

Doing What They Say: Do Surveys Predict Behavior?

Murrey G. Olmsted
Michael J. Schwerin
Tracy Kline

RTI International
Research Triangle Park, North Carolina

Gerry L. Wilcove

Navy Personnel Research, Studies & Technology
Millington, Tennessee

Correspondence regarding this paper should be directed to:
Murrey G. Olmsted, Ph.D.
3040 Cornwallis Road, P.O. Box 12194
Research Triangle Park, NC 27709
Email: molmsted@rti.org

Download a copy of this paper at www.RTI.org/AAPOR

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ABSTRACT

Retention of highly trained, qualified and motivated personnel is a high priority for most organizations. This is especially true of the military, where the all-volunteer force structure creates a constant challenge for leadership as they seek to balance the number of personnel incoming (accessions) and outgoing (losses) to meet operational needs. Over the past few years, researchers have begun using surveys to collect information related to Sailor career intentions. The basic assumption of this research is that the career intentions will predict career choice behavior. Little attention has been given, however, to the issue of whether or not these career intentions actually predict behavior. Published research in the civilian literature has been mixed, indicating that many people leave an organization for a variety of reasons even after indicating that they plan to stay.

The present study used data from the 1999 and 2002 Navy Quality of Life (QOL) survey and personnel records to explore the relationship between intentions and behavior. The Navy QOL Survey is a recurring survey that assesses the quality of life of Sailors. Data included in analyses are from 8,165 respondents to the 1999 survey and 5,114 respondents to the 2002 survey. The analyses explore the relationship between intentions and behavior by comparing selected subgroups of Sailors such as enlisted vs. officers, married vs. non-married, parents vs. non-parents, and paygrade groups.

Intentions to stay or leave the Navy were more or less accurate in predicting actual behavior depending on which dataset was used. Also the relationship between intentions and behavior was somewhat influenced by the characteristics of Sailor groups (i.e., paygrade, marital status, and parental status). The results of the analyses along with information on which Sailor groups provide more accurate responses on surveys will be presented. Implications for future civilian and military survey research along with applications to organizational policy will be discussed.

INTRODUCTION

Organizations frequently use survey data to gauge employee opinions, assess needs, and provide information about future behaviors. Data from employee surveys are frequently used in organizational planning and development. These data are used to understand attitudes and forecast employee behavior such as career decisions, participation in programs, and other important organizational outcomes. Past research has indicated, however, that attitudinal survey data have not always predicted employee behavior.

While organizations spend millions of dollars a year on surveys to understand employee behavior, very little research has been done on the match/mismatch between career intentions and actual career decision behavior. The present study seeks to determine if survey responses on career intentions from two large U.S. Navy surveys can be used to predict the later career decision behavior of Sailors.

Context of the Military

The U.S. Armed Services (i.e., Army, Navy, Marine Corps, and Air Force) have the distinct challenge of maintaining an adequate workforce of highly trained personnel exceeding 2.5 million people (Office of the Assistant Secretary of Defense, 2005). Due to personnel losses (e.g., retirement and voluntary and involuntary separation from active duty) the Services must regularly recruit and train approximately 300,000 (approximately 170,000 active duty and 130,000 Guard and Reserve component personnel) new members each year.

An important consideration in evaluating the Services is the fact that military personnel work within the context of service commitments. For enlisted personnel periods of enlistment range between 2 and 7 years, while commitments for officers range between 2 and 4 years; both groups tend to have an average length of commitment of 3 years. During a service commitment, personnel cannot simply quit or leave if they wish to do so. Instead, they must continue to serve and wait until their term of service has been completed. This is in marked contrast to the civilian work environment where employees frequently leave for a variety of reasons and are not compelled to stay at their jobs.

In an effort to predict future losses and personnel needs, the Services frequently make use of personnel surveys which are focused on measuring important work-related outcomes such as job satisfaction, quality of life, and intentions to stay or leave the military. A number of previous studies have shown that a variety of factors in military life are related to the career intentions and decisions that military personnel make (Gade, Tiggel, & Schumm, 2003; Hindelang, Schwerin, & Farmer, 2004; Hom, Caranikas-Walker, & Prussia, 1992; Hom, Caranikas-Walker, Prussia, & Griffith, 1992; Hom, Griffith, & Sallaro, 1984; Huffman, Adler, Dolan, & Castro, 2005; Janega & Olmsted, 2003; Kerce, Sheposh, & Knapp, 1999; Lytell, Drasgow, Kroeger, Shaw, 2005; Michael & Olmsted, 2002; Sager, Griffith, & Hom, 1998; Sanchez, Bray, Vincus, & Bann, 2004; Wilcove, Schwerin, & Wolosin, 2003). Determining the accuracy of attitudinal survey responses in predicting actual career decision behavior is essential to help the Services plan for and

maintain adequate strength and readiness.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) has been suggested as a framework for understanding employee career decisions. The theory assumes that attitudes and opinions that people hold or develop about many aspects of their life drive the decisions that they make and the actions they choose. The basic assumptions of the theory are that:

- people are rational and use the information available to them;
- people consider the implications of different courses of action when making decisions; and
- decisions result in behavioral intentions that act to drive behavior.

In general, it is believed that people will seek to achieve positive outcomes and associated behaviors when they have choices available to them. Research over the past two decades suggests that behavioral intentions are the best—albeit imperfect—predictor of actual behavior (Armitage & Conner, 2001; Azjen, 1996).

When applied to the context of work, TPB predicts that employees will make strategic decisions about whether to stay or leave based on the likelihood of achieving desired outcomes (e.g., promotion, raise, interesting assignments, etc.). Much of the current literature, regardless of whether studies acknowledge the connection, uses a framework very similar to what was proposed by Azjen (1988, 1991). The basic idea is that employees are prompted to think about their desire to stay or leave by factors such as job satisfaction or dissatisfaction, employee evaluations, and other events in the work place. After thinking about their current job and considering alternatives, the person forms an opinion about the likelihood of finding a better alternative in another setting. The opinion regarding whether to stay or leave then drives the behavioral choices the person makes about their job.

Research has generally supported the concepts related to TPB studying employee career decisions; however, the research is somewhat incomplete at the present. For instance, concepts such as job satisfaction, quality of life, intentions to stay/leave, and comparisons with other job alternatives have all been evaluated to some degree in the literature. The results of selected literature are provided in Table 1. The studies are summarized under “Type of Model” used to predict either career intentions or career decision behavior. The table provides a description of this group of models, examples of studies, and comments on the general support found by each study.

Table 1. Review of Selected Literature on Career Intentions

Type of Model	Description	Examples	Comments
Job satisfaction	Models use job satisfaction and related factors as a predictor of career intentions	Gade, Tiggler, & Schumm, 2003; Sanchez, Bray, Vincus, & Bann, 2004; Janega & Olmsted, 2003; Michael & Olmsted, 2002	Only 2 studies currently provide some support for intentions predicting behavior, but they both suffer from a short follow-up period.
Quality of life	Models use quality of life and related factors as a predictor of career intentions	Kerce, 1998; Kerce, Sheposh, & Knapp, 1999; Hindelang, Schwerin, & Farmer, 2004; Wilcove, Schwerin, & Wolosin, 2003	Models have focused on predicting career intentions, but have yet to address the relationship with actual behavior.
Intentions to stay or leave	Models focus on intentions to stay or leave as a predictor of career intentions and behavior	Bannister and Griffith, 1986; Dalessio, Silverman, and Schuck, 1986; Hom, Griffith, & Sallaro, 1984; Hom, Caranikas-Walker, & Prussia, 1992; Huffman, Adler, Dolan, & Castro, 2005; Lytell, Drasgow, Kroeger, & Shaw, 2005; Kroeger, 2006; Mobley, Horner & Hollingsworth, 1978	Provides moderate support for intentions to stay or leave predicting behavior in employees and military personnel.
Comparisons to alternative jobs	Models focus on comparisons to other jobs as predictor of career intentions and behavior	Hom, Caranikas-Walker, Prussia, & Griffith, 1992; Sager, Griffeth, & Hom, 1998	Mixed support for comparisons with other possible jobs leading to intentions and behavior.

In general, these studies have found moderate support for the link between the concepts and career intentions, however little attention has been given to the match/mismatch between intentions and behavior. At present, only a few studies have explored the relationship between career intentions and career decision behavior in the military. Notable studies that have addressed this question include Janega and Olmsted (2003) and Michael and Olmsted (2002), which applied models of job satisfaction demonstrating a moderate positive relationship between career intentions and career decision behavior. Results of these studies were somewhat limited, however, in that retention behavior was recorded only 12 months after measuring retention intent. This is problematic because U.S. military terms of enlistment and officer commitment are typically 3 or more years in length.

Another notable exception includes a study by Kroeger (2006) that explored the relationships between intentions and behavior with reserve military personnel; the study tracked the relationship between survey responses regarding career intentions and the resulting actual career decision behavior for personnel who were due to submit a formal career decision within 6 months. The results indicated that career intentions expressed on the survey were the single best predictor of behavior, explaining approximately 70% of the variance in the behavioral choices that were made. This study provides strong support for the relationship between intentions and behavior, but is limited by the focus on reserve members only.

METHODS

The focus of the present study was to explore the relationship between career intentions and career decision behavior with active duty personnel. The authors utilized data from the Navy Quality of Life (QOL) Survey which was adapted from the survey questionnaire developed by Kerce (1995) to measure QOL in the U.S. Marine Corps. The survey captures subjective ratings of satisfaction in various life domains, overall satisfaction, organizational commitment, career intentions, and a variety of demographics (see Wilcove & Hay, 2004; Wilcove & Schwerin, 2002).

The present study utilized data from the 1999 and 2002 iterations of the survey. Both surveys were administered by mail to a representative random stratified sample of the Navy; the 2002 survey also included a web option for respondents who chose to participate on the Internet. The characteristics of each sample including the year, period of data collection, final number of usable surveys, and overall response rate are described below in Table 2.

Table 2. Characteristics of the Survey Samples

Year of Survey	Data Collection Period	Usable Surveys	Response Rate*
1999	January – April	6,805	38%
2002	April - August	5,114	31%

Materials

To focus on the relationship between career intention expressed on the surveys and actual career decision behavior, the research team used a limited set of variables. These included a small set of demographic variables, a question addressing career intentions, and follow-up data on whether or not the individual Sailor was still in the Navy.

Demographic variables that were included in the analyses included group status (i.e., enlisted vs. officer), marital status (i.e., married vs. non-married), and parental status (i.e., parent vs. non-parent). These variables were included since a number of previous studies have found that they are related to the career decisions of military personnel (Janega & Olmsted, 2003; Huffman, Adler, Dolan, & Castro, 2005; Lytell, Drasgow, Kroeger, & Shaw, 2005; Kroeger, 2006; Michael & Olmsted, 2002).

Career intentions were measured by a single question that appeared on both iterations of the survey. The question asked about Sailors' intentions to stay or leave the Navy at their next decision point. In the U.S. Navy, decision points typically occur 3 to 6 months prior to the end of a current term of enlistment or commitment; at this point, Sailors are asked to make a decision about whether or not they will sign up for another 2 to 7 years of service and accept orders to a new duty location. The question chosen for the current study focuses on a Sailor's next career decision; this question was selected because it should provide the best predictive information on actual behavior according to the Theory of Planned Behavior. The career decision question appears below in Figure 1.

Figure 1. Selected Career Intention Question

<p>At your next decision point, how likely is it that you will remain in the Navy?</p> <p>Very Likely Likely Undecided Unlikely Very Unlikely</p>
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* Response rates were calculated using the response rate #4 from the AAPOR *Standard definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*. For documentation on the response rates and methodology of the surveys please see Wilcove and Hay (2004) and Wilcove and Schwerin (2002).

The follow-up data on whether or not respondents were still in the Navy was collected in September 2005. The same follow-up time was used for both surveys representing two different intervals based on the initial timing of the survey; for the 1999 survey this period was 5.5 years, while being 3.0 years for the 2002 survey. The follow-up period allowed the authors to capture of career decision behaviors since the time extends beyond the average 3 year commitment of service for U.S. Navy Sailors. The data were obtained by matching Social Security Numbers found on the survey record with personnel records. Loss codes (indicating that the Sailor had left the Navy) were pulled from the personnel records when they were available. The retention variable was created with values representing the current status of respondents to the two surveys; the values of this variable included “Still in the Navy,” “Left the Navy,” and “No information available.”

Respondents

Respondents to the survey represented the demographics of the Navy at the time of administration (Wilcove & Schwerin, 2002; Wilcove & Hay, 2004). Of those who responded to surveys, 41% of the 1999 respondents and 65% of the 2002 respondents were still in the Navy at follow-up. The distribution of respondents by demographic variables considered in this paper is shown below in Table 3:

Table 3. Characteristics of the Survey Samples

Year	Group		Marital Status		Parental Status	
	Enlisted	Officer	Married	Not Married	Parent	Non-parent
1999	84%	16%	55%	45%	45%	55%
2002	86%	14%	60%	40%	52%	48%

As observed above, the overall characteristics of the Navy changed somewhat over the period of time between the two administrations of the survey. The largest change occurred in the percentage of Sailors who reported that they were parents, which increased by 7%.

Analysis

The analyses consisted of three simple techniques including the calculation of cross-tabulations (crosstabs), chi-square statistics, and Pearson correlation coefficients. Crosstabs were used to create tables of responses to show relationships between intentions, behavior, and related demographic variables. Data from crosstabs were graphed to demonstrate actual career decision behavior by Sailors who responded to either of the previous surveys. Chi-square statistics were calculated to explore the non-parametric relationship between variables shown in the crosstabs. Finally, Pearson correlation coefficients were calculated to test the association between the variables, illustrating the strength of the association.

RESULTS

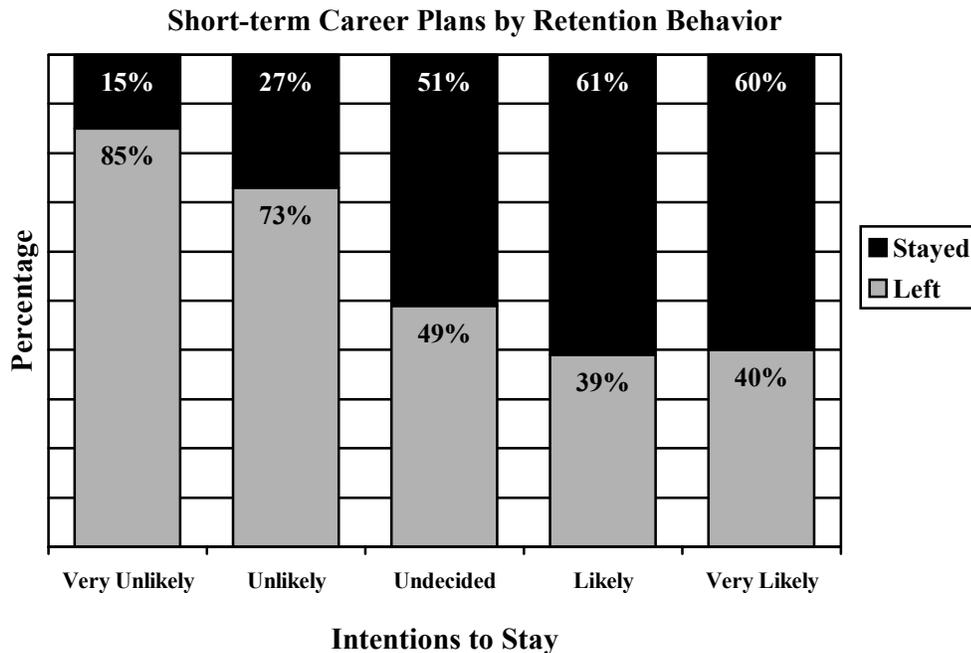
For clarity, the results of the analyses of data from the 1999 and 2002 surveys are presented below separately. The results display the data from each of the analyses including a graph of the results from crosstabs, Chi-square significance tests, and Pearson correlation coefficients. The reader is directed to review the overall pattern of relationships between career intentions versus career decision behavior, and then evaluate the statistics to show the strength of the relationship between variables.

1999 Results

The overall relationship between career intentions and career decision behavior was evaluated in the analyses. Results indicated a considerable relationship as indicated by a significant Chi-square ($\chi^2 (4) = 1046.63, p < .001$) and Pearson correlation ($r = .38, p < .001$).

The overall relationship between career intentions and career decision behavior is shown in Figure 2 below. The career decision behavior is graphed against responses to the career intention question administered to Sailors in 1999. The grey shading on the bars indicates Sailors who left the Navy sometime between 1999 and the follow-up, while the black bars indicate those who stayed. Based on the results of the crosstab data displayed in Figure 2, Sailor intentions to leave the Navy were a better predictor of continuation behavior than intentions to stay.

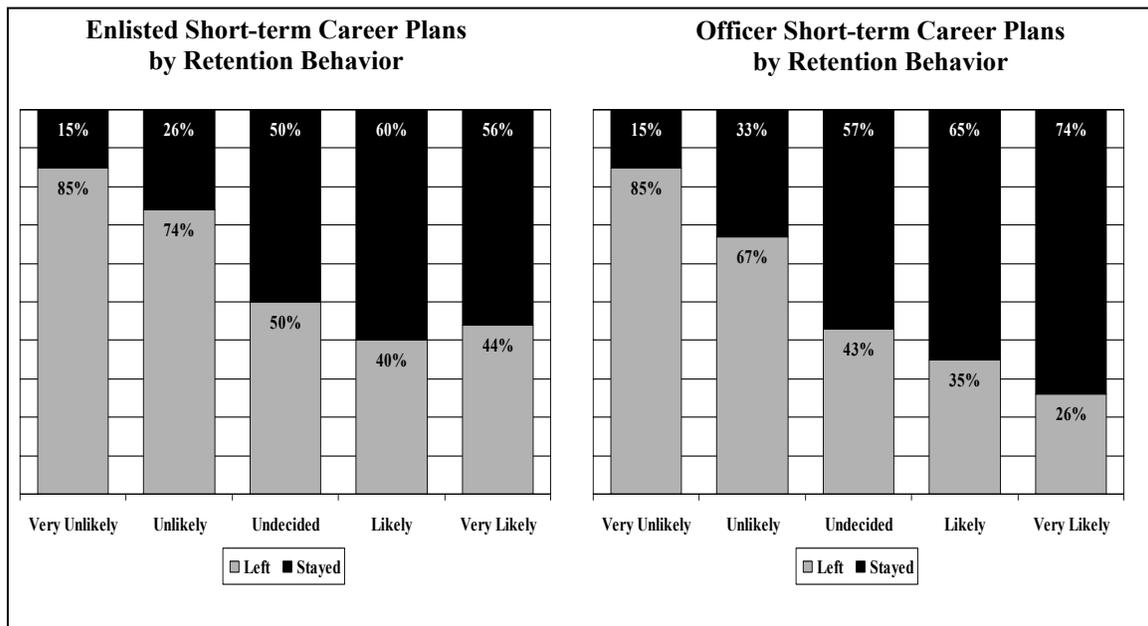
Figure 2. Overall Career Intentions by Career Decision Behavior (1999)



The relationship between group status, career intentions, and career decision behavior was evaluated next in the analyses. Results indicated a considerable relationship as indicated by a significant Chi-square for both enlisted and officer respondents ($\chi^2(4) = 808.23, p < .001$ and $\chi^2(4) = 223.53, p < .001$ respectively). The observed correlations between the group and career intentions ($r = .10, p < .001$), and group with career decision behavior ($r = .10, p < .001$) were also indicative of a significant relationship.

The relationship between group, career intentions, and career decision behavior is shown in Figure 3 below; results for enlisted and officer personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 3, Sailor intentions to leave the Navy were a better predictor of continuation behavior than intentions to stay for all respondents. Officer intentions to stay appear to be better at predicting staying than enlisted personnel.

Figure 3. Career Intentions and Career Decision Behavior by Group (1999)

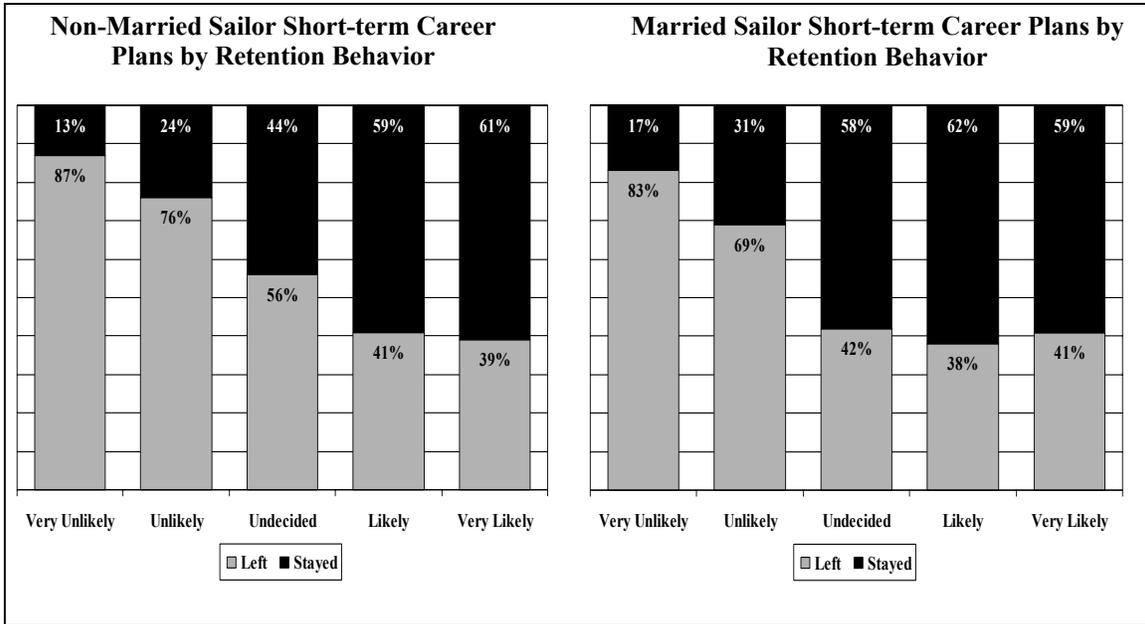


The overall relationship between marital status, career intentions, and career decision behavior was evaluated next. Results indicated a considerable relationship as indicated by a significant Chi-square for both non-married and married respondents ($\chi^2(4) = 484.18, p < .001$ and $\chi^2(4) = 509.30, p < .001$ respectively). The observed correlations between the marital status and career intentions ($r = .22, p < .001$), and marital status with career decision behavior ($r = .12, p < .001$) were also indicative of a significant relationship.

The relationship between marital status, career intentions, and career decision behavior is shown in Figure 4 below; results for non-married and married personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 4, Sailor

intentions to leave the Navy were a better predictor of continuation behavior than intentions to stay for all respondents.

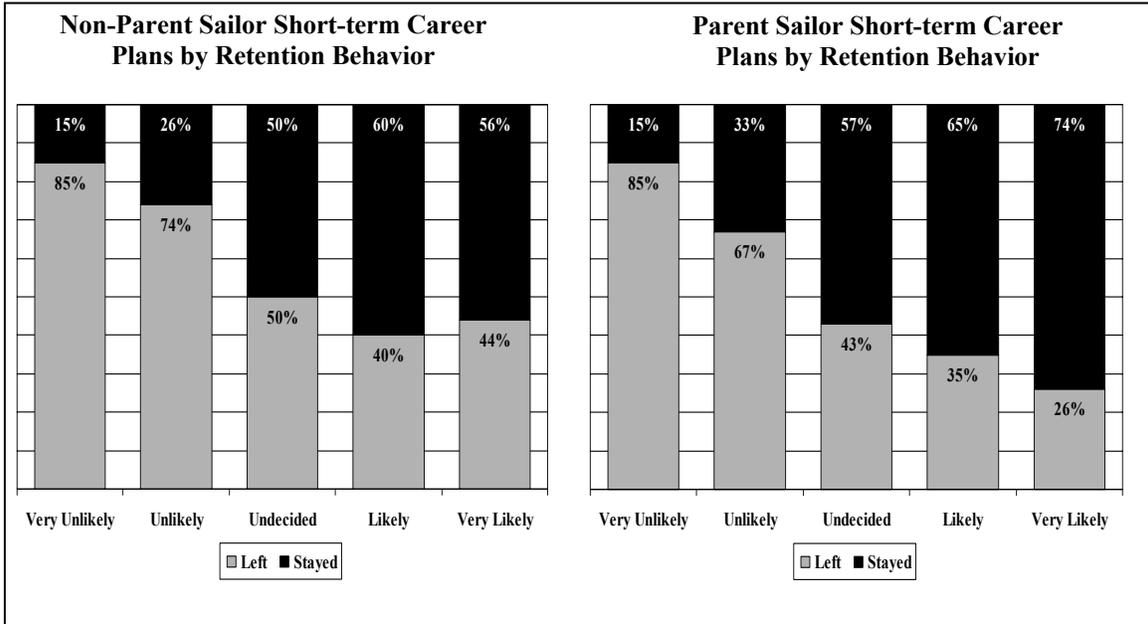
Figure 4. Career Intentions and Career Decision Behavior by Marital Status (1999)



The overall relationship between parental status, career intentions, and career decision behavior was evaluated next in the analyses. Results indicated a considerable relationship as illustrated by a significant Chi-square for both non-parent and parent respondents ($\chi^2 (4) = 554.87, p < .001$ and $\chi^2 (4) = 419.08, p < .001$ respectively). The observed correlations between the parental status and career intentions ($r = .25, p < .001$), and parental status with career decision behavior ($r = .14, p < .001$) were also indicative of a significant relationship.

The relationship between parental status, career intentions, and career decision behavior is shown in Figure 5 below; results for non-parent and parent personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 5, Sailor intentions to leave the Navy were a better predictor of continuation behavior than intentions to stay for all respondents. Parent Sailor intentions to stay appear to be better at predicting staying than non-parent personnel.

Figure 5. Career Intentions and Career Decision Behavior by Parental Status (1999)

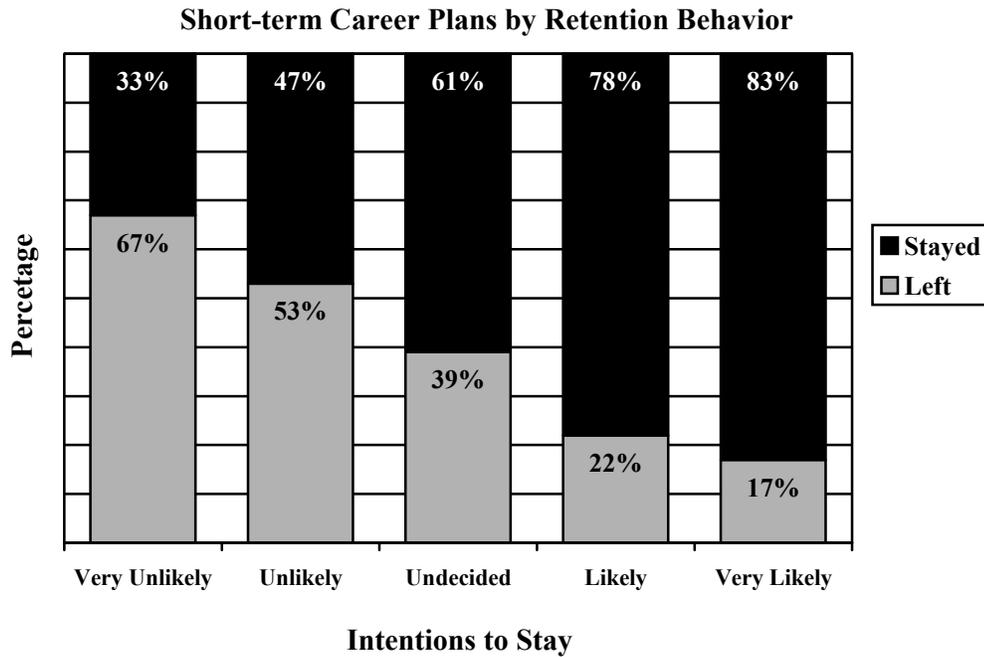


2002 Results

The overall relationship between career intentions and career decision behavior was evaluated in the analyses. Results demonstrated a considerable relationship as illustrated by a significant Chi-square ($\chi^2 (4) = 26164.43, p < .001$) and correlation ($r = .38, p < .001$).

The overall relationship between career intentions and career decision behavior is shown in Figure 6 below. Based on the results of the crosstab data displayed in Figure 6, Sailor intentions to stay were a better predictor of behavior than intentions to leave. Also, it is evident that Sailor intentions to stay or leave at the extremes were good predictors of actual behavior.

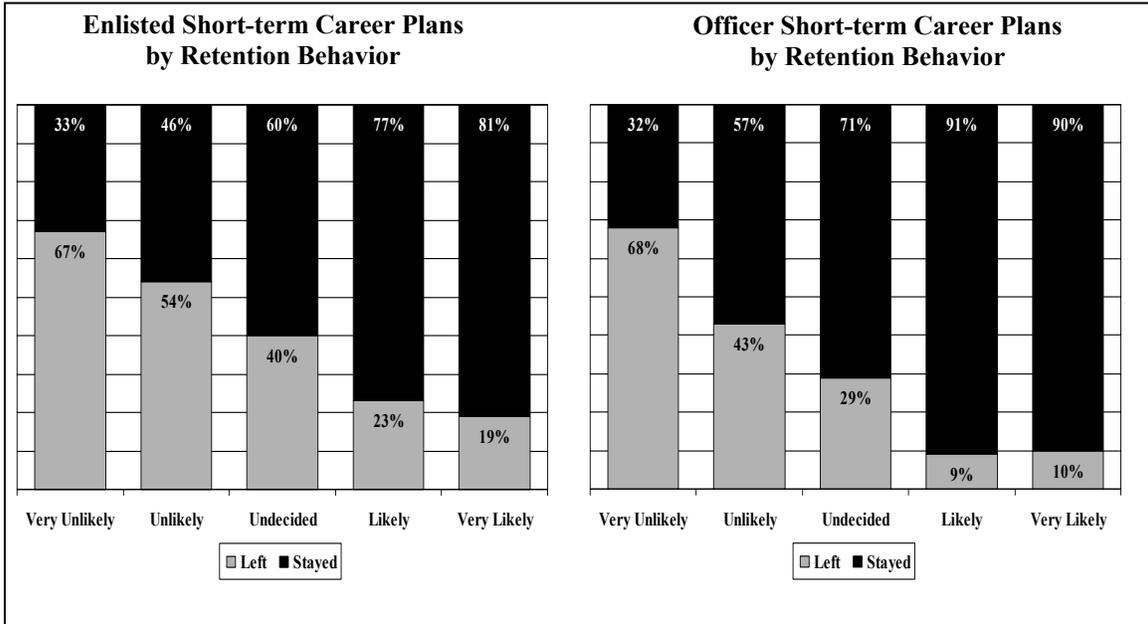
Figure 6. Overall Career Intentions by Career Decision Behavior (2002)



The relationship between group status, career intentions, and career decision behavior was next evaluated in the analyses. Results indicated a considerable relationship as shown by a significant Chi-square for both enlisted and officer respondents ($\chi^2(4) = 21,206.35, p < .001$ and $\chi^2(4) = 5,349.62, p < .001$ respectively). The observed correlations between the group and career intentions ($r = .04, p < .001$), and group with career decision behavior ($r = .07, p < .001$) were also indicative of a significant relationship.

The relationship between group, career intentions, and career decision behavior is shown in Figure 7 below; results for enlisted and officer personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 7, Sailor intentions to stay in the Navy were a better predictor of continuation behavior than intentions to leave for all respondents

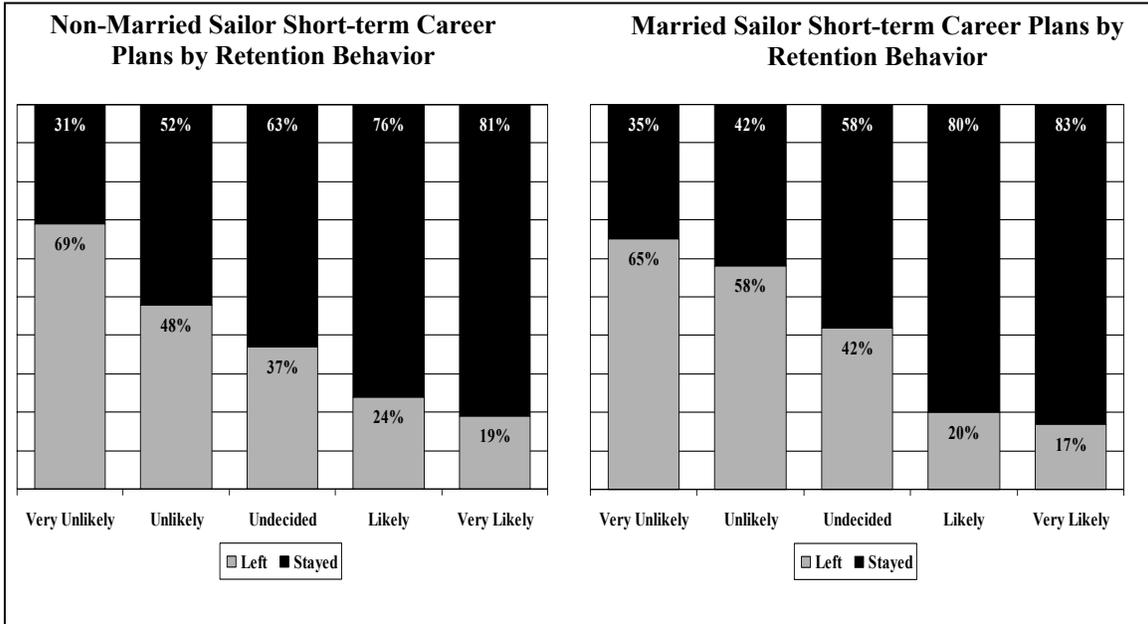
Figure 7. Career Intentions and Career Decision Behavior by Group (2002)



The overall relationship between marital status, career intentions, and career decision behavior was next evaluated in the analyses. Results indicated a considerable relationship as illustrated by a significant Chi-square for both non-married and married respondents ($\chi^2(4) = 8,860.04, p < .001$ and $\chi^2(4) = 16,678.72, p < .001$ respectively). The observed correlations between the marital status and career intentions ($r = .05, p < .001$), and marital status with career decision behavior ($r = .21, p < .001$) were also indicative of a significant relationship.

The relationship between marital status, career intentions, and career decision behavior is shown in Figure 8 below; results for non-married and married personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 8, Sailor intentions to stay in the Navy were a better predictor of continuation behavior than intentions to leave for all respondents. Married Sailor intentions to stay appear to be better at predicting staying than non-married personnel.

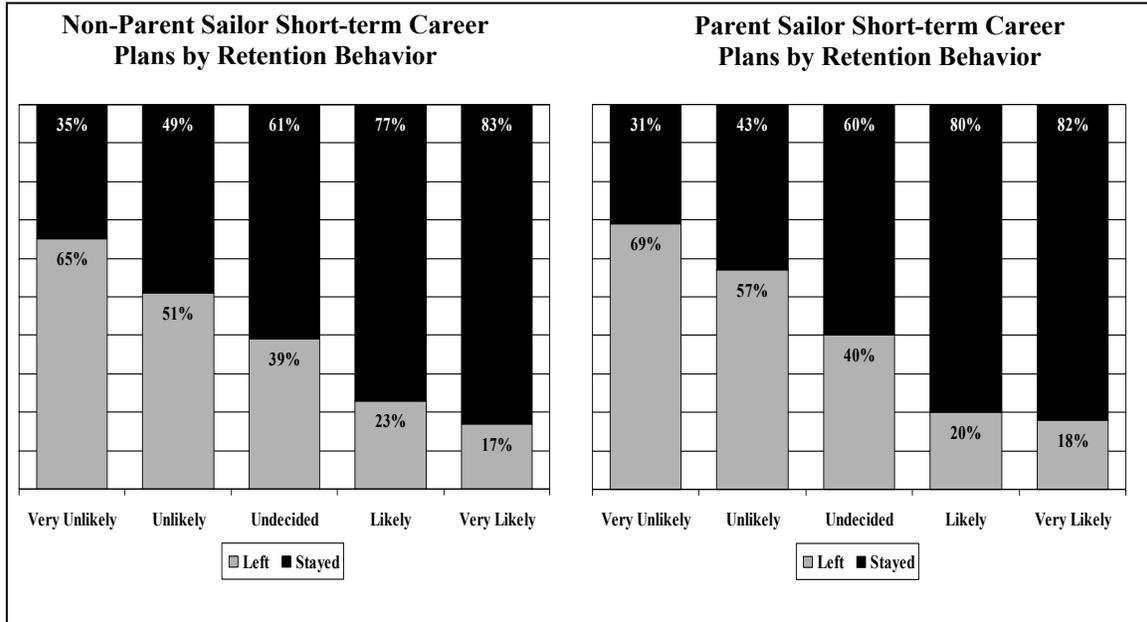
Figure 8. Career Intentions and Career Decision Behavior by Marital Status (2002)



The overall relationship between parental status, career intentions, and career decision behavior was evaluated next in the analyses. Results suggested a considerable relationship as indicated by a significant Chi-square for both non-parent and parent respondents ($\chi^2(4) = 12,336.59, p < .001$ and $\chi^2(4) = 13,076.56, p < .001$ respectively). The observed correlations between the parental status and career intentions ($r = .04, p < .001$), and parental status with career decision behavior ($r = .18, p < .001$) were also indicative of a significant relationship.

The relationship between parental status, career intentions, and career decision behavior is shown in Figure 9 below; results for non-parent and parent personnel are displayed side by side. Based on the results of the crosstab data displayed in Figure 9, Sailor intentions to stay in the Navy were a better predictor of continuation behavior than intentions to leave for all respondents. Parent Sailor intentions to stay appear to be better at predicting staying than non-parent personnel.

Figure 9. Career Intentions and Career Decision Behavior by Parental Status (2002)



SUMMARY & DISCUSSION

The present study evaluated the relationship between career intentions and career decision behavior by Sailors from the U.S. Navy. Data were analyzed from the 1999 and 2002 Navy QOL Surveys and personnel records to explore the match/mismatch between intentions and behavior. The findings indicate that for both datasets, short-term career intentions were significantly related to actual behavior. Career intentions were the best predictor of career behavior among the variables considered. The other demographic factors were significantly related, but explained a much smaller amount of the variance in career decision behavior.

When reviewing the pattern of results shown in the figures, Sailor intentions to stay or leave at the extremes were better predictors of actual behavior than those in the middle. Interestingly, Sailor career intentions to leave the Navy from the 1999 survey were generally a better predictor of behavior than intentions to stay. However, the trend was reversed in 2002, where Sailor career intentions to stay were a better predictor of behavior than intentions to leave. However, the correlational relationship between career intentions and career decision behavior held at the same level for both the 1999 and 2002 survey datasets. In general, these results indicate that the relationship is fairly robust across time.

There are a number of implications of the present study for future survey research. First, the Theory of Planned Behavior can be used as a useful framework in the study of the relationship between career intentions and career decision behavior. Second, the findings indicate that career intentions are significantly related to resulting career decision

behavior. This was especially true of more extreme intentions (i.e., “very unlikely” and “very likely”) which performed best in predicting later behavior. The high correspondence between intentions and behavior here may indicate that researchers and policy makers can use these extreme opinions as a proxy for actual behavior—predicting who will leave. Third, further research will need to be done to explore factors related to the decisions made by other respondents with more neutral responses. Based on these findings, it appears that this middle group is where most efforts would need to be focused to influence more Sailors (or employees) to stay with the organization.

There are several limitations to the present study that should be addressed in future studies. First, the current analyses did not have a way to specifically track reasons for why respondents were no longer in the Navy. This is very relevant for the military (and civilian employers) as there are a variety of reasons Sailors may no longer be in the Navy such as retirement, voluntary separation, and involuntary separation (i.e., people who were asked to leave). Knowing more about why Sailors (or employees) leave is important to help develop programs and policies that target these reasons and to help ultimately maintain a larger portion of the workforce, be it military or civilian.

Second, a single follow-up to check on Sailors’ status (i.e., in or out of the Navy) does not allow researchers to characterize or fully understand how career decisions are made across time. Future research should evaluate how career decisions are formed over time. According to TPB, career decisions should be formed incrementally over time as the Sailor (or employee) is exposed to various experiences and work-related outcomes (e.g., promotions, evaluations, etc.). Understanding when and where these decisions crystallize and form a strong career decision (with associated behavioral intentions) will help the Navy and other employers take steps to encourage valuable employees to stay in their jobs.

Third, war-time operations in Afghanistan and Iraq occurred between the time of the initial survey and the follow-up. The patriotic feelings that are often believed to be prompted during times of war may have created some bias, influencing Sailors’ career decisions. For instance, Sailors may have chosen to stay or leave due to their own support for or against the war. Future research should be conducted during periods of time where no major military operations are taking place to assess the relationships independent of this factor.

Finally, future research should seek to develop predictive models of career decision behavior to accurately predict Sailor behavior. This will result in significant savings for the military in recruiting and training new personnel to assume the positions of those who have left. Similar models can and should be applied in civilian organizations to help plan for and adjust to changing personnel needs.

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