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MILITARY SERVICE: LONG-TERM EFFECTS ON ADULT DEVELOPMENT

Military service is a significant developmental experience in the lives of many men and women. Delineating its effects on the life course is not an easy task because one must consider a variety of moderating factors (see Figure 1). These include *ecological* variables such as branch of service, location of service, and amount of combat exposure; *personal* variables such as age, gender, ethnicity, social class, personality, and military rank; and *temporal* variables, i.e., cohort and period effects. One must also consider multiple levels of outcome—physical, psychological, and social well-being—all of which may be either positive or negative. Furthermore, the effects of military service, like other developmental experiences, unfold over time. A pattern of outcomes observed 5 years after discharge may differ markedly from the outcomes ob-

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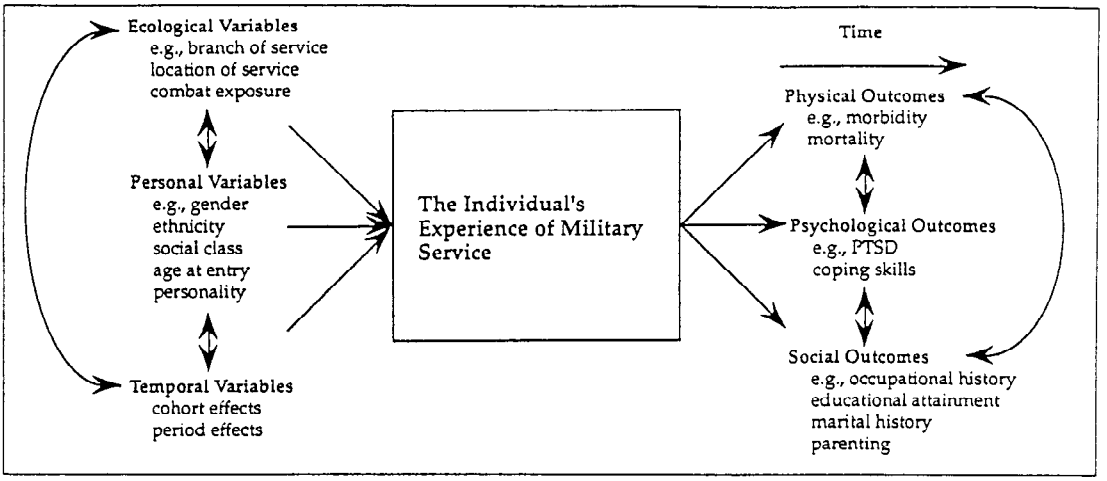

Figure 1. Effect of Military Variable on Adult Outcomes

served 20 years later (Aldwin & Stokols, 1988). Given these complexities, the best one can do is to delineate general patterns, knowing that they may not hold for all cohorts, social classes, sexes, ethnic groups, or individuals.

Physical Health Outcomes

Because of their initial selection for good physical health, veterans generally have lower rates of mortality than civilians, at least through mid-life. However, mortality rates are increased in lower ranks relative to higher ranks (Keehn, 1980), and externally caused mortality (suicides and accidents) is elevated in the first five years after discharge (Centers for Disease Control, 1987; Seltzer & Jablon, 1974). Prisoners of war who were subjected to extreme deprivation during their internment show increased mortality for approximately 10 years after release. Rates of hospitalization are also higher throughout their adult lives for prisoner of war survivors as compared with other veterans (Keehn, 1980).

Veterans with service in the Vietnam theater of operations, and apparently those with heavy combat exposure, report more physical health problems at mid-life than other Vietnam-era veterans or civilians (Card, 1983; Centers for Disease Control, 1988a; Kulka et al., 1990). Concerns still linger about the long-term effects of Agent Orange exposure. Studies on cancer incidence have yielded equivocal results (Boyle, Decouflé, & O'Brien, 1989). Vietnam theater veterans report more birth defects in their offspring, but this has been substantiated by hospital records only for African-American veterans (Centers for Disease Control, 1988b).

In contrast to self-reports, physical examinations of a large group of male Vietnam veterans showed few differences between theater and era veterans. Hearing loss was more prevalent in theater veterans, most likely from damage caused by combat noise (Centers for Disease Control, 1988a). Men exposed to heavy combat also are more likely than other veterans or civilians to be physically disabled (Kulka et al., 1990).

Psychological Outcomes

Most veterans believe that military service affected their personal development (Card, 1983; Elder, 1987; Elder & Clipp, 1989). Negative outcomes include disruption of the life course, separation from others, and painful memories. Positive benefits include increases in maturity, coping skills, self-discipline, independence, cooperation, and sensitivity to others. Men and women in the military often confront adult responsibilities at an earlier age than civilians and may develop

lifelong adaptive coping strategies from their experiences in facing extreme stress. Indeed, World War II and Korean conflict veterans are less likely than civilians to have a psychiatric disorder, although this is not true of veterans who served during or after the Vietnam War (Norquist et al., 1990). Also, troubled youth who join the military have better outcomes at age 30 than their civilian peers (Werner, in press).

Exposure to combat appears to be the most important of the many moderator variables for the effect of military service on psychological well-being. The demands of combat could provide valuable learning experience that would enhance coping skills and self-confidence (Elder & Clip, 1989). On the other hand, heavy combat exposure is associated with primarily negative outcomes.

One of these negative outcomes is the greater likelihood of posttraumatic stress disorder (PTSD). This is a psychiatric condition that is characterized by intrusive recollections of a traumatic event, such as combat. The syndrome often includes avoidance of reminders of the trauma, psychological numbing, and hyperarousal. Roughly one-third of male and female Vietnam theater veterans experienced PTSD at some point after discharge. When interviewed at mid-life, 15 percent of males and 8 percent of females still had the disorder. Current prevalence estimates are twice as high in veterans exposed to heavy combat. Additional risk is conferred by witnessing or participating in atrocities (Breslau & Davis, 1987).

The prevalence of PTSD in veterans of wars prior to Vietnam is unknown. Symptoms may emerge or intensify following events associated with aging, such as retirement or declining health (Elder & Clipp, 1989). World War II and Korean conflict veterans are less likely than Vietnam veterans to have PTSD (Blake et al., 1990; Rosenheck & Fontana, in press). Nevertheless, the symptom patterns are highly similar in all three groups (Rosenheck & Fontana, in press).

A host of ecological and personal variables are associated with the occurrence of PTSD. In male Vietnam veterans, PTSD prevalence was higher in African-Americans and Hispanics, relative to whites. The Army and Marine Corps had a higher prevalence than other branches of the service, and in all services men in the lower ranks were more likely to experience PTSD than those in higher ranks (Kulka et al., 1990). These differences may be due in part to combat exposure. For example, controlling for combat exposure eliminates the relatively higher prevalence of PTSD among African-Americans. However, the relatively high rate among Hispanics could not be explained on the basis of differential exposure to combat.

Combat-related PTSD is an outcome of military service that predicts numerous other problems (Kulka et al., 1990). At mid-life, male and female Vietnam veterans with PTSD are more likely than those without PTSD to have another psychiatric diagnosis as well as an alcohol problem. Males are also more likely to be substance abusers. Socially, veterans with PTSD have more marital and family problems, and are more isolated. They also have lower educational attainment, both overall and relative to premilitary education, and higher levels of occupational instability and unemployment. The list of misfortunes continues with more problems with vagrancy, homelessness, and criminal activity. Vietnam veterans with PTSD have more perceived physical health problems (but not physical disability) and are more likely to use the medical services that are available to veterans.

Less is known about the outcomes associated with PTSD in later life, except for the increased likelihood of current stress symptoms (Elder & Clipp, 1989). Relative to Vietnam veterans with PTSD, however, older veterans with PTSD show better social and occupational adjustment (Rosenheck & Fontana, in press).

Social Outcomes

Military service offers a means for upward social mobility through active duty occupational training and educational programs known as the "G.I. Bill." Since World

War II, approximately 20 million veterans have furthered their education through such programs (Department of Veterans Affairs, 1989). Men and women are equally likely to use veterans' educational benefits. African-Americans and Hispanics are more likely than whites to do so. Vietnam veterans have been making more use of their educational benefits than veterans of either World War II or the Korean conflict.

Veterans are slower than civilians to complete their education, especially if they enter the service at an early age. They catch up eventually to civilians, however, in the mean number of years of education attained (Card, 1983; Elder, 1986, 1987; Kulka et al., 1990). Significant subgroup differences also exist. Females and minority male veterans are more educated than their civilian counterparts, a difference that in females and Hispanic males reflects upward mobility (Kulka et al., 1990).

Military service neither facilitates nor impedes the attainment of an occupation appropriate to one's background (Elder, 1986) or education (Kulka et al., 1990). It may delay the transition to one's primary career, but by mid-life civilians and veterans generally hold jobs of similar status. Despite this similarity, male and female veterans have higher incomes than civilians. This difference has been observed in cohorts from World War II to the Vietnam era and is most notable in African-Americans and Hispanics (Martindale & Poston, 1979). Among veterans, income varies with combat exposure. In 1989, combat veterans from World War II and the Korean conflict earned less than noncombatants, but the reverse was true for Vietnam veterans (Rosenheck & Fontana, in press).

Male veterans are more likely than other adult males to be married (Department of Veterans Affairs, 1989), but they are slower to enter into marriage and parenthood (Card, 1983; Elder, 1986). Less is known about marital outcomes for female veterans, but they are somewhat less likely than other female adults to be married. Among males and females, those exposed to heavy combat are more likely than civilians or other veterans to have marital and family problems (Kulka et al., 1990).

Much has been written about the camaraderie that develops among individuals who serve in the military, yet service friendships are retained by relatively few. Among World War II and Korean conflict veterans, these ties are most likely to be retained by men who lost a friend or comrade in combat, or who were exposed to heavy combat (Elder & Clipp, 1988). Among Vietnam veterans, heavy combat exposure is associated with a sense of social isolation in both males and females; even those with PTSD are more likely than those without PTSD to participate in a veterans organization (Kulka et al., 1990).

Special Developmental Considerations

There are similarities and differences between older and younger veterans. For example, combat-related PTSD has been diagnosed in both, but in older veterans the prevalence is lower and PTSD is not as strongly associated with impaired occupational and social functioning. Unfortunately, most studies on the effects of military service are either cross-sectional or, at best, follow only one cohort longitudinally. This makes it difficult to distinguish developmental effects from period and cohort effects.

Some intriguing developmental issues are raised by contradictory findings between cohorts of veterans on the effects of the timing of service entry. Vietnam veterans who entered the service as adolescents have had poorer outcomes later in life than older entrants, especially in psychological adjustment (Kulka et al., 1990). In contrast, World War II veterans who entered at an older age have had poorer outcomes in social and occupational functioning, likely because of the disruption they experienced in family life and career (Elder, 1987).

Obviously, methodological and other artifactual problems may account for this discrepancy. However, it is reasonable to speculate that the difference arises from an interaction between social context and the

process of identity formation in early adulthood. From an Eriksonian perspective, individuals in late adolescence are at the stage of "identity vs. role confusion," caught between the "morality learned by the child and the ethics to be developed by the adult" (Erikson, 1963, pp. 262-63). At this stage, the adolescent is particularly sensitive to social influences. Eager for affirmation by their peers, adolescents may be vulnerable to ideologies because they rely on social mores for identity formation.

During World War II, it may have been easier for an adolescent soldier to construct a positive identity because he was likely to experienced a high degree of social cohesiveness. There was a great deal of popular support for the troops. Moreover, the men trained and went to war in the same groups, thereby having the opportunity to form and maintain social bonds. During the Vietnam War, however, it may have been difficult for an adolescent soldier to construct a positive identity. There was much opposition to the war in the United States, and soldiers did not stay with the same groups but rather rotated in and out of platoons on an individual basis. Thus, young soldiers in the Vietnam era may not have been provided with the type of social support needed to positively integrate the meaning of their soldiering activities into the personal identity. Older soldiers presumably had resolved issues related to identity and role confusion. Furthermore, with their more extensive life experience, they may have been in a better position to withstand the negative feedback about their actions from the broader social context despite the absence of consistent support from the same peer group. Obviously, this is a highly speculative line of reasoning, but it illustrates the types of issues that should be considered when trying to understand how military service influences adult development.

Conclusions

Military service has long-term positive and negative effects on adult development, and these effects depend on preexisting individual characteristics and on the dimensions of the military service. Serving in the military appears to accelerate psychological maturation but delays higher education and the transition to work, marriage, and parenthood. By mid-life, veterans typically have caught up to or surpassed their civilian counterparts, although women tend to remain unmarried. Upward mobility is most evident in minority groups. Far-reaching psychological and social consequences are limited primarily to those who had extensive combat experience or who encountered war-related atrocities. Less is known about the effects of military service in late life. More longitudinal research is needed, both to determine the similarities and differences between younger and older cohorts and to examine how these effects unfold over the lifespan.

▼ Paula P. Schnurr and Carolyn M. Aldwin

See also: Career Age; Cohort and Generational Effects; Friendships through the Adult Years; Gender Differences in the Workplace; Happiness, Cohort Measures of; Listening; Loneliness; Longevity; Marital Development; Mental Health in the Adult Years; Stress; Work Organization Membership and Behavior.

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