Chapter 15
Post-Deployment Indicators of Single Soldiers' Well-Being

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Abstract The civilian literature indicates that married individuals generally have better health than others; but little is known as to whether this also applies to soldiers. Using a sample of 4,346 soldiers surveyed 3–4 months after Iraq deployments, we examined three perspectives that explain the advantage of the married (social causation and social selection hypotheses, and crisis theory). We divided single soldiers into two groups – never married and previously married – and compared their well-being to married soldiers using logistic regression (adjusting for age, gender, rank, parental status, education, and combat exposure).

Findings show that previously married soldiers are more likely than married soldiers to report poor well-being. Never married soldiers are generally comparable to married soldiers, but report more risky behaviors. Tentative evidence was found to support both the social causation and social selection hypotheses; however, longitudinal data is needed to fully assess crisis theory and for more definitive conclusions across perspectives.

Introduction

It has been well established that combat exposure in recent conflicts such as Iraq and Afghanistan can have negative consequences for both the mental and physical health of military service members (see Hoge et al., 2004; Hoge, Auchterlonie, & Milliken, 2006; Milliken, Auchterlonie, & Hoge, 2007; Smith et al., 2008). Because the extant evidence indicates that the majority of military service members who were exposed to combat trauma do not develop any mental health problems, several studies have examined what factors contribute to differential vulnerability to developing these problems. These studies have largely focused on psychological variables such as pre-combat mental health problems (e.g., Rona et al., 2009), childhood

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adversity (e.g., Cabrera, Hoge, Bliese, Castro, & Messer, 2007), and pre-deployment personality traits (e.g., Bramsen, Dirkzwager, & van der Ploeg, 2000). Notwithstanding consistent research findings that demonstrate that a more advantaged social status is linked to better mental and physical well-being (Pearlin, Schieman, Fazio, & Meersman, 2005), scant attention has been given to how indicators of social status such as marital status, which has been a concern of sociologists and social psychologists for several decades, may affect post-combat well-being.

Two major theoretical perspectives have guided research on marital status differences in well-being: the social causation hypothesis and the social selection hypothesis. Generally, the former, a variant of role theory, posits that certain social statuses confer social, environmental, and other advantages not provided by other social statuses, which result in better well-being (see Turner, 2003). One's exposure to stress is a function of one's social status, with some statuses having disproportionate exposure (Turner, Wheaton, & Lloyd, 1995). Simply stated, status influences health. In contrast, the social selection hypothesis argues that individuals with better mental and physical health attain more advantageous social statuses because of their superior health (Turner, 2003), or in other words, health influences status.

It has been posited that married individuals are more advantaged compared to individuals who are single (never married), separated, divorced, widowed, or even cohabitors. This may be because marriage is protective of one's well-being stemming from its economic benefits, social support, regulation of health behaviors, and health insurance (Musick & Bumpass, 2010; Waldron, Hughes, & Brooks, 1996), or because married individuals have lower exposure to stress (Turner et al., 1995). The social selection hypothesis argues that the observed advantage of married individuals occurs because healthier people are more likely to get married (Mookherjee, 1997; Williams & Umberson, 2004). Some studies have found evidence to support the social selection hypothesis (Stutzer & Frey, 2006; Wade & Pevalin, 2004), while others have found none (e.g., Kamp Dush & Amato, 2005). In some cases, both hypotheses have been supported (Simon, 2002; Wade & Pevalin, 2004).

A less-researched theoretical perspective is crisis theory. This perspective sees marital disruption as an acute stressor that temporarily results in more distress (Johnson & Wu, 2002). Contrary to the social causation hypothesis, this perspective disagrees with the proposition that divorced or widowed individuals are exposed to more stressors. It purports that once the stress of the transition (from being married to being divorced or widowed) abates, distress will level off (Booth & Amato, 1991; Johnson & Wu, 2002).

The vast majority of studies that have examined marital status differences in well-being, including those mentioned above, have used civilian samples. Our current focus is on physical health, mental health, and risky behaviors in U.S. Army soldiers. If marriage provides certain health benefits that other marital statuses do not, are single soldiers more susceptible to developing physical or mental health problems or engaging in risky behaviors after a deployment than married soldiers? We will interpret our findings in light of the three theoretical perspectives we have described.

Table 15.1 Marital status among OIF Army combat veterans

	Active Component $N=88,661$ (%)	National Guard $N=29,203$ (%)	Reserve $N=20,532$ (%)
Married	58.7	52.3	50.9
Never married	30.4	34.2	35.8
Separated	3.5	2.8	2.4
Divorced	7.3	10.5	10.7
Widowed	0.1	0.2	0.2
Unknown	>1	>1	>1

Note: The 2008 PDHRA data reported above is from the Armed Forces Health Surveillance Center (AFHSC)

Marital Status in the Army

According to recent data, the majority of soldiers are married. These data indicate that 56% of Active Component soldiers, 46% of Reserve Component, and 44% National Guard Soldiers are recorded as married (Office of Army Demographics, 2009). It is unknown what portion are intact marriages because the Army considers separated soldiers as married (see Karney & Crown, 2007). Self-reported data from recently deployed soldiers who completed the Post-deployment Mental Health Reassessment (PDHRA) are more detailed than the data for the overall Army. These data, collected between January 2008 and December 2008 are displayed in Table 15.1.

As can be seen from the table, the modal marital status across all three groups of soldiers is currently married. Just under one-third of all three groups are single, never married soldiers. Less than 15% of the soldiers in all three groups were previously married (separated, divorced, or widowed). No gender differences were noted in these data.

Methodology

In this chapter, we define "single soldiers" as all nonmarried soldiers. There are four groups of single soldiers: never married, separated, divorced, and widowed. While some bivariate analyses revealed that separated soldiers report poorer well-being than divorced soldiers, because of the sample size specifications of logistic regression, we combined separated and divorced soldiers into one group – the previously married. Since the literature suggests that widows are distinguishable from individuals who have experienced a marital dissolution, they were not included in the previously married group. While we would have liked to compare the well-being of widowed soldiers to married soldiers, they comprised less than 1% of the sample; thus, we could not make meaningful comparisons and they were excluded. Consequently, this study focused on two groups of single soldiers – the never married and the previously married. We will compare and contrast both groups to the married group.

Sample

The sample for this study is comprised of 4,346 Active Component soldiers from four brigades at U.S. military installations. These soldiers were surveyed between 2003 and 2006 3–4 months following deployments to Iraq. About 40% had experienced more than one deployment in their career that lasted 30 or more days. Soldiers who had not deployed to Iraq were not included in the sample. Forty-five percent were married, which is slightly less than the self-reported PDHRA data displayed in Table 15.1 (which is collected at a similar time point post-deployment as our sample). Another 45% of the sample indicated that they were never married, which is substantially more than the percentages reported in Table 15.1. Ten percent of the sample were either separated or divorced, which is comparable to the percentage reported for Active Component soldiers in Table 15.1.

Table 15.2 displays the demographic distributions and the mean combat exposure of the three marital status groups of interest. All three marital status groups report similar mean combat exposure. Married and previously married soldiers are comparable in terms of age. The majority of the never married soldiers were younger than the other two groups, which is to be expected. The previously married group also has almost three times the number of female soldiers as either of the other two groups. In terms of rank, close to 80% of the never married group were in the junior enlisted rank, whereas for the other two marital status groups, the majority of the soldiers were fairly evenly spread out over both junior enlisted and noncommissioned officer (NCO) ranks. The never married soldiers were least likely to indicate that they had or supported children, which contrasts sharply with the percentages reported by the other two marital status groups. The modal education level for all three groups was GED/high school diploma, with the married soldiers having the highest percentage of respondents with at least a college education. Among racial/ethnic groups, whites and blacks had the most variability in percentages across the three marital status groups. Forty-three percent of whites and 44% of blacks were married while 9.4% whites and 12.4% of blacks reported that they were previously married.

Measures

The three groups of soldiers are compared on three broad domains of well-being: physical health, mental health, and risk behaviors. *Physical health* was assessed in three ways. First, a question on self-rated overall health was included from the SF-8 (Ware, Kosinski, Dewey, & Gandek, 2001) that asked respondents to indicate on a 5-point response scale from fair to excellent how well they rated their general health in the past month. Those who rated themselves as poor or fair were collapsed into one category; those who rated themselves as good, very good, and excellent were also combined. Prior research has shown that such global measures of overall health are important predictors of morbidity and mortality (Bailis, Segall, & Chipperfield, 2003;

Table 15.2 Sample demographics and combat exposure

	Marital status groups		
	Married $N=1{,}956$ (%)	Never married $N=1{,}955$ (%)	Previously married $N=435$ (%)
Age			
18–19	1.2	8.1	1.4
20–24	33.4	69.7	36.5
25–29	31.0	17.8	27.3
30–39	30.7	4.3	30.7
≥40	3.6	0.1	4.2
Gender			
Female	1.7	2.5	6.0
Male	98.3	97.5	94.0
Rank			
Junior enlisted	41.7	79.0	50.2
NCOs	47.8	14.8	46.5
Officers	10.5	6.3	3.2
Parental status			
Yes	65.3	5.7	53.9
No	34.7	94.3	46.1
Education			
Some high school	0.4	0.4	0.0
GED/HS diploma	47.4	66.4	50.5
Some college	39.3	23.3	40.8
≥4 year degree	12.8	9.9	8.7
Race/ethnicity			
White	64.4	71.6	63.6
Black	16.5	10.4	17.2
Hispanic	12.1	10.3	11.8
Asian/Pacific Islander	2.4	3.6	2.3
Other	4.5	4.2	5.1
Mean combat exposure (range = 1–30)	15.97	16.32	16.24

DeSalvo, Bloser, Reynolds, He, & Munter, 2006). Medical care use was assessed with a question about the number of past month medical visits to a doctor or other medical professional for a physical condition. Lastly, 12 items from the Patient Health Questionnaire (PHQ-15) assessed somatic symptoms (Kroenke, Spitzer, & Williams, 2002). These 12 items were summed to create an index. Cronbach's alpha for the 12 items was 0.84, which is comparable to the 0.80 reported by Kroenke and colleagues 2002. The sum was dichotomized so that the lowest scores through the median were coded as low, and scores above the median were coded as high.

Three *mental health* measures assessed depression, anxiety, and post-traumatic stress disorder (PTSD). Depression was measured with the PHQ-9 (Kroenke & Spitzer, 2002), which assesses nine symptoms. Anxiety was measured using a seven-item subscale of the PHQ (Spitzer, Kroenke, & Williams, 1999). PTSD was

measured using the 17-item PTSD Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). The depression and anxiety measures also included an item on functional impairment from the PHQ and PHQ-9. Cut-offs for screening positive for depression, anxiety, and PTSD were consistent with procedures described by Hoge and colleagues (2004).

The three indicators of *risk behaviors* were alcohol misuse, illegal drug use, and aggressive behaviors. Past month alcohol misuse was measured by an adapted version of the two-item conjoint screen (TICS; Brown, Leonard, Saunders, & Papasoulitis, 1997). One question was asked about past month use of illegal drugs or substances and aggressive behavior was assessed with three questions asking about how often the respondent got angry with someone and kicked or smashed something; threatened someone with physical violence; or got into a fight with someone and hit the person. The aggressive behavior items were summed to create a scale with a Cronbach's alpha of 0.75. The sum was dichotomized so that the lowest scores through the median were coded as low, and scores above the median were coded as high.

Covariates included age, gender, rank, parental status, education, and combat exposure. Combat exposure was measured by 30 items, which asked whether soldiers had had various potentially traumatizing experiences. These items were recoded as yes/no and summed to create a combat exposure scale ranging from 0 to 30. It would have been elucidative to compare the findings across racial/ethnic groups; however, small sample sizes in some of these groups precluded such analyses and we did not simply want to dichotomize our sample into whites and non-whites because that division would likely obscure important within-group variations.

Analysis

Using logistic regression, the never married soldiers and the previously married soldiers were each compared to married soldiers across the measures of the three well-being domains. These analyses controlled for age, gender, rank, parental status, education, and combat exposure. The results of these analyses are presented by domains in the sections below, following reviews of relevant literature for each.

Physical Health

The majority of the studies that have examined marital status differences in well-being have focused on mental health. A few, however, have focused on physical health. In terms of general health, three studies appear to have asked respondents nearly the identical question used in the present study. The cross-sectional data from the Centers for Disease Control's National Health Interview Surveys reported

by Schoenborn (2004) indicate that for both men and women, the married were the least likely to report fair or poor health, followed by the never married, cohabitors, and separated/divorced individuals. Widowed individuals were most likely to report fair or poor health. These differences were more pronounced in younger age groups and narrowed considerably in those aged 65 and over.

Despite its large sample size ($N = 127{,}545$) and its national representativeness to the U.S. population, the results from Schoenborn's (2004) study may reflect typical limitations of cross-sectional data. Williams and Umberson (2004), with the aid of longitudinal data, were able to look at transitions between marital statuses. Their data indicate that self-assessed health of continuously never married and divorced respondents was not significantly different from that of continuously married respondents. In contrast to those who maintained their marital status across time points, those who transitioned into or out of marriage experienced differences in their self-assessed health. Specifically, men who transitioned into first marriages reported improved health and, men who transitioned from being married to being widowers reported poorer health. Among men who became divorced, older men reported poor health while younger men had improved health. None of these transitions significantly affected women's health.

The third study examined trend data between 1972 and 2003 (Liu & Umberson, 2008). These authors showed that the gap between the self-rated health of the married and the never married has narrowed, at least for men. In contrast, the gap in self-rated health between the married, on the one hand, and the separated, divorced, or widowed, on the other, has widened over time.

Some studies that have compared marital status differences in physical health have included specific indicators of mortality and morbidity such as ambulatory blood pressure (Holt-Lunstad, Birmingham, & Jones, 2008; Manzoli, Villari, Pironne, & Boccia, 2007). Holt-Lunstad and colleagues found that married individuals had better ambulatory blood pressure (cardiovascular health) compared to unmarried individuals, the majority of whom were never married (no gender differences were reported). When marital quality was considered, married individuals who reported low marital quality were similar to unmarried individuals. A subsequent study used cardiovascular fatality as the outcome variable and found that never married, separated/divorced, and widowed individuals of both genders were at higher risk for cardiovascular mortality than were married individuals (except for widows), even after adjustments for age and socioeconomic status (Molloy, Stamatakis, Randall, & Hammer, 2009).

We did not find any studies that contrasted reports of somatic complaints or medical care use across marital status groups. The studies we cited are inconsistent as to whether married individuals always have better physical health than other marital status groups. These differences may reflect methodological differences in terms of longitudinal data, the measurement of the outcome variables, how marital status groups are defined, and whether findings were adjusted for covariates. Nevertheless, we expect that married soldiers will report better physical health than either never married or previously married soldiers across all three measures of this domain.

Table 15.3 shows the results of the contrasts of physical health across the three marital status groups. Across the physical health measures, the results are not entirely as expected. Single soldiers had greater odds of reporting that they had good to excellent health, and reported fewer somatic complaints compared to married soldiers. Previously married soldiers were more likely than married soldiers to experience poor physical health in terms of number of somatic complaints. All the soldiers were comparable in terms of past month medical visits.

Mental Health

Studies that explicitly examine marital status differences in mental health may be divided into three subsets depending on whether they solely compare differences in well-being, whether they factor in marital quality, and whether they consider the effects of transitions into or out of a particular marital status. Generally, the first set of studies find a mental health advantage for the married over the previously married (Akhtar-Danesh & Landeen, 2007; Kessler, Bergluand, Demler, Jin, & Merikangas, 2005; Turner et al., 1995). However, the married may not always have a mental health advantage over the never married (see Kessler et al., 2005).

Both cross-sectional (Gove, Hughes, & Style, 1983) and longitudinal studies (Williams, 2003) have found that married individuals have better psychological well-being than other marital status groups, but only when they are happily married. These findings have been contradicted by data from longitudinal studies such as Kim and McKenry (2002), who found that while marital quality affects psychological well-being, it did not explain the advantage of the married compared to other status groups.

Studies that have focused on marital transitions use longitudinal data to assess movement in or out of marital status groups. Generally, these studies have found that individuals who transition out of marriage through divorce or widowhood have poorer mental health compared to stably married individuals (Kim & McKenry, 2002; Simon, 2002). The health advantage of stably married individuals also extends over the newly separated/divorced, those who remained separated/divorced, or the continuously never married (Kim & McKenry, 2002).

One study found that those transitioning out of marriage because of divorce experienced a pre-divorce elevation of psychological distress but that their post-divorce distress levels subsequently decreased to the levels of the consistently married individuals irrespective of whether a remarriage occurred (Booth & Amato, 1991). A later study showed that the short duration of elevated psychological distress of the divorced was only seen among individuals who entered another relationship and that among those who remained divorced, no improvements were observed in mental health over time (Johnson & Wu, 2002). Other studies have argued that it is important to consider how individuals' expectations and the presence or absence of children influence whether a marital loss is a negative or neutral experience, and whether marital gain is a positive one. Belief in the permanence

Table 15.3 Indicators of general and physical health

	General health			Past month medical visits			Somatic complaints		
	%Good to excellent	OR	CI	% 1 or more	OR	CI	% High	OR	CI
Married (reference)	77.8	1.00		51.2	1.00		50.8	1.00	
Never married	80.5	1.25*	1.01–1.54	50.4	0.94[a]	0.79–1.12	47.1	0.77*	0.64–0.91
Previously married	71.0	0.85[a]	0.65–1.09	53.6	0.95[a]	0.76–1.19	61.1	1.34*	1.06–1.69

Note: Odds-ratio (OR) are adjusted for gender, age rank, parental status, education, and combat experiences

*$p<0.05$

[a]N.S.

of marriage or having young children appears to moderate the negative effects of marital loss on mental health (Simon & Marcussen, 1999; Williams, Sassler, & Nicholson, 2008), whereas marital gains have a more positive effect on the mental health of individuals who place more importance on marriage (Simon & Marcussen, 1999).

The studies reviewed so far have been among civilian samples. Studies conducted using military samples vary on whether they found that married personnel report better mental health than one or more marital status groups. The Department of Defense (DoD) Health Behavior Survey (Bray et al., 2009), which is a population-based study of Active Component personnel, showed that a higher percentage of unmarried soldiers (including personnel living as single, widowed, divorced, or separated) screened positive for anxiety compared to those who were married with or without a co-resident spouse. Another study that used a sample of British Gulf War veterans found that divorced personnel had greater odds of having an anxiety disorder than married individuals, but that separated or cohabiting individuals were at no greater risk (Fiedler et al., 2006).

Married military personnel generally report lower levels of depression as well. The DoD survey (Bray et al., 2009) found that higher percentages of unmarried soldiers screened positive for depression compared to married soldiers with a co-resident spouse. However, married soldiers who lived apart from their spouses screened positive for depression at similar percentage levels as unmarried soldiers. Another study that used a sample of soldiers who had deployed to Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) had similar findings. Separated and divorced soldiers, but not "single" (likely never married), had higher depression scores compared to married soldiers (Lapierre, Schwegler, & LaBauve, 2007).

Concerning PTSD, among OIF and OEF veterans who were seen at Department of Veterans Affairs facilities between 2001 and 2005, never married soldiers had the lowest risk of developing this disorder (Seal, Bertenthal, Miner, Saunak, & Marmar, 2007). While the risk ratios were modest, married, divorced, and separated/widowed soldiers all had increased risk of developing PTSD compared to the never married. Another study found similar results for "single" (likely never married) soldiers who had deployed to OEF, who had lower PTSD symptom scores than married soldiers (Lapierre et al., 2007). However, the "single" soldiers who had deployed to OIF were not statistically different from the married soldiers. In contrast, a British study of military personnel who also deployed to Iraq found that single soldiers had higher risk for developing PTSD (Iversen et al., 2008). Across both OIF and OEF, separated soldiers had higher PTSD symptom scores than married soldiers, but only divorced solders from OIF had higher PTSD scores compared to married soldiers (Lapierre et al., 2007).

Despite the complexity of the findings about marital status and mental health, the poorer health of separated and divorced individuals when compared to married individuals appears to be relatively robust. In terms of military populations, despite inconsistencies in marital status group definitions, the never married sometimes reported better mental health than the married and at other times, the reverse

occurred. In this study, we expect that previously married soldiers will be more likely to screen positive for depression, anxiety, and PTSD than married soldiers. However, we expect that never married soldiers will be comparable to married soldiers for all three outcomes. The results of our comparisons of group differences in mental health among soldiers are displayed in Table 15.4.

As expected, previously married soldiers were more likely to screen positive for depression, anxiety, and PTSD than were married soldiers. Their rates were about twice the rates of the other marital status groups. Never married soldiers were only comparable to married soldiers in terms of depression. They were actually less likely to screen positive for anxiety or PTSD than were married soldiers.

Risk Behaviors

Risk behaviors such as alcohol misuse, illegal drug use and aggressive behaviors vary across marital status groups as well. Overall substance use (including alcohol and illicit drug use) is lower for married individuals compared to nonmarried individuals, according to the National Survey on Drug Use and Health (SAMHSA, 2007) and the replication of the National Comorbidity Study (Kessler et al., 2005). Data show that married persons are less likely to be admitted for substance abuse treatment and have lower rates of substance dependence or abuse (SAMHSA, 2004, 2007, respectively).

Married individuals tend to misuse alcohol specifically at lower rates than their nonmarried counterparts according to results of large, epidemiological civilian studies. For example, Simon (2002) found that nonmarried adults (including never married, separated, divorced, and widowed persons) reported significantly more alcohol problems than married adults using data from the National Survey of Families and Households. In addition, results from the National Epidemiologic Survey on Alcohol and Related Conditions (Chen et al., 2006) demonstrated that married individuals exceeded standard weekly or both daily and weekly drinking limits at lower levels compared to never married, living as married, separated, divorced, or widowed individuals. These relationships also hold with young adults in particular; Horwitz and White (1991) found that married young adults reported fewer alcohol-related negative consequences, an outcome they used as a proxy for alcohol problems, compared to never married young adults.

The above research pertains to civilian samples; relationships between military marital status and alcohol consumption follow suit despite higher alcohol consumption within military samples compared to civilians, especially for the 18–25 age group (Bray et al., 2009). Data from the DoD Survey of Health Related Behaviors (Bray et al., 2009) show that nonmarried military personnel were significantly more likely to report heavy alcohol use in the past month compared to married personnel. This result was even more dramatic for Army personnel, with a larger percentage of nonmarried soldiers falling in the heavy alcohol consumption category compared to overall DoD percentages even after adjusting for sociodemographic differences.

Table 15.4 Indicators of mental health

	Depression			Anxiety			PTSD		
	% Screen positive	OR	CI	% Screen positive	OR	CI	% Screen positive	OR	CI
Married (reference)	7.1	1.00		8.8	1.00		14.6	1.00	
Never married	7.7	0.76[a]	0.56–1.04	7.8	0.64*	0.48–0.87	12.5	0.69*	0.53–0.89
Previously married	15.1	2.13*	1.52–2.99	16.3	1.74*	1.26–2.40	22.4	1.54*	1.14–2.08

Note: Odds-ratio (OR) are adjusted for gender, age rank, parental status, education, and combat experiences

*$p<0.05$

[a]N.S

Marital status also confers different levels of risk for illegal drug use. Anthony (1991) found that never married adults were over two times more likely to become new drug abuse or dependence cases compared to married adults. Similarly, in a national survey, Hoffman, Brittingham, and Larison (1996) found that married adults reported less current and prior year illicit drug use than their divorced, separated, or never married equivalents. Military research parallels the above civilian findings despite lower illicit drug use among military personnel in all age groups compared to civilian samples (Bray et al., 2009). Bray and colleagues (2006) found that non-married military personnel were more likely to report past-year illicit drug use compared to married military personnel. Similar to alcohol consumption, a greater percentage of nonmarried Army personnel used illicit drugs in the past year compared to overall DoD percentages after adjusting for sociodemographic differences.

Research on the relationship between marital status and aggressive behaviors is less widespread. Two studies found significant differences in physical aggression between marital statuses. In a study of the interplay of aggression, alcohol and marital status, married participants were significantly less likely to report involvement in recent verbal or physical aggression (either as aggressor or victim) compared to nonmarried, divorced/separated, or widowed participants (Wells, Graham, & West, 2000). In a related study, Wells and Graham (2003) found that more never married adults were involved in a physical aggression in the past year compared to married and cohabitating adults.

The studies above consistently point to married individuals demonstrating fewer risk behaviors compared to nonmarried persons. Thus, we expect married soldiers to report lower alcohol misuse and illegal drug use and fewer aggressive behaviors than either never married or previously married soldiers.

As displayed in Table 15.5, married soldiers were less likely to report risk behaviors overall. Both never married and previously married soldiers were over two times more likely to report past month alcohol misuse compared to married soldiers. Previously married soldiers were also over two times more likely to report past month illegal drug use compared to married soldiers; however, this result was not found for never married soldiers. Never married and previously married soldiers were no more or less significantly likely to report aggressive behavior compared to married soldiers.

Discussion and Conclusion

The sample used in this study is decidedly distinct from the civilian samples on which most of the existing research is based. Our respondents have been exposed to potentially traumatizing events while combat-deployed. It is known that trauma is a very potent trigger of poor well-being and that individuals with more disadvantaged statuses appear to be exposed to greater numbers of traumatic events (Pearlin et al., 2005). Trauma may also have contagion effects in that exposure to trauma makes one more vulnerable to subsequent traumas (Pearlin et al., 2005).

Table 15.5 Indicators of risk behaviors

	Alcohol misuse			Illegal drug use			Aggressive behavior		
	% Yes	OR	CI	% Yes	OR	CI	% Above median	OR	CI
Married (reference)	20.0	1.00		1.8	1.00		37.2	1.00	
Never married	37.8	1.98*	1.63–2.42	4.9	1.47[a]	0.94–2.39	47.3	1.05[a]	0.87–1.26
Previously married	42.2	2.79*	2.19–3.54	5.1	2.44*	1.36–4.37	45.6	1.27[a]	1.00–1.62

Note: Odds-ratio (OR) are adjusted for gender, age rank, parental status, education, and combat experiences

*$p < 0.05$

[a]N.S.

Little is known about the nature of the relationship between marital status and combat exposure.

Earlier we asked whether single soldiers are more susceptible to developing physical or mental health problems or engaging in risky behaviors after a deployment. The answer to this question depends on the definition of a "single" soldier. If we define a single soldier as a never married soldier, then the answer is that single soldiers are actually less likely than married soldiers to report mental or physical health problems. But, never married soldiers are more likely to report engaging in alcohol misuse. It is notable that single soldiers (all unmarried soldiers) are not a monolithic group. A subset of this group – the previously married – are more likely than married soldiers to report somatic complaints, mental health problems, and alcohol misuse.

The data reported here suggest that having a spouse may have both deleterious and beneficial effects on well-being. This study showed that married soldiers appear to have poorer physical health and poorer mental health (anxiety and PTSD) compared to never married soldiers, but not previously married soldiers. However, married soldiers reported lower rates of risky behaviors than the other groups of soldiers.

These are tentative conclusions because of the limitations of our data. One such limitation is the cross-sectional design of the study. We were unable to assess transitions in or out of marital statuses. Williams and Umberson (2004) suggest that combining all divorced or all married respondents into homogenous groupings likely masks differences within those groups. For example, are the stably divorced qualitatively different from the recently divorced? We do not know whether separations or divorces predated the combat deployment, occurred because of the deployment separation, or because of poor post-deployment adjustment. Consequently, we cannot answer the question posed by crisis theory that the poorer health of previously married individuals is temporary and that once the marital dissolution crisis is over, the health of those that transition out of marriage will return to normative levels.

We, however, have some evidence to assess which of the other two theoretical assertions held up with these analyses. Our data support both the social causation hypothesis and the social selection hypothesis. Marriage may buffer soldiers from experiencing negative consequences of combat exposure relative to other marital status groups, but it does not appear to be universally protective. We demonstrated that previously married soldiers are at greater risk than either married or never married soldiers for developing physical and mental health problems. Perhaps having experienced marital loss increases one's exposure to stressors or makes one more vulnerable to the negative effects of trauma exposure. Alternatively, the soldiers who are separated or divorced could be poor marriage material. Their poorer health may not be a consequence of the dissolution of their marriages but an antecedent. Longitudinal data is needed for more definitive conclusions.

Cohabitation in the United States has increased substantially in recent years. Cohabitors now comprise 10% of the number of opposite-sex couples (U.S. Census Bureau, 2009). This data has undoubtedly influenced the researchers who have

begun to include cohabitors as a marital status group. However, we are also unable to contribute cohabitation data because the marital status item in this study did not include an option for respondents to indicate that they were living with a partner to whom they were not married. Consequently, we cannot compare the well-being of this group to married individuals. There is reason to suspect that cohabitation rates may be lower in the military than in the civilian population, especially in Active Component populations. There are strong incentives to get married in the military including stipends for dependents and housing allowances (Lemmon, Whyman, & Teachman, 2009). Lemmon and colleagues found that Active Component service members are more likely than either civilians or Reserve Component service members to marry their cohabiting partner. This indicates that cohabitation, when it occurs, may also be a shorter-term phenomenon in military populations. Official data on cohabitation rates are unavailable because as of yet the Army does not collect such data.

Overall, marital status and well-being in post-deployment soldiers relate differentially depending on specific outcome and status group. Because previously married soldiers demonstrated lower levels of mental well being, and general health along with higher levels of substance use and misuse, this subpopulation can be targeted for post-deployment interventions. Future research should determine whether this sample is at risk only during the transition from married to divorced or widowed to know when such interventions would be most beneficial.

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