

Spousal Support to Stay as a Predictor of Actual Retention Behavior: A Logistic Regression Analysis

Abstract

This survey note examines the relationship between self-reported spousal support for the Service member to stay on active duty and the Service member's actual retention behavior. Surveys have assessed Service member's retention intentions and spouse's support for retention, but results have not previously linked spousal support to actual retention outcomes. Using survey and administrative data to link reported attitudes with actual behavior, the findings show that spousal support for a Service member to stay on active duty has a positive relationship with actual retention of the Service member two years later. The bivariate correlation between spousal support and retention was .33, indicating a moderate relationship. Results from logistic regression analyses indicate that with each 1-point increase in spousal support to stay, Service members' odds of staying on active duty increase by 1.95 ($Exp(B) = 1.95, p < .01$). These results are in line with previous analyses performed by the Office of People Analytics (OPA) examining the same relationship using data from the Service member indicating their spouse's or significant other's support to stay.¹

Introduction

The retention of qualified Service members is an ongoing concern of the U.S. military. To sustain current operations and prepare for future operations, the U.S. military must continually recruit, train, and retain quality military personnel. Researchers have previously explored factors influencing retention, particularly Service member retention intentions (Office of Economic & Manpower Analysis, 1999), and over time attention has also been paid to the influence of the Service member's spouse and family in decisions to stay or leave the military. The influence of spousal support on member retention is well documented in the literature (Etheridge, 1989; Orthner, 1990). Spousal support for a Service member's career is strongly related to the Service member's retention intentions (Bowen, 1986; Griffith, Rakoff, & Helms, 1992; Mohr, Holzbach, & Morrison, 1981) and actual retention behavior (Defense Manpower Data Center [DMDC], 2010; Seboda & Szoc, 1984; Segal & Harris, 1993). Although this finding is consistent across studies, the operationalization of retention and spousal support is not. This inconsistency can bring challenges in comparing results across studies (Bowen, 1990). Furthermore, much of the literature is dated; thus reexamining the relationship using recent data can further validate the link between retention intentions and actual retention decisions.

The purpose of this survey note is to present findings on the relationship between self-reported spousal support for the Service member to stay on active duty and the Service member's actual retention behavior. In a recent survey, 66% of spouses of active duty Service members reported they favored their spouse staying on active duty, with only 20% reporting they favored their spouse leaving (DMDC, 2015). Although surveys show fairly consistent support among spouses for Service member retention (DMDC, 2016), the issue of whether this support impacts actual retention behavior remains a research interest and is a focus of this study. The specific research question of this analysis is: Does a

¹ In 2016, Defense Human Resources Activity (DHRA) reorganized and moved the Defense Research, Surveys, and Statistics Center from DMDC to under the newly established Office of People Analytics (OPA) in DHRA.

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spouse's support to stay or leave increase the odds of the Service member's retention two years later? To examine this research question, data on spousal support to stay on active duty were used from the *2012 Survey of Active Duty Spouses (2012 ADSS)* and administrative data on active duty status, separation, and reenlistment were used from the *DMDC Active Duty Master File (ADMF)*. The analysis was conducted for all four service branches, using the same definition of retention and spousal support across the Services.

This survey note builds on a similar analysis that examined the relationship between spouse/significant other support to stay, as reported by the Service member, and actual retention behavior (DMDC, 2010). The previous analysis used data from the *August 2006 Status of Forces Survey of Active Duty Members (August 2006 SOFS-A)* and administrative data on actual retention behavior two years after the survey.² The results showed that spouse/significant other support to stay had a positive relationship with retention behavior: as spouse/significant other support to stay increased, the odds of the Service member staying on active duty increased.

While this survey note is intended to replicate and extend the previous analysis, there are several differences between the two. First, the analysis presented in this survey note uses self-reported data from spouses. In contrast, the previous analysis used data provided by Service members about their perception of their spouses' or significant others' attitudes. With this approach, spouses' attitudes and support are measured directly rather than indirectly through Service members' perceptions. Measuring spousal attitudes directly is advantageous as reports on perceptions of others' attitudes, even among close relationships like spouses and focused perceptions as fundamental as the other person's personality (McCrae, Stone, Fagan, & Costa, 1998), can be inaccurate. Second, the previous analysis limited examination to those Service members who reported having two years or less remaining on their enlistment term or service obligation. This analysis uses comparable methodology to subset the enlisted sample using administrative data, but does not subset the officer sample due to limitation of the administrative data available.

Methodology

The *2012 ADSS* was both a web-based and paper-and-pen survey that assessed the attitudes and opinions of spouses of active duty Service members (DMDC, 2014). Data were collected on behalf of the Office of the Under Secretary of Defense for Personnel and Readiness (OUSDP&R) from November 19, 2012, to March 11, 2013. The target population for the *2012 ADSS* consisted of spouses of Service members in the Army, Navy, Marine Corps, or Air Force who had at least six months of service at the time the questionnaire first fielded, and were below flag rank. In addition, the respondent must have indicated at the time of the survey that he/she was currently married to a Service member on active duty. Spouses of National Guard/Reserve component members were excluded from the target population.³ Completed surveys⁴ were received from 12,274 eligible respondents. The overall weighted response rate was 23%, which is in line with other DoD-wide surveys conducted by OPA.

² The analysis was limited to Service members who indicated on the survey that the time remaining in their enlistment term or service obligation expired within two years of the survey.

³ Due to differences in these populations and the relevant topics for each, spouses of Reserve component members are surveyed separately from spouses of active duty members.

⁴ A completed survey is defined as 50% or more of the survey questions asked of all participants were answered.

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To measure spousal support of the Service member staying or leaving active duty, the following question from the 2012 ADSS was used.

Do you think your spouse should stay on or leave active duty?

The response options ranged from “*I strongly favor leaving*” (1) to “*I strongly favor staying*” (5).

To measure actual retention behavior, administrative data from DMDC's *ADMF* were used to determine whether the Service member was still on active duty at the end of fiscal year 2014 (September 30, 2014), two years after the sample was selected for the 2012 ADSS.⁵ Additional information on reenlistment and involuntary separations was used to define groups of Service members who chose to stay on active duty and those who chose to leave. These categories were defined differently for enlisted Service members and officers due to the differences in how they incur service commitments.⁶ Enlisted Service members were coded as retained if, at the end of fiscal year 2014, their record indicated they had reenlisted during the two-year window after the 2012 ADSS and separated if, by the end of fiscal year 2014, they had voluntarily separated from active duty service. For officers, defining these categories was complicated by the unavailability of data fields in the *ADMF* capturing the end of the initial active duty service obligation. Consequently, officers were coded as retained if they were still on active duty at the end of fiscal year 2014 and coded as separated if they were not still on active duty and did not have any involuntary separation codes on their record. For both enlisted and officers, those who were involuntarily separated were excluded from the analysis. Using the criteria specified above, 6,473 Service members (3,280 enlisted; 3,193 officers) were included in the analyses.

Logistic regression analyses, survey weighted cross-tabulations, and bivariate correlations were used to examine the relationship between spousal support to stay on active duty and the Service member's actual retention behavior. Logistic regression analyses were chosen as suitable for the analysis due to the dichotomous dependent variable (i.e., “stay” or “leave”). Results for the logistic regressions, correlations, and survey weighted cross tabulations are presented overall, by Service, and by paygrade group.

Findings

Cross Tabulations

Weighted cross tabulations were computed to depict the relationship between spousal support to stay on active duty and actual retention behavior measured two years after survey fielding. Overall, as spousal support of the Service member remaining on active duty increased, the percent of Service members who stayed on active duty two years after the survey also increased. Among spouses who strongly favored the Service member staying on active duty, the vast majority (93%) had a spouse who stayed on active duty while 7% had a spouse who left. In contrast, among spouses who strongly favored the Service member leaving active duty, less than half (44%) had a spouse who stayed on

⁵ The sample was drawn from the *March 2012 ADMF* and final eligibility was evaluated using the *September 2012 ADMF* (DMDC, 2012).

⁶ Whereas enlisted Service members sign enlistment contracts, officers incur an initial active duty service obligation based on commissioning source and additional obligations in return for training, education, or other events; once the initial obligation is fulfilled, officers can leave at any time, barring additional obligations.

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active duty while more than half (56%) had a spouse who left. Results are presented by Service in Table 1 and by paygrade group in Table 2.

- Overall, Service members whose spouses strongly favored them staying on active duty stayed at a rate of about 13 for every 1 who left compared to Service members whose spouses strongly favored them leaving, who stayed at a rate of 3 for every 4 who left.
- Army members whose spouses strongly favored them staying on active duty stayed at a rate of about 13 for every 1 who left compared to Army members whose spouses strongly favored them leaving, who stayed at a rate of 3 for every 4 who left.
- Navy members whose spouses strongly favored them staying on active duty stayed at a rate of about 24 for every 1 who left compared to Navy members whose spouses strongly favored them leaving, who stayed at a rate of 1 for every 1 who left.
- Marine Corps members whose spouses strongly favored them staying on active duty stayed at a rate of about 5 for every 1 who left compared to Marine Corps members whose spouses strongly favored them leaving, who stayed at a rate of 1 for every 3 who left.
- Air Force members whose spouses strongly favored them staying on active duty stayed at a rate of about 19 for every 1 who left compared to Air Force members whose spouses strongly favored them leaving, who stayed at a rate of 3 for every 2 who left.

Table 1.
Cross Tabulations Between Spousal Support To Stay and Actual Retention Behavior, by Service

	Total		Army		Navy		Marine Corps		Air Force	
	Stayed ¹	Left ²	Stayed	Left	Stayed	Left	Stayed	Left	Stayed	Left
Strongly favors leaving	44%	56%	45%	55%	50%	50%	24%	76%	59%	41%
Favors leaving	74%	26%	75%	25%	79%	21%	61%	39%	76%	24%
Has no opinion one way or the other	78%	22%	79%	21%	89%	11%	58%	42%	75%	25%
Favors staying	88%	12%	92%	8%	92%	8%	71%	29%	87%	13%
Strongly favors staying	93%	7%	93%	7%	96%	4%	82%	18%	95%	5%

¹ Member stayed on active duty during the two years following the 2012 ADSS.

² Member left active duty during the two years following the 2012 ADSS.

- Junior enlisted (E1–E4) members whose spouses strongly favored them staying on active duty stayed at a rate of about 4 for every 1 who left compared to junior enlisted members whose spouses strongly favored them leaving, who stayed at a rate of 1 for every 3 who left.

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- Senior enlisted (E5–E9) members whose spouses strongly favored them staying on active duty stayed at a rate of about 16 for every 1 who left compared to senior enlisted members whose spouses strongly favored them leaving, who stayed at a rate of 2 for every 3 who left.
- Junior officer (O1–O3) members whose spouses strongly favored them staying on active duty stayed at a rate of about 99 for every 1 who left compared to junior officer members whose spouses strongly favored them leaving, who stayed at a rate of 2 for every 1 who left.
- Senior officer (O4–O6) members whose spouses strongly favored them staying on active duty stayed at a rate of 100 percent compared to senior officer members whose spouses strongly favored them leaving, who stayed at a rate of 10 for every 1 who left.

Table 2.
Cross Tabulations Between Spousal Support To Stay and Actual Retention Behavior, by Paygrade

	Total		E1–E4		E5–E9		O1–O3		O4–O6	
	Stayed ¹	Left ²	Stayed	Left	Stayed	Left	Stayed	Left	Stayed	Left
Strongly favors leaving	44%	56%	24%	76%	43%	57%	66%	34%	91%	9%
Favors leaving	74%	26%	49%	51%	75%	25%	87%	13%	95%	5%
Has no opinion one way or the other	78%	22%	60%	40%	79%	21%	92%	8%	100%	0%
Favors staying	88%	12%	71%	29%	89%	11%	96%	4%	99%	1%
Strongly favors staying	93%	7%	79%	21%	94%	6%	99%	1%	100%	0%

Note. Due to the financial incentives of the military retirement system, separation rates decline with increased years of service (Macklin, Hogan, & Mairs, 1993). This may partially explain the relatively low percentages of senior officers leaving active duty. Additionally, the retention rate for senior officers may be higher than the previous DMDC (2010) analysis due to the difference in data treatment.

¹ Member stayed on active duty during the two years following the 2012 ADSS.

² Member left active duty during the two years following the 2012 ADSS.

Logistic Regression Analyses

Logistic regression analyses were used to evaluate spousal support for a Service member to stay on active duty as a predictor of actual retention behavior. Overall, spousal support is a significant predictor of actual retention behavior ($Exp(B) = 1.95, p < .01$); for each one-point increase in spousal support to stay (e.g., increase from *Favors staying* to *Strongly favors staying*), the odds of active duty members staying on active duty were 1.95 times greater. Results are reviewed below and presented by Service in Table 3.

For each one-point increase in spousal support to stay on active duty:

- The odds of Army members staying were 2.07 times greater ($Exp(B) = 2.07, p < .01$).
- The odds of Navy members staying were 2.21 times greater ($Exp(B) = 2.21, p < .01$).

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- The odds of Marine Corps members staying were 1.78 times greater ($Exp(B) = 1.78, p < .01$).
- The odds of Air Force members staying were 1.81 times greater ($Exp(B) = 1.81, p < .01$).

Table 3.

Actual Retention Behavior Predicted by Spousal Support to Stay, by Service

	Exp(B)				
	Total	Army	Navy	Marine Corps	Air Force
Spouse support to stay	1.95	2.07	2.21	1.78	1.81

Note. All estimates are significant at $p < .01$.

Results are presented by paygrade group in Table 4 and reviewed here. For each one-point increase in spousal support to stay on active duty:

- The odds of junior enlisted members (E1–E4) staying were 1.80 times greater ($Exp(B) = 1.80, p < .01$).
- The odds of senior enlisted members (E5–E9) staying were 1.99 times greater ($Exp(B) = 1.99, p < .01$).
- The odds of junior officers (O1–O3) staying were 2.30 times greater ($Exp(B) = 2.30, p < .01$).
- The odds of senior officers (O4–O6) staying were 2.85 times greater ($Exp(B) = 2.85, p < .01$).

Table 4.

Actual Retention Behavior Predicted by Spousal Support to Stay, by Paygrade

	Exp(B)				
	Total	E1–E4	E5–E9	O1–O3	O4–O6
Spouse support to stay	1.95	1.80	1.99	2.30	2.85

Note. All estimates are significant at $p < .01$.

Bivariate Correlations

To further investigate the relationship between spousal support for a Service member to stay on active duty and actual retention behavior, bivariate correlations were calculated to determine the strength of

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the relationship in a standardized way that is more comparable across groups. Results are presented by Service in Table 5 and by paygrade group in Table 6.⁷ Overall, spousal support of the Service member remaining on active duty has a moderate positive correlation with actual retention behavior ($r = .33$).

- The correlation was stronger for Army ($r = .36$) and Navy ($r = .35$) and weaker for Marine Corps ($r = .32$) and Air Force ($r = .28$).
- The correlation was stronger for junior ($r = .38$) and senior enlisted ($r = .34$) and weaker for junior ($r = .32$) and senior officers ($r = .17$), which had the weakest correlation.

Table 5.
Bivariate Correlations Between Spousal Support To Stay and Actual Retention Behavior, by Service

	Total	Army	Navy	Marine Corps	Air Force
Spouse support to stay	0.33	0.36	0.35	0.32	0.28

Note. All correlations are significant at $p < .01$.

Table 6.
Bivariate Correlations Between Spousal Support To Stay and Actual Retention Behavior, by Paygrade

	Total	E1–E4	E5–E9	O1–O3	O4–O6
Spouse support to stay	0.33	0.38	0.34	0.32	0.17

Note. All correlations are significant at $p < .01$.

Summary

The findings of this analysis indicate that as spousal support for a Service member to remain on active duty increases, so does the actual retention behavior exhibited by the Service member within a two-year period. Overall, spousal support to stay or leave active duty appears to influence a Service member's retention. This relationship between spousal support and retention behavior holds across all Services, as well as for enlisted members and officers. These results are in line with previous OPA analyses that found that the odds of Service members staying on active duty increased as spousal/significant other support to stay increased (DMDC, 2010). Additionally, this analysis supports the consistent findings pertaining to spousal support and retention (Etheridge, 1989; Orthner, 1990) and contributes to the research literature by using the same measure of retention and spousal support across the four service branches. The positive relationship of spouse support on a survey to actual

⁷ The differences in variance by paygrade for retention (i.e., see Table 2) constrained all paygrades' possible correlation size by comparison to their odds ratio. The odds ratio is, by contrast, not restricted by the variance in the retention variable. The size of the correlation for paygrades is then an artifact of the distribution of retention by paygrade and not the magnitude of the relationship between spousal support and retention by paygrade.

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retention behaviors supports the use of survey metrics of support and retention intentions as leading indicators of actual future retention decisions. These survey results can be of use to policy makers as a “heads up” for possible future retention shortfalls that could be addressed by targeted interventions to mitigate their potential impact. Future research examining the factors influencing spousal support, such as employment and community support, would expand the scope of analysis to the prediction of spousal support. As demonstrated here and elsewhere, spousal support is an important factor in the retention of Service members. The current study results, while promising, are limited in that they only were targeted within a two-year window. Future analyses should determine how well spousal support for Service member retention predicts future retention decisions over a longer time period.

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- For further information, see <http://www.dmdc.osd.mil/surveys>.