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Families Under Stress
An Assessment of Data, Theory, and Research on Marriage and Divorce in the Military

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Since the initiation of military operations in Afghanistan and Iraq, demands on service members are higher than they have been in several decades. Deployments have been more widespread, longer, and more frequent, a higher proportion of deployed service members have been exposed to combat, and casualty rates are higher than at any other time since Vietnam.

The sustained high tempo of current operations has raised concerns about the effects that these demands may be having on service members and their families. In particular, reports in the press and elsewhere have suggested that the extended deployments leave military marriages vulnerable to divorce. In a recent example, the *New York Times* stated on its front page that “Military deployments have a way of chewing up marriages, turning daily life upside down and making strangers out of husbands and wives” (Alvarez, July 8, 2006). In surveys and qualitative studies, spouses of service members strongly endorse this view, describing their belief that the demands of military service, and deployments in particular, lead to divorce. The assumption behind such statements is that the stresses associated with lengthy deployments (e.g., financial difficulties, anxiety about loved ones in combat, challenges communicating) interfere with spouses’ efforts to maintain their relationships, damaging marriages that would have remained satisfying and fulfilling in the absence of military stress. From this premise, it follows that divorce rates among military marriages should rise whenever the demands on the military increase. Throughout this monograph, we refer to this idea as the *stress hypothesis*. 
Evaluating the effects of stress on military marriages is a key issue for military leaders, for several reasons. First, the majority of service members, both male and female, are married, and marriage rates among service members exceed rates for comparable civilians. Thus, trends that affect military marriages affect the majority of the armed forces. Second, the weight of the existing evidence suggests that the marriages of service members have direct effects on performance and retention. Thus, trends that lead to the deterioration of military marriages may have significant implications for national security. Developing effective policies and programs that support military families requires accurate data on how these families have responded to the demands of recent operations in Afghanistan and Iraq.

Goals and Approach of the Monograph

The overarching goal of this monograph is to inform discussions of the current needs of military families by evaluating the existing empirical support for the stress hypothesis. We pursue this goal in two ways. First, we review the prior research literature on military marriages, focusing on research that has attempted to explain how military marriages succeed and fail. Second, we examine data on transitions into and out of marriage assembled from service personnel records, estimating trends over the past ten years and the direct effects of deployment on subsequent risk of marital dissolution.

Prior Research on Stress and Military Marriage

No one disputes that military service is stressful for families, and research drawing from surveys and focus groups has described these stresses in detail. These include “risk of injury or death, geographic mobility, periodic separation of the service member from the rest of the family, long working hours and shift work, residence in foreign countries, and normative pressures controlling behavior outside of working time” (Segal, 1989, p. 7). A number of qualitative and survey studies
have examined the stresses associated with deployments in particular, noting that each stage of the deployment cycle (notification and preparation, separation, and reunion) is associated with unique and severe demands on military couples.

Yet despite the thoroughness with which the demands of military service and deployment have been described, evidence that these demands account for negative outcomes in military marriages remains sparse. The strongest evidence in support of the stress hypothesis comes from interviews and surveys of military spouses. When these spouses are asked to describe their beliefs about the effects of military service on their marriages, they suggest that the strains of military life hinder their efforts to maintain their relationships (e.g., by minimizing opportunities for intimacy, by preventing effective problem-solving, by creating new problems to solve), thereby leading to negative outcomes in marriages that might otherwise have avoided problems.

However, evidence that military stress actually accounts for problems in military marriages has been hard to come by. For example, two independent analyses of data on Vietnam veterans (Call and Teachman, 1991 and Zax and Flueck, 2003) found that, controlling for age at marriage, divorce rates for those who served during that war did not differ from the rates for those who did not serve. And Bell and Schumm (2000) commented:

> Although the public associates deployments with high divorce rates, there is no direct evidence that deployments cause divorce. . . . Accordingly, any relationship between deployments and subsequent divorce may be an artifact of self-selection or pre-deployment conditions. (p. 146)

### Estimating Trends in Marital Dissolution from Service Personnel Records

Methodological limitations in prior research may have prevented an adequate examination of the stress hypothesis. Surveys, for example, rely on respondents who volunteer to participate, resulting in data that may not generalize to the military as a whole. Moreover, because
the current demands on the military are unprecedented, results from research on the military in prior decades may not hold true for the military of today.

To overcome these limitations, we assembled and analyzed a new data set describing transitions into and out of marriage among the entire military population over the past ten years. Data on the marital status of service members are contained in service personnel records. Each service maintains these records in an idiosyncratic way, but the services send monthly extracts of their records to the Defense Manpower Data Center (DMDC), where the data are processed into forms that can be analyzed. For this project, we asked DMDC to generate quarterly summaries of the monthly extracts, beginning with the first quarter of fiscal year (FY) 1996 and ending with the last quarter of FY2005. Unlike the surveys that have informed most research on stress and military marriage to date, these summaries include marital status data on every person who has served in the United States Armed Forces over the past decade, a population of over 6 million individuals.

To evaluate how trends in marital dissolution among military couples may have changed since the onset of military operations in Afghanistan and Iraq, we estimated the number of service members who indicated a change of status from married to dissolved in each fiscal year and divided it by the total number of married service members at the start of that year. We estimated these dissolution rates separately for each service in the active and reserve components, and separately for each rank and gender within each service.

The stress hypothesis predicts that the beginning of the recent military operations in FY2002 should coincide with a rise in rates of marital dissolution and that rates of dissolution among military marriages should have been higher in recent years, when demands on the military were relatively high, than in the earlier part of the past decade, when demands on the military were relatively low.

In fact, data from the past ten years of service personnel records provide little support for either of these predictions. In the active component, for example, rates of marital dissolution changed most abruptly in the two years prior to FY2001. Throughout the services and across rank and gender, the change was the same: After peaking in FY1999,
rates of dissolution fell sharply to a five-year low in FY2000. Since FY2001, however, change in rates of marital dissolution has been more gradual. In the Army, Air Force, and Marines, rates of marital dissolution indeed rose steadily from FY2001 to FY2005, but the effect of this rise has been merely a return to rates similar to those observed in FY1996, when the demands on the military were measurably lower than in recent years. In the Navy, rates of marital dissolution increased sharply in the first years after FY2001 but have declined in the last two years. As with the other services, the Navy’s rates of dissolution in FY2005 resembled those of FY1996. Trends in the reserve components show a similar pattern. To summarize, service record data from the past ten years do not demonstrate the high rates of marital dissolution that are predicted by the stress hypothesis.

More-detailed analyses of these records highlight two noteworthy patterns that hold true across all services and components. First, the marriages of female service members are at several times higher risk of dissolving than are the marriages of male service members. Female service members are also far more likely to be married to other service members (about 50 percent of women compared to less than 10 percent of men), but this does not account for the difference in dissolution rates. Second, the marriages of enlisted members are at higher risk than are the marriages of officers. This is mostly likely due to the fact that officers tend to be older, and age is positively associated with the likelihood of a marriage remaining intact.

**Estimating the Effects of Time Deployed on Subsequent Risk of Marital Dissolution**

These trends reveal that, over a period when demands on the military have increased markedly, rates of marital dissolution have increased only gradually. Yet analyses of trends may be misleading because they do not directly assess rates of marital dissolution among service members whose marriages may be most at risk—i.e., those who have been deployed to Afghanistan and Iraq. To address the effects of deployment on marital dissolution, we drew upon longitudinal data to track the
marital status of individual service members before, during, and after their deployments while controlling for other demographic variables likely to be associated with risk of marital dissolution (e.g., gender, race, age at marriage).

For our analyses, we drew from the quarterly personnel summaries provided by DMDC to create a longitudinal data set that linked information from individual service members across quarters. This file was then linked with a separate file provided by DMDC that contained deployment histories for all service members deployed since FY2002 when the current operations began. Although we could have analyzed the data in terms of either incidence of deployment or cumulative number of days deployed, we decided to examine the cumulative days deployed, to account for possible differences between longer or shorter deployments. To control for prior marital status, we conducted analyses only on individuals who entered into marriages after the current operations began. The result was a file containing data from 48 consecutive quarters that allowed us to map, from FY2002 through FY2005, the timing and cumulative length of time spent deployed against the timing of individual marriages and marital dissolutions.

We examined the new data set with multiple-spell discrete-time survival analyses (see Willett and Singer, 1995). This approach had several benefits. First, survival analyses account for the timing of the dependent variable—that is, whether or not those service members who were married during their deployments experienced a marital dissolution subsequent to their deployments. Second, the approach allowed us to account for the cumulative effects of longer or shorter periods of deployment. Third, it allowed us to ensure that individuals were matched on their marital duration in all analyses—i.e., that the analyses evaluated risk of dissolution for individuals taking into account how long they had been married. We ran separate analyses on data from married enlisted members and married officers in each of the services of the active and reserve components.

The stress hypothesis predicts that married service members who are deployed will be at higher risk for dissolving their marriages when they return, compared with married service members who are not
deployed. Moreover, the stress hypothesis suggests that longer deployments should be more damaging to marriages than shorter ones.

In fact, our analyses find support for the stress hypothesis only among members of the active Air Force. In that service, among enlisted members and officers, the more days that married service members spent deployed, the greater their risk of dissolving their marriages after they returned. In no other service could we observe the predicted effect of time deployed on risk of dissolution. On the contrary, for enlisted members in the active Army, Navy, and Marines, and for officers in the active Navy and Marines, the longer that a service member is deployed while married, the lower the subsequent risk of marital dissolution. The same significant effect was observed among enlisted members and officers in the Army Reserve, officers in the Navy Reserve, enlisted members of the Air Force Reserve, and all ranks of the Army and Air National Guard. In these groups, deployment appears to enhance the stability of the marriage, and the longer the deployment, the greater the benefit.

**Understanding the Effects of Military Service and Deployment on Military Marriages**

Despite the demonstrable stresses associated with military service and deployment and the widespread assumption that these stresses lead to the deterioration of military marriages, our analyses revealed little support for the stress hypothesis. How can we explain the apparent disjunction between the data and popular belief? We offer several possible explanations.

First, news reports of the drastic increase in military divorces may have been based on data from the active Army in FY2004. During that year, estimated rates of dissolution, reported to the Under Secretary of Defense for Personnel and Readiness in 2005 and confirmed in this monograph, were in fact disproportionately high for male and female officers, so high that estimates for the Army as a whole appear elevated for that year even though there were no comparable elevations among enlisted members. However, dissolution rates among active Army offi-
cers returned to normal levels in FY2005. In addition, increases of comparable magnitude were not observed in any other service. Furthermore, discussions with staff at DMDC suggest that the FY2004 data for active Army officers may contain unidentified errors. Thus, the impression that the military has experienced spikes in rates of marital dissolution may be based on a single faulty data point.

Second, service members and military leaders may be aware of costs to military service and deployment that were unmeasured in the data examined here. For example, service records contain data on marital dissolution only while service members remain in the service. To the extent that service members leave the military before dissolving their marriages, these analyses would underestimate the link between deployment and marital dissolution. Alternatively, deployment may affect other family outcomes besides dissolution—e.g., marital quality and child outcomes—that are not addressed by service records. Deployment may be analogous to the transition to parenthood: an expected, stressful event that reduces the quality of marriages even as it increases the likelihood that the marriage will remain intact.

Third, there may be negative consequences to highly salient experiences during deployment, even though these experiences are relatively rare. For example, although prior research has found few consistent effects of deployment on marital outcomes, research on combat exposure and traumatic experiences while deployed has found the expected effects. For example, although service in the Vietnam War has not been associated with higher rates of divorce, those who had greater exposure to combat during their service in that war also experienced higher rates of marital problems after their service. Using retrospective life-history data from the National Survey of Families and Households, Ruger, Wilson, and Waddoups (2002) estimated that, controlling for background and period of service, the experience of military combat in any war between 1930 and 1984 increased the risk of subsequent marital dissolution by 62 percent. Thus, whereas any deployment is stressful, it may only be exposure to combat that has the lasting effects on service members that lead to the deterioration of marriages. Yet, in popular opinion, deployment and exposure to combat may be conflated.
Fourth, deployment may in fact be increasing the risk of marital dissolution for military couples who were married prior to the onset of military operations in Afghanistan and Iraq. To control for differences in marital duration, we examined the direct effects of deployment only for those couples who married after FY2002, the period for which detailed deployment data were available. All of these couples knew that the deployments in Afghanistan and Iraq were under way, and they may have expected and prepared for them. In contrast, couples who were married prior to the terrorist attacks of September 2001 may not have expected the increased demands they have faced since that date. These couples, omitted from the analyses described here, may be the ones most negatively affected by deployments.

Finally, it may simply be that deployment, for all of its negative aspects, has positive aspects as well. For example, focus groups exploring the effects of deployment on service members indicate that many service members find deployments meaningful and fulfilling. Time spent deployed provides some service members with a sense of using their training to further an important national goal, in contrast to time spent serving at home. For those considering a career in the military, deployments provide opportunities for advancement that are unmatched by opportunities available while serving at home. More concretely, being deployed is associated with a higher level of pay and thus a higher level of family income, and this holds true for both the active and reserve components. Although the data available in service personnel records do not allow a direct assessment of the relative costs and benefits accumulated by individual members, the overall pattern of results suggests that, for the majority of deployed service members, the concrete benefits of deployment may compensate for the emotional costs.

**Toward a Broader Theory of the Success and Failure of Military Marriages**

The lack of support for the stress hypothesis begs a question: If not stress, then what may account for the success and failure of military
marriages? To address this question, we drew upon existing models developed from research on civilian marriages and modified them to include elements relevant for understanding military marriages (see Figure S.1).

The model moves beyond the stress hypothesis in several ways. First, it accounts for the qualities that military spouses bring to their marriages (enduring traits), as well as permanent changes in personality or psychopathology that may develop as a response to military service (emergent traits). Second, it accounts not only for experiences within the military, but also for nonmilitary circumstances (e.g., access to affordable housing, spousal employment, health of family members) that may make the demands of military service easier or harder to bear. Third, it suggests that all of these variables affect marriages through their direct effects on adaptive processes within the couple, i.e., how spouses interact, communicate, resolve problems, and provide each other with support. Finally, it acknowledges that spouses’ satisfaction with their marriage is but one predictor of whether or not a marriage

**Figure S.1**
An Integrative Framework to Account for Success and Failure in Military Marriages

[Diagram of the framework]
will remain intact; barriers and a lack of alternatives can keep spouses in a marriage whether or not they find the marriage satisfying.

**Evidence for Selection Effects on the Dissolution of Military Marriages**

One implication of the model described above is that military marriages may be at increased risk of dissolution simply because the military tends to recruit people from relatively high-risk populations and then provides incentives that encourage them to marry. To the extent that divorce rates are increasing in recent years, this perspective suggests that, in the face of impending deployments, some service members may enter marriages that they might not have entered otherwise, and these marriages are at greater risk of subsequent dissolution regardless of the stress they experience. Throughout this monograph, we refer to this alternative perspective as the *selection hypothesis*.

Several kinds of evidence offer support for the selection hypothesis as an explanation for fluctuating rates of marital dissolution in the military. First, demographic and sociological research on military families suggests that military marriages may be highly vulnerable to adverse marital outcomes independent of the stresses of military service. For example, although the most vulnerable individuals (e.g., those with histories of substance abuse, psychopathology, or criminal behavior) are excluded from serving in the military, those who do enlist tend to be the most vulnerable of the eligible population in terms of age, ethnicity, and potential for career advancement in the civilian labor market. Once in the military, service members marry younger and have children sooner than their civilian counterparts. These relatively young couples must then confront financial stress, the likelihood of being separated from their families, and the challenge of finding affordable housing. Within civilian populations, all of these characteristics have been associated with an increased risk of divorce.

Second, some analyses suggest that the military, in attempting to become more supportive of families, may have inadvertently created incentives that encourage couples to marry (e.g., Pexton and Maze,
1995), including more vulnerable couples who would not have married otherwise. A number of analyses indicate that marriage rates among service members are correlated with pay levels (e.g., Kostiuk, 1985) and that the benefits reserved for married personnel encourage marriages that might not have occurred in the absence of benefits (Zax and Flueck, 2003).

Third, in our analyses, changes in divorce rates over the past decade mapped closely onto changes in rates of entry into marriage over the same period. That is, both marriage and marital dissolution fell to low points in FY2000, and both marriage and marital dissolution have been climbing gradually since then. The stress hypothesis offers no reason to expect a close association between these rates because it focuses exclusively on processes that take place after marriage. The selection hypothesis, in contrast, predicts exactly the association that is observed in these data. That hypothesis explains rising rates of marital dissolution as a direct function of the rising rates of marriage observed in the same period. When the threshold for marrying a current partner is lowered by changes in the relative benefits of being married, more vulnerable couples get married, leading to higher rates of subsequent marital dissolution. The analyses described here do not offer direct support for this explanation, but they are more consistent with the selection perspective than with the stress perspective.

**Strengths and Limitations of the Research**

The primary strength of this research is that we analyzed not merely a sampling of service members but rather the entire population of military personnel over the past ten years, including both active and reserve components. We also took advantage of the longitudinal nature of service personnel records to examine how deployments affect individuals’ risk of marital dissolution, a substantial advance over prior research on this issue. Yet, despite these strengths, the analyses were nevertheless limited in ways that constrain interpretations of these results. One significant limitation is the fact that service personnel records contain errors that we could not correct. DMDC knows of several errors, but
no catalogue exists that researchers drawing upon these records might refer to and add to as new errors are discovered. Thus, conclusions drawn from these data should be treated as suggestive rather than definitive.

**Directions for Further Research**

Our analyses indicate that commonly held theories of military marriage are incomplete and that the variables most crucial for understanding how military marriages respond to stress may yet have to be studied. In particular, many observers appear to have focused on the direct effects of stress on couples, overlooking the effects of supportive programs and institutions that may buffer the effects of stress. The integrative framework described here offers a broad context for understanding these effects, and all of the paths suggested by that framework are worthy of further examination. In particular, several relevant issues deserve to be priorities for future research.

*Examine how military couples interact with each other and adapt to stress.* Research on the interactions between spouses provides the foundation of all currently available marital education programs and curricula, yet this work has never been conducted on samples of military marriages. Thus, although it is widely assumed that the demands of military service inhibit effective interactions between military spouses, there is no evidence to support this assumption—indeed, it may be flawed or incomplete. Before the military invests in programs to promote effective adaptation in military marriages, a research base that addresses adaptive processes directly seems necessary.

*Conduct longitudinal research.* Many of the central unanswered questions about military marriages address issues of stability and change over time. For example, does the experience of deployment change the marriage, or are the outcomes of military marriages determined by factors in place prior to deployment? To date, there have been no longitudinal studies of military families capable of addressing such questions. Administrative data can be used to create longitudinal data sets, as we did for this monograph, but the variables contained in administrative
data are limited. Advancing our understanding of how military service affects military families requires research that, at minimum, assesses these families at the outset of their service, and then again at some point after their service has ended.

*Expand the full range of relevant outcomes.* To date, research on military marriage has focused almost exclusively on predictors of divorce and marital dissolution. The research reviewed in this monograph suggests that this focus is too narrow. For example, the decision to get married is a reasonable outcome to explain in itself because it might offer insights into the eventual outcomes of service members’ marriages. Similarly, research on marriage and retention decisions suggests that it is the quality of the marriage, more than marital status, that accounts for the effects of marriage on retention (Vernez and Zellman, 1987). Further research on military marriage would be well served by taking this research into account and examining the quality of military marriages directly.

*Address the marriages of female service members.* One of the largest and most reliable effects revealed in this monograph is also one that has received a minimum of attention: Rates of marital dissolution are several times higher for female service members than for male service members, and this difference holds true across time, services, and ranks. Although women represent a smaller proportion of the military than men, these rates nevertheless represent a significant number of disrupted marriages. Supporting the marriages of female service members requires research that identifies the unique challenges that their marriages face.

*Relate changes in military marriage to changes in policy.* By themselves, analyses of service records provide no sense of the broader forces that affect rates of transitions into and out of marriage. A useful supplement to the empirical analyses described here would be a history of the social and institutional changes that have affected military couples over the same period. By mapping changes in rates of marriage and marital dissolution within the military onto changes in family policies and the broader economy, this contextual analysis could help identify the sources of the trends described in this monograph and thereby
highlight directions for future policies designed to shape those trends in desired ways.

Develop ways to compare civilian and military marriages. To help evaluate research on military marriages, researchers are often requested to compare results obtained with military samples to results obtained with comparable civilian samples. Fulfilling such requests is not straightforward, however, because there is no consensus among researchers about the dimensions on which military and civilian samples might be comparable. The best practices for conducting these comparisons are worthy of direct attention.

Exploit existing data sets. Although we observed several broad trends in marriage and marital dissolution across services of the military, specific patterns and trends also varied across ranks, services, and components. Moreover, the means reported in these analyses mask likely heterogeneity across variables not examined here, such as geographical location, job code within the military, and type of deployment. The variables that examine these potential sources of heterogeneity lie waiting in existing data sets, including the one assembled for this monograph, and these data sets are worth exploiting for several reasons. First, a more refined picture of vulnerability among military families will assist the military in allocating limited resources toward those families most likely to benefit from support. Second, analyses of existing data sets are a cost-effective way of addressing new questions without waiting for and paying for the collection of new data.

Implications for Supporting Military Marriages

Given that this monograph has highlighted the limitations of existing research on military marriages, specific recommendations for supporting these marriages must be considered tentative. Keeping this caveat in mind, the analyses described here and the accumulated research to date nevertheless have several implications for developing policies and programs to support military marriages.

Recruitment and eligibility policies are likely to affect rates of marriage and marital dissolution. A recurring theme in these analyses is
that the selection effect may be a powerful explanation for observed trends in marriage and marital dissolution in the military. Changes in the ways that the military recruits members, or changes in the criteria for who is eligible to serve, may therefore have implications for the sorts of people marrying within the military, the timing of those marriages, and their likelihood of ending in marital dissolution. Thus, the desire to increase accessions may have the unintended consequence of increasing rates of marital disruption in the military, and this is a consequence worth taking into account as changes in recruitment and eligibility are being considered.

Programs and policies that minimize or delay entry into marriage are likely to reduce rates of marital dissolution as well. To the extent that rising rates of marriage reflect higher numbers of vulnerable couples choosing to get married, then the decision to get married is a potential target for interventions designed to reduce marital dissolution and divorce. In theory, programs that promote more effective decisionmaking among unmarried couples should result in greater stability among the couples that do go on to get married.

The marriages of male and female service members may need different types of support. The challenges of maintaining a healthy marriage may be very different, and possibly greater, for female than for male service members. For civilian wives, maintaining their families and supporting their husbands in the military may be consistent with the social roles ascribed to women in society at large. In contrast, civilian husbands may have limited opportunities to support their military wives while maintaining their own roles in society at the same time. A first step toward reducing the disproportionately high levels of dissolution in the marriages of female service members is to examine the needs of these marriages directly and then to tailor programs specifically to address those needs.

Programs directed at military marriages require rigorous evaluation. If the limited resources available for supporting military marriages are to be allocated efficiently, the military needs reliable data on what programs are mostly likely to be effective. Before investing heavily in any one approach toward supporting military marriages, similar data on the effectiveness of the programs should be consulted, or, where not
available, generated. The alternative is to run the risk of allocating limited resources to programs that have little or no effect.

*Programs that improve the conditions of service members may improve their marriages indirectly.* Strategies that improve the lives of military families (e.g., spouse employment programs, support for obtaining affordable housing, child and health care services, less mobility) may also have indirect benefits for marriages by removing obstacles to effective relationship maintenance. The fact that many such programs already exist may account for the relative resilience of military marriages observed here. The broad implication of the themes discussed in this monograph is that such support programs should continue to be developed and refined.

*Reserving programs and benefits for married couples may have the unintended effect of encouraging vulnerable couples to marry.* It is hard to argue with efforts to improve the lives of military couples. Yet to the extent that valuable benefits are reserved for married couples only, the existence of those benefits may induce couples to marry who might otherwise have postponed marriage or never married at all. In this way, efforts to support marriages in the military could have the paradoxical effect of leading to higher rates of marital dissolution. The solution to this dilemma is not to reduce the support offered to military couples but rather to introduce some flexibility in who is eligible for family support. The more that a broad array of family structures (e.g., cohabitation, single parents) is recognized, the fewer couples will be compelled to marry inappropriately to obtain benefits.