moderately supportive	Slightly supportive	Not at all supportive
Your commander	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your unit officers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your unit NCOs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your unit technician(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Army Reserve in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6h

How much of a problem for your family is each of the following?

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Absence for inactive duty training (IDT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for annual training (AT)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Absence for extra time spent with your Army Reserve unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unscheduled Army Reserve activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling family vacations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6i

How much of a problem for your family would each of the following be? Assume that in each case, this is the only change from current training requirements.

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Increasing inactive duty training (IDT) from 48 periods to 56 periods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing annual training (AT) from 2 weeks to 3 weeks per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not a problem	A slightly serious problem	A moderately serious problem	A very serious problem	An extremely serious problem
Increasing annual training (AT) from 2 weeks to 4 weeks per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increasing unscheduled Army Reserve activities by a total of 7 extra days per year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7a

In what state or territory is your unit located?

- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Rhode Island
- South Carolina

- South Dakota
- Tennessee
- Texas
- Utah
- Vermont
- Virginia
- Washington
- West Virginia
- Wisconsin
- Wyoming
- DC
- Puerto Rico
- Other U.S. territory or possession

Q7b

Have you been deployed in the past 24 months?

- Yes
- No

Q7c

What is the highest degree or level of school that you have completed?

- 12 years or less (no diploma)
- High school graduate—traditional diploma
- High school graduate—alternative diploma (home school, GED, etc.)
- Some college credit, but less than one year
- 1 or more years of college, no degree
- Associate degree (For example, AA, AS)
- Bachelor's degree (For example, BA, AB, BS)
- Master's, doctoral, or professional school degree (For example, MA, MS, Med, MEng, MBA, MSW, PhD, MD, JD, DVM, EdD)

Q7d

How many children or other legal dependents do you have in the age groups specified below?
To indicate none, select "0". To indicate nine or more, select "9".

5 years and younger		6–13 years old	
<input type="radio"/> 0 (1)		<input type="radio"/> 0 (1)	
<input type="radio"/> 1 (2)		<input type="radio"/> 1 (2)	
<input type="radio"/> 2 (3)		<input type="radio"/> 2 (3)	
<input type="radio"/> 3 (4)		<input type="radio"/> 3 (4)	
<input type="radio"/> 4 (5)		<input type="radio"/> 4 (5)	
<input type="radio"/> 5 (6)		<input type="radio"/> 5 (6)	
<input type="radio"/> 6 (7)		<input type="radio"/> 6 (7)	
<input type="radio"/> 7 (8)		<input type="radio"/> 7 (8)	
<input type="radio"/> 8 (9)		<input type="radio"/> 8 (9)	
<input type="radio"/> 9+		<input type="radio"/> 9+	

14–18 years old

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
 - 4 (5)
 - 5 (6)
 - 6 (7)
 - 7 (8)
 - 8 (9)
 - 9+
-

19–22 years old

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
 - 4 (5)
 - 5 (6)
 - 6 (7)
 - 7 (8)
 - 8 (9)
 - 9+
-

23 years and older

- 0 (1)
 - 1 (2)
 - 2 (3)
 - 3 (4)
 - 4 (5)
 - 5 (6)
 - 6 (7)
 - 7 (8)
 - 8 (9)
 - 9+
-

Q7e

Are you Spanish/Hispanic/Latino?

- Yes
- No

Q7f

What is your race? Select all that apply.

- White
- Black or African American
- American Indian/Alaska Native
- Asian
- Native Hawaiian/Other Pacific Islander

Q7g

Are you male or female?

- Male
- Female

END

Thank you for your contributions to this research effort.

If you have any questions or comments about this survey or the research project, please write to the principal investigator . . . [contact information provided in the survey has been omitted].

Contingent Behavior Results

The following tables present the formal models used to calculate the predicted extension probabilities presented in Figures 4.11 through 4.17 and Tables 4.1 and 4.2.

Table B.1 provides results for the baseline (average) contingent behavior models without covariates, as well as the exploratory regressions that include sociodemographic characteristics and indicator variables for expected severe employer problems (*Sev. Emp. Prob IDT* and *Sev. Emp Prob AT*). Given the strong correlations, we omit the regressions for family variables; however, they are qualitatively similar.

Table B.1
Baseline and Exploratory Contingent Behavior Model Results for Those Planning on Staying in USAR Beyond Current Obligation

Variable	Baseline		With Covariates	
	Enlisted	Officer	Enlisted	Officer
AT 2.5 weeks	0.216 (0.227)	0.080 (0.226)	0.237 (0.297)	-0.021 (0.282)
AT 3 weeks	-0.116 (0.219)	-0.587** (0.205)	-0.323 (0.286)	-0.836** (0.255)
AT 3.5 weeks	-0.314 (0.212)	-0.609** (0.206)	-0.642* (0.265)	-0.971*** (0.253)
AT 4 weeks	-0.532* (0.209)	-1.087*** (0.197)	-0.702* (0.274)	-1.327*** (0.246)
IDT 40 periods	-0.507** (0.193)	-0.601*** (0.179)	-0.235 (0.251)	-0.524* (0.221)
IDT 44 periods	-0.816*** (0.191)	-0.757*** (0.178)	-0.794** (0.247)	-0.751*** (0.222)
Years in USAR			-0.037 (0.021)	-0.040 (0.023)
Prior service			-0.427** (0.155)	0.060 (0.146)
Deployed			-0.501** (0.189)	0.169 (0.154)
Education			0.050 (0.046)	0.260** (0.099)

Table B.1—Continued

Variable	Baseline		With Covariates	
	Enlisted	Officer	Enlisted	Officer
Dependents			-0.067 (0.046)	0.058 (0.051)
Government employer			0.204 (0.152)	0.082 (0.143)
Self-employed			0.408 (0.380)	0.359 (0.338)
Income			-0.167** (0.054)	-0.102 (0.057)
Never married			-0.074 (0.224)	-0.237 (0.244)
Separated/divorced/widowed			0.026 (0.224)	0.075 (0.221)
Hispanic			0.449* (0.179)	-0.343 (0.249)
African American			-0.097 (0.212)	-0.161 (0.229)
American Indian/Alaska Native		0.280	-0.727* (0.369)	 (0.360)
Asian			-0.551 (0.313)	-0.449 (0.266)
Hawaiian/Pacific Islander			-0.658 (0.423)	1.836* (0.799)
Female			-0.538** (0.201)	0.192 (0.201)
Severe employer problem IDT			-1.394*** (0.203)	-0.815*** (0.167)
Severe employer problem AT			-0.540** (0.203)	-1.386*** (0.164)
Constant	1.812*** (0.087)	2.186*** (0.095)	3.333*** (0.605)	1.874* (0.926)
Pseudo R^2	0.035	0.067	0.150	0.194
LR $\chi^2(6)$	75.74	152.82		
LR $\chi^2(24)$			221.66	344.96
N	1,090	1,228	721	929

NOTE: Logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: extend ($y = 1$) or not extend ($y = 0$) given contingent value questions. N = unique respondents (each of whom was asked two contingent behavior questions). LR χ^2 is a likelihood ratio statistic associated with a test of overall model significance. Baseline variables: AT = two weeks, IDT = 48 periods, no prior military service, never been deployed, private sector employment, married, non-Hispanic, white, male, no severe employment problems.

To account for the drop in sample size once covariates are introduced, and to test whether there are differences in contingent behavior between “full” observations and those with missing covariate information, we coded item nonresponse on sociodemographic characteristics and incorporated them into the regression to maintain sample size. Results are reported in Table B.2.

Table B.2
Contingent Behavior Model Results for Those Planning on Staying in USAR
Beyond Current Obligation Including Item Nonresponse

Variable	With Covariates and Missing Coding	
	Enlisted	Officer
AT 2.5 weeks	0.173 (0.24)	-0.046 (0.24)
AT 3 weeks	-0.232 (0.23)	-0.785*** (0.22)
AT 3.5 weeks	-0.458* (0.22)	-0.784*** (0.22)
AT 4 weeks	-0.704** (0.22)	-1.338*** (0.21)
IDT 40 periods	-0.435* (0.20)	-0.581** (0.19)
IDT 44 periods	-0.782*** (0.20)	-0.692*** (0.19)
Years in USAR	-0.027 (0.02)	-0.032 (0.02)
Prior service	-0.339** (0.13)	0.073 (0.13)
Deployed	-0.412** (0.16)	0.085 (0.14)
Education	0.069 (0.04)	0.174 (0.09)
Dependents	-0.019 (0.04)	0.03 (0.05)
Government employer	0.167 (0.14)	0.087 (0.14)
Self-employed	0.307 (0.36)	0.56 (0.33)
Other employer	0.47 (0.26)	0.357 (0.34)
Income	-0.147** (0.05)	-0.108* (0.05)

Table B.2—Continued

Variable	With Covariates and Missing Coding	
	Enlisted	Officer
Never married	-0.094 (0.18)	-0.147 (0.21)
Separated/divorced/widowed	-0.071 (0.17)	0.063 (0.20)
Hispanic	0.285 (0.15)	-0.249 (0.23)
African American	0.117 (0.18)	-0.327 (0.20)
American Indian/Alaska Native	0.066 (0.31)	-0.452 (0.33)
Asian	-0.453 (0.24)	-0.731** (0.23)
Hawaiian/Pacific Islander	-0.46 (0.36)	1.701* (0.66)
Female	-0.237 (0.16)	-0.02 (0.17)
Severe employer problem IDT	-1.226*** (0.19)	-0.784*** (0.16)
Severe employer problem AT	-0.659*** (0.19)	-1.398*** (0.16)
Prior service missing	0.114 (0.63)	-0.851 (0.49)
Deployed missing	-1.894 (1.16)	14.038 (955.50)
Education missing	2.801* (1.36)	-26.452 (1,372.48)
Dependents missing	0.372 (0.49)	0.089 (0.85)
Job type missing	1.801* (0.72)	-0.942 (0.74)
Income missing	-1.271 (0.66)	0.082 (0.72)
Marital status missing	-1.498 (0.78)	0.294 (0.71)
Hispanic missing	0.674 (0.93)	-1.481 (1.36)
Race missing	-1.335 (0.92)	14.694 (985.25)

Table B.2—Continued

Variable	With Covariates and Missing Coding	
	Enlisted	Officer
Employer problem missing	0.51 (0.66)	-0.799 (0.68)
Constant	2.998*** (0.52)	2.536** (0.86)
Pseudo R^2	0.123	0.178
LR $\chi^2(35)$	264.15	406.43
N	1,090	1,226

NOTE: Logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: extend ($y = 1$) or not extend ($y = 0$) given contingent value questions. N = unique respondents (each of whom was asked two contingent behavior questions). LR χ^2 is a likelihood ratio statistic associated with a test of overall model significance. Baseline variables: AT = two weeks, IDT = 48 periods, no prior military service, never been deployed, private sector employment, married, non-Hispanic, white, male, no severe employment problems. Missing variables (denoted _Miss) coded by category to avoid multicollinearity.

Table B.3 provides the statistical results for those with and without severe employer or family problems. The results show that while we reject the hypothesis of missing at random for enlisted personnel in that some of these dummies were statistically significant at the 5-percent level—namely, education and job type—we could not do so for officers. However, we find no changes in the sign for the primary independent variables in the model, and only small changes in magnitude. In terms of significance, there are some changes, in that including the observations reduces the p value for officer education, increases the p value for officer income and Asian officers, and decreases the p value for enlisted Hispanic and officer American Indian/Alaska Native. Our general conclusions about severe employer and family problems are unchanged.

Table B.3
Contingent Behavior Model Results for Those With and Without Severe Employer and Family Problems with Training Expansion

Variable	Employer IDT Problem				Employer AT Problem				Family Problem	
	Enlisted Severe Problem	Officer Severe Problem	Enlisted No Problem	Officer No Problem	Enlisted Severe Problem	Officer Severe Problem	Enlisted No Problem	Officer No Problem	Family Severe Problem	Family No Problem
AT 2.5	-0.514 (0.560)	-0.575 (0.449)	0.648 (0.536)	0.542 (0.691)	-1.177** (0.455)	-0.808 (0.420)	1.341* (0.629)	1.125 (0.767)	-0.447 (0.272)	-0.641* (0.286)
AT 3	-0.715 (0.556)	-0.717 (0.411)	-0.349 (0.485)	-0.622 (0.575)	-0.989 (0.512)	-1.707*** (0.393)	0.814 (0.600)	0.451 (0.709)	-0.858** (0.263)	-1.112*** (0.274)
AT 3.5	-1.363** (0.505)	-1.673*** (0.444)	0.179 (0.489)	-0.166 (0.589)	-1.942*** (0.495)	-2.153*** (0.411)	1.345* (0.627)	1.156 (0.757)	-1.327*** (0.278)	-1.741*** (0.292)
AT 4	-2.213*** (0.624)	-1.857*** (0.451)	0.073 (0.482)	-1.145* (0.523)	-1.753*** (0.510)	-2.218*** (0.407)	0.964 (0.599)	0.375 (0.695)	-1.567*** (0.281)	-2.087*** (0.301)
IDT 40	0.354 (0.503)	0.534 (0.402)	-0.564 (0.458)	-0.686 (0.502)	0.338 (0.435)	0.037 (0.362)	-1.164* (0.583)	-1.468* (0.656)	0.304 (0.245)	-0.109 (0.258)
IDT 44	0.079 (0.517)	-0.391 (0.390)	-1.400** (0.431)	-0.982* (0.475)	-0.103 (0.456)	-0.260 (0.366)	-1.820** (0.560)	-1.188 (0.678)	-0.340 (0.248)	-0.521* (0.263)
Constant	0.637*** (0.182)	1.099*** (0.160)	2.236*** (0.189)	3.010*** (0.274)	1.026*** (0.189)	1.402*** (0.163)	2.010*** (0.171)	2.621*** (0.232)	1.053*** (0.103)	1.126*** (0.111)
Pseudo R^2	0.074	0.094	0.053	0.083	0.094	0.159	0.034	0.033	0.07	0.137
LR $\chi^2(6)$	27.28	51.84	26.53	29.62	37.07	102.05	17.04	10.7	90.4	164.09
<i>N</i>	133	208	321	298	144	238	330	295	491	437

NOTE: Logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: extend ($y = 1$) or not extend ($y = 0$) given contingent value questions. *N* = unique respondents (each of whom was asked two contingent behavior questions). LR χ^2 is likelihood ratio statistic associated with test of overall model significance. Baseline variables: AT = two weeks, IDT = 48 periods. "No family problem" results not reported.

Table B.4 presents results of the logit regressions attempting to explain reporting expected severe employer or family problems.

Table B.4
Observable Characteristics of Expected Severe Employer or Family Problems

Variable	Employer Severe IDT Problem	Employer Severe AT Problem	Family Severe IDT Problem	Family Severe AT Problem
Years in USAR	-0.009 (0.014)	-0.006 (0.014)	0.010 (0.013)	-0.004 (0.014)
Prior service	-0.037 (0.095)	-0.035 (0.091)	0.004 (0.089)	0.066 (0.092)
Deployed	-0.021 (0.105)	0.055 (0.102)	0.053 (0.099)	0.241* (0.105)
Education	0.033 (0.036)	0.008 (0.035)	-0.031 (0.032)	-0.057 (0.033)
Dependents	-0.069* (0.032)	-0.011 (0.030)	-0.048 (0.029)	0.000 (0.029)
Government employer	-0.125 (0.092)	-0.278** (0.091)	0.053 (0.086)	-0.106 (0.089)
Self-employed	-0.200 (0.226)	0.426* (0.189)	-0.033 (0.207)	-0.104 (0.213)
Other employer		0.048 (0.792)		
Income	0.136*** (0.034)	0.235*** (0.033)	0.191*** (0.032)	0.239*** (0.034)
Never married	-0.224 (0.155)	-0.137 (0.153)	-0.670*** (0.162)	-0.539** (0.169)
Separated/divorced/widowed	-0.164 (0.145)	0.118 (0.133)	0.080 (0.127)	0.268* (0.129)
Hispanic	-0.053 (0.132)	0.126 (0.132)	0.233 (0.131)	0.355* (0.138)
African American	-0.297 (0.153)	-0.538*** (0.155)	-0.305* (0.143)	-0.415** (0.150)
American Indian/Alaska Native	-0.029 (0.258)	-0.042 (0.251)	-0.040 (0.238)	0.029 (0.244)
Asian	-0.055 (0.194)	0.170 (0.176)	0.011 (0.178)	-0.108 (0.186)
Hawaiian/Pacific Islander	-0.064 (0.364)	0.201 (0.326)	0.585* (0.293)	0.264 (0.326)
Female	-0.157 (0.132)	0.037 (0.123)	-0.147 (0.124)	-0.187 (0.130)
Constant	-1.839*** (0.407)	-2.638*** (0.404)	-2.283*** (0.390)	-3.020*** (0.410)

Table B.4—Continued

Variable	Employer Severe IDT Problem	Employer Severe AT Problem	Family Severe IDT Problem	Family Severe AT Problem
Pseudo R^2	0.014	0.032	0.026	0.035
LR χ^2	47.29	111.29	92.87	120.53
N	1,650	1,657	1,645	1,641

NOTE: Logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: severe problem ($y = 1$) or not severe problem ($y = 0$). N = unique respondents (each of whom was asked two contingent behavior questions). LR χ^2 is a likelihood ratio statistic associated with a test of overall model significance. Other employment dropped in certain regressions when perfectly collinear with other regressors. Baseline variables: no prior military service, never been deployed, private sector employment, married, non-Hispanic, white, and male.

Figures B.1, B.2, and B.3 show the contingent behavior results for IDT increases by employer problem severity. Compared with the AT increases results in Chapter Four, there is little in the way of systemic patterns across responses.

Figure B.1
Contingent Behavior Results for IDT Increases by Employer AT Problem Severity

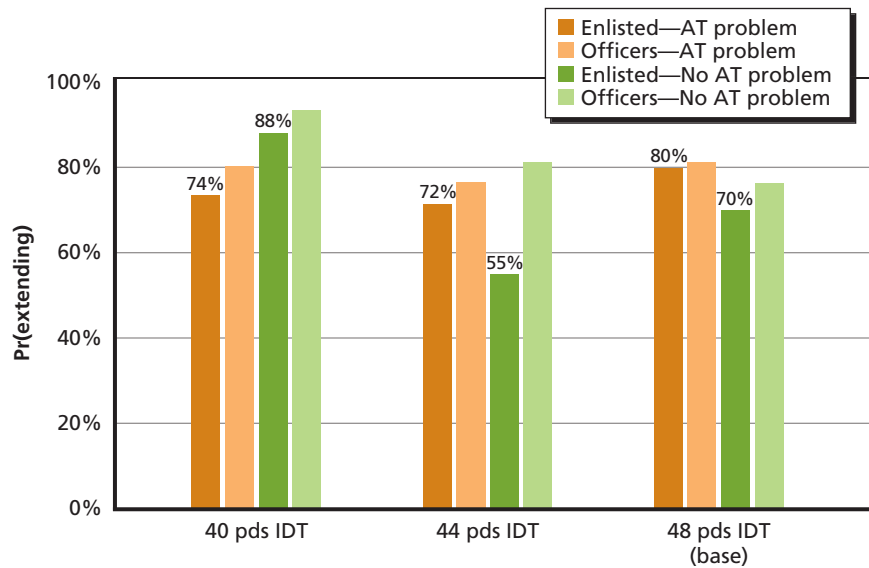


Figure B.2
Contingent Behavior Results for IDT Increases by Employer IDT
Problem Severity

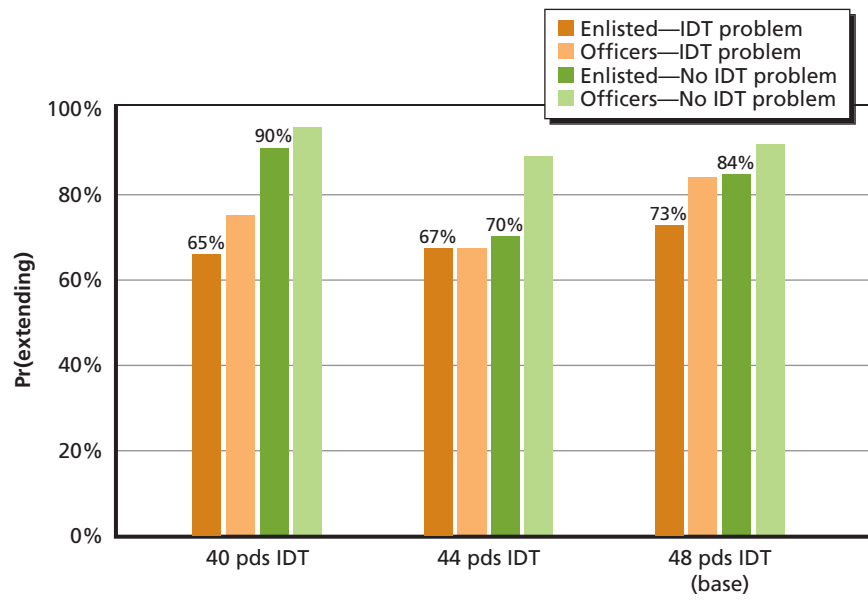
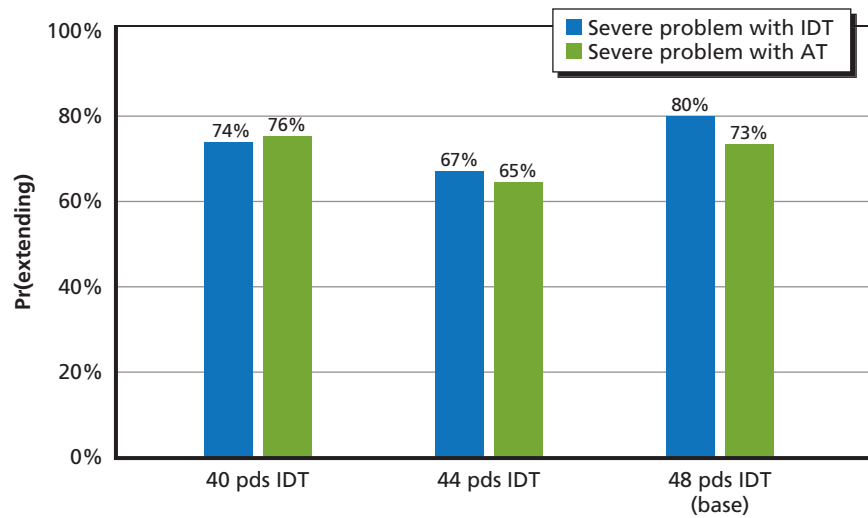


Figure B.3
Contingent Behavior Results for IDT Increases for Respondents Reporting
Severe Family AT and IDT Problems



Choice Experiment Results

The following tables present the formal models used to calculate the predicted marginal choice probabilities presented in Figures 4.15 through 4.20. Table C.1 provides results for the baseline (average) choice models without covariates (which are not identified in the conditional logit model as they do not vary over choice occasions).

Table C.1
Baseline Choice Experiment Results for Those Planning on Staying
in USAR Beyond Current Obligation

Variable	Enlisted	Officer
AT 1 week	-0.578*** (0.059)	-0.583*** (0.057)
AT 3 weeks	0.169** (0.055)	0.159** (0.049)
AT 4 weeks	0.101 (0.073)	0.075 (0.068)
IDT 24 periods	-0.280*** (0.076)	-0.218*** (0.066)
IDT 32 periods	-0.334*** (0.075)	-0.390*** (0.066)
IDT 40 periods	-0.347*** (0.063)	-0.240*** (0.056)
IDT 56 periods	-0.402*** (0.062)	-0.346*** (0.058)
2 AT periods	-0.337*** (0.039)	-0.148*** (0.035)
Weeknight schedule	-1.288*** (0.062)	-1.326*** (0.059)
Mixed schedule	-0.685*** (0.047)	-0.691*** (0.044)

Table C.1—Continued

Variable	Enlisted	Officer
Pseudo R^2	0.158	0.145
Wald χ^2	821.76	821.42
<i>N</i>	1,090	1,240

NOTE: Conditional logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: discrete choice over three alternatives. *N* = unique respondents (each of whom was asked four choice experiment questions). Standard errors clustered on individuals. Wald χ^2 is a Wald statistic associated with a test of overall model significance. Baseline variables: two weeks AT, 48 periods IDT, one continuous period of AT, and weekend IDT schedule.

Table C.2 provides the choice experiment results for those with severe employer or family problems.

Table C.2
Choice Experiment Results for Those with Severe Employer and Family Problems with Training Expansion

Variable	Employer IDT Problem		Employer AT Problem		Family IDT Problem		Family AT Problem	
	Enlisted	Officer	Enlisted	Officer	Enlisted	Officer	Enlisted	Officer
AT 1 week	-0.626*** (0.180)	-0.327* (0.129)	-0.473** (0.170)	-0.242* (0.117)	-0.617*** (0.141)	-0.356*** (0.102)	-0.465** (0.148)	-0.169 (0.110)
AT 3 weeks	-0.319* (0.151)	-0.194 (0.115)	-0.361* (0.143)	-0.284** (0.109)	-0.487*** (0.120)	-0.091 (0.101)	-0.675*** (0.132)	-0.382*** (0.102)
AT 4 weeks	-0.650** (0.201)	-0.564** (0.176)	-0.534** (0.199)	-0.911*** (0.178)	-0.869*** (0.169)	-0.556*** (0.147)	-1.158*** (0.191)	-1.010*** (0.159)
IDT 24 periods	0.333 (0.215)	0.253 (0.170)	0.214 (0.198)	0.168 (0.162)	0.317 (0.182)	0.250 (0.144)	0.237 (0.188)	0.370* (0.157)
IDT 32 periods	-0.064 (0.214)	-0.184 (0.166)	-0.042 (0.185)	-0.122 (0.155)	-0.006 (0.186)	-0.045 (0.141)	0.049 (0.185)	0.010 (0.150)
IDT 40 periods	-0.197 (0.162)	0.006 (0.129)	-0.086 (0.153)	0.158 (0.121)	-0.163 (0.139)	-0.018 (0.112)	-0.176 (0.153)	0.126 (0.116)
IDT 56 periods	-0.439* (0.179)	-0.463*** (0.138)	-0.172 (0.168)	-0.116 (0.119)	-0.492*** (0.145)	-0.357** (0.115)	-0.164 (0.138)	-0.117 (0.114)
2 AT periods	-0.446*** (0.101)	-0.226** (0.083)	-0.404*** (0.102)	-0.006 (0.078)	-0.450*** (0.090)	-0.072 (0.073)	-0.333*** (0.100)	0.004 (0.074)
Weeknight schedule	-0.946*** (0.160)	-1.169*** (0.135)	-0.997*** (0.157)	-1.117*** (0.121)	-1.087*** (0.140)	-1.164*** (0.113)	-0.951*** (0.141)	-1.045*** (0.114)
Mixed schedule	-0.811*** (0.147)	-0.995*** (0.103)	-0.886*** (0.139)	-0.934*** (0.100)	-0.812*** (0.119)	-0.848*** (0.088)	-0.877*** (0.131)	-0.953*** (0.103)
Pseudo R^2	0.156	0.15	0.134	0.134	0.179	0.1356	0.153	0.137
Wald χ^2	129.55	171.87	105.24	164.12	191.44	201.62	121.55	173.26
N	132	208	143	238	198	291	170	265

NOTE: Conditional logistic regression results. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Dependent variable: discrete choice over three alternatives. N = unique respondents (each of whom was asked four choice experiment questions). Standard errors clustered on individuals. Wald χ^2 is a Wald statistic associated with a test of overall model significance. Baseline variables: two weeks AT, 48 periods IDT, one continuous period of AT, and weekend IDT schedule.

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Soldiers in the U.S. Army Reserve (USAR) have traditionally been required to attend 39 days of training per year: one weekend per month (24 days, equivalent to 48 periods of inactive duty training [IDT]) and 15 days (about two full weeks) of annual training (AT). However, across the readiness cycle, some units may have increased training requirements, while others may have their requirements changed with minimal notice. The authors examine how changes in training requirements affect soldiers' interest in staying in the USAR and how their civilian employment and family situations influence that decision.

The authors examined administrative data on USAR soldiers and units to identify past changes in unit-level training requirements and whether they affected soldier retention or transfers to other units. The authors also surveyed currently serving Troop Program Unit soldiers to gather information on the effects of changes in training requirements on their retention intentions and their preferences for different training options.

In their analysis of the survey, the authors found that, on average, soldiers prefer a slight increase in the number of AT days (2.5–3 weeks, or 18–21 days) and prefer the status quo of 48 IDT periods. In addition, most soldiers prefer a weekend IDT schedule to shifting some training to weeknights and one continuous period of AT rather than splitting it into multiple periods. However, these averages obscure important differences in preferences across the sample, prompting the authors to review how demographic and service-related characteristics affect intentions to stay in the USAR.

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