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POST-TRAUMATIC STRESS DISORDER IN OLDER ADULTS

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Despite the increase in research on the impact of trauma in younger populations, considerably little is known about the extent and consequences of traumatic exposure in older adults. Most studies examining the impact of traumatic exposure either do not recruit sufficient numbers of older adults to examine age effects, or fail to include them at all. Case studies and the limited research currently available suggest that there are both developmental and cohort differences between younger and older individuals, which may affect the manifestation, course, assessment, and treatment of trauma-related distress in late life.

Many developmental changes that occur in older adulthood constitute stressors. These include diminished sensory capacities, decreased mobility, physical frailty, income shrinkage and financial limitations, loss of friends and social status, isolation, changes in housing, multiple medications, complex medical problems, ill health, retirement, widowhood, cognitive impairment or loss, and impaired self-care. Unresolved distal or recent trauma may interact negatively with these age-related changes to affect physical and mental health functioning in later life.

In addition, cohort differences that may affect the presentation, assessment, and treatment of trauma-related distress in older adults include misinterpretation of psychological difficulties as somatic complaints and reluctance to admit to psychological difficulties due to the associated stigma for this generation. Also, for the current cohort of older adults, trauma that occurred before their middle adulthood preceded the introduction of PTSD into the diagnostic nomenclature in 1980. Thus, knowledge of the effects of traumatic experiences was less developed, and specific terminology, understanding, and support were less available for this generation.

The demographic shape of the United States population is rapidly shifting. The most prominent alteration is an unparalleled change in the number of older adults. The number of persons living into older adulthood has drastically increased while the proportion of young people has decreased (U.S. Department of Health and Human Services, 1995). Thus there may be more older adults living with the

effects of traumatic stress than ever before. This also means that present-day younger trauma survivors may also live to old age and thus be faced with similar developmental challenges in coping with their trauma. For example, issues related to aging are increasingly relevant for the largest service group of the U.S. veteran population, those who served in Vietnam.

The current quarterly provides some highlights of the literature on trauma, its related symptoms, course, assessment, and treatment in older adults. Empirical inquiry in this area has increased over the past two decades. Examination of that literature reveals a progression in understanding of aging issues for trauma survivors, but there remain many gaps open for investigation. Several new areas of inquiry are noted and future directions are suggested in this issue.

Unfortunately, there are no epidemiological studies, utilizing a representative sample, that examine the incidence or prevalence of traumatic exposure and PTSD in older adults. The estimates of traumatic exposure and PTSD vary depending on the traumas and symptoms assessed and samples surveyed. In a community sample, Norris (1992) found that past-year exposure to 10 potentially traumatic events was higher than and caused more PTSD among younger than middle-aged or older adults. In a large longitudinal cohort study of community-residing male veterans from World War II (WWII) and the Korean War, traumatic exposure to combat was high, with those exposed to moderate or heavy combat in WWII having 13.3 times greater risk of PTSD decades later (Spiro et al., 1994). Although most participants in a large sample of community-dwelling older survivors of WWII bombardments, persecution, resistance, and combat did not meet diagnostic criteria for PTSD, many were suffering negative long-term after-effects (Bramsen & van der Ploeg, 1999). These studies highlight the need for the examination of sub-threshold PTSD as well as other trauma-related symptoms, such as depression, in older adults.

Most research on older adult trauma survivors has been conducted on individuals exposed to combat/internment, natural or human-made disasters, or the Holocaust. In a review of this literature, Falk and colleagues (1994) found that older adults meet diagnostic criteria for PTSD as many as 45 years after trauma. As in younger adults, PTSD in older persons is strongly associated with degree of trau-

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matic exposure (Fontana & Rosenheck, 1994).

Empirical studies on the course of PTSD across the lifespan are sorely needed. To date, the longitudinal trajectory of trauma-related symptoms into older adulthood have only been examined in American WWII and Korean Conflict ex-prisoners of war (Port et al., in press). Though some of this work has shown symptom stability over decades (Engdahl et al., 1993), more recent investigation suggests that symptoms were highest after exposure, decline for years, and increase in later-life (Port et al., in press). Potential increase in trauma-related symptoms among older survivors of remote severe trauma deserves more attention.

Though patterns of expression vary due to dose and duration of trauma, clinical presentation of trauma-related distress in older adults, in general, appears less intense than the manifestation of distress in younger populations (Fontana & Rosenheck, 1994; Norris, 1992). For example, some trauma-related symptoms, such as dissociation, may be less persistent over time (Yehuda et al., 1996). Older adults may also experience different symptoms or difference in coexisting disorders in response to trauma (Goenjian et al., 1994). Again, because of these differences, it is crucial to include dimensional measures of symptomatology in studies of older adult trauma survivors.

Whether life events in old age are related to symptom exacerbation/occurrence has been discussed or examined using retrospective methods. This issue is directly linked to the debate between the stress evaporation model and the residual stress model in older adults. While some have suggested that traumatic exposure may have an inoculating effect that leads to greater resilience, this may be dependent, in part, on the type and severity of stressor to which the individual was initially exposed. Older adult survivors of less severe trauma, such as natural disasters, may display both direct and cross-tolerance (Knight et al., 2000; Norris & Murrell, 1988), suggesting that exposure reduces the impact of the same and different stressors. However, some evidence from both Holocaust and combat veterans supports the vulnerability perspective (Danieli, 1997). Older adult survivors of severe trauma may have a heightened vulnerability to subsequent stressors (Yehuda, Kahana, Schmeidler et al., 1995). These stressors may be environmental, such as war (Solomon & Prager, 1992) and discrimination (Eaton et al., 1982), or internal, such as disease (Peretz et al., 1994).

Protective mediating variables, such as locus of control, instrumental coping, and appraisals of desirable and undesirable effects of traumatic experience, have received some attention in the older-adult literature (Aldwin et al., 1994; Harel et al., 1988). For example, perceiving potential benefits might mitigate the effect of traumatic exposure (Aldwin et al., 1994). Adaptive resources and capacities of resilience in older age warrant further investigation given the intervention implications of these findings.

Although no psychiatric assessment measure has been specifically designed for use with older trauma survivors,

the reliability and validity of several widely used PTSD measures has been established (Summers et al., 1996). Interviewer-rated scales as well as self-report measures have been shown to be consistent and able to discriminate between older veterans with and without PTSD. However, lower cutoffs as well as the use of several tests together are recommended for diagnostic efficiency (Summers et al., 1996).

Neurobiological factors have received limited empirical attention in older trauma survivors. Biological abnormalities, such as low cortisol levels, in younger PTSD patients have been shown to persist into older adulthood (Yehuda, Kahana, Binder-Brynes et al., 1995). Recent advances in the literature on the neurochemistry and neurocircuitry alterations of trauma suggest that prolonged stress or exposure to glucocorticoids has an adverse effect on cortical dysfunction, which may contribute to memory impairment (Sapolsky, 2000). Because aging individuals with cognitive impairment are typically excluded from studies, little is known about the relationship between a history of extreme trauma/PTSD and cognitive impairment. Preliminary evidence suggests, however, that individuals exposed to prolonged and extreme trauma, such as being a prisoner of war or in a Nazi concentration camp, demonstrate neurological concomitants, decades after traumatic exposure (Sutker et al., 1995). Preliminary investigation also suggests that persons who experienced severe trauma may demonstrate behavioral disturbances, such as physical and verbal aggression, while in long-term-care settings or in the beginning stages of dementia (Cook et al., 2001).

Topics around trauma and older adults that remain open for examination are plentiful. There is little empirical investigation on the prevalence and effects of several types of trauma, such as criminal victimization or elder abuse, neglect, or exploitation (McCabe & Gregory, 1998; Pillemer & Finkelhor, 1988). Although there is some evidence to suggest that abused older adults suffer more depression than their non-abused counterparts, other psychological consequences of abuse, most notably PTSD, remain unstudied (Comijs et al., 1999). Although some studies have been conducted on the effect of trauma on psychological and physical health functioning in older adulthood (Elder et al., 1994; Schnurr et al., 1998; Schnurr et al., 2000), broader effects such as changes in terms of relationship (marriage, children, friends), and social functioning (involvement with community, groups) have rarely been examined. Importantly, several groups of older adults have received modest examination in the traumatic stress literature, specifically older women as well as minorities (Bechtle & Follette, in press; Wolkenstein & Serman, 1998).

Another area where information is sorely lacking is in the treatment of trauma-related distress in older adults. Although some therapy interventions are similar to those used in PTSD with younger adults (i.e., education about symptoms, enhancement of social support, and provision

of coping tools to more effectively manage symptoms), special considerations that are unique to older adults are rarely addressed. Knowledge of the unique problems of older adults as well as needed adaptation of current psychological interventions is required (APA Working Group on the Older Adult, 1998). Although there are a few reports of therapy with older survivors in the literature, none has been empirically validated. There is one manualized psycho-educational treatment program for older combat veterans, which was developed at the Cleveland VA (Clower et al., 1996). This program involves therapy education, PTSD education, life review, stress management, building of social support, anger management, grief and loss, and forgiveness.

Cognitive-behavioral treatment for younger adults has often focused on exposure therapy, the goal being to reduce PTSD symptoms through repeated exposure to images associated with the traumatic event. Because exposure therapy may produce profound physiological effects on heart rate and respiration, and because the health of older adults is often compromised, the use of exposure has been questioned (Hyer & Woods, 1998). One well-known therapeutic treatment known as life review has recently received support in older adult trauma survivors in a single case design (Maercker, in press). Life review is a directed therapy of reminiscence, in which a therapist helps the patient to organize and evaluate memories of the consecutive stages of life. Integration of the traumatic event into discussion of the stages of life may show potential as a therapeutic tool.

In summary, the impact and effects of trauma can be long lasting, and indeed PTSD does occur in older adults.

The symptom course is variable, with some being continuously troubled, others having waxing and waning of symptoms across the lifespan, and some remaining symptom-free (Zeiss & Dickman, 1989). Trauma-related distress may be less intense in some circumstances, but does resemble PTSD in younger adults. Assessment needs to be comprehensive and, when special circumstances, like cognitive impairment, are present, requires special adaptation, such as observation and collateral reports. Empirically based treatments for older adults with trauma-related distress are critically needed.

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SELECTED ABSTRACTS

ALDWIN, C. M., LEVENSON, M. R., & SPIRO, A. (1994). **Vulnerability and resilience to combat exposure: Can stress have lifelong effects?** *Psychology and Aging*, 9, 34-44. The purpose of this study was to examine whether appraisals of desirable and undesirable effects of military service mediated the effect of combat stress on PTSD symptoms in later life in 1,287 male veterans, aged 44-91 years ($M = 63.56$, $SD = 7.46$), 40% of whom had been in combat. The men reported more desirable effects of military service (e.g., mastery, self-esteem, and coping skills) than undesirable ones; both increased linearly with combat exposure ($R = .17$ and $.33$, $P < .001$, respectively). Path analysis revealed that the appraisals were independent and opposite mediators, with undesirable effects increasing and desirable effects decreasing the relationship between combat exposure and PTSD, even controlling for depression and response style. Although lifelong negative consequences of combat exposure were observed, perceiving positive benefits from this stressful experience mitigated the effect.

BECHTLE, A.H. & FOLLETTE, V. (in press). **Frequency and impact of interpersonal trauma in older women.** *Journal of Clinical Geropsychology*. Interpersonal violence impacts the lives of many women in society. However, despite the proliferation of research in this area, there is limited information about the

frequency and impact of interpersonal trauma experiences in late life. The current study investigated the relationship between a history of interpersonal trauma and subsequent adjustment difficulties, including psychological distress and physical health, in women over the age of 60. Findings demonstrate that interpersonal trauma has a significant impact on later life functioning. Additionally, the presence of multiple traumatization experiences was a critical factor in determining which individuals manifested long-term trauma symptoms.

BRAMSEN, I., & VAN DER PLOEG, H. M. (1999). **Fifty years later: The long-term psychological adjustment of ageing World War II survivors.** *Acta Psychiatrica Scandinavica*, 100, 350-358. *Objective:* Most studies of the long-term after-effects of war have focused on survivors seeking treatment or financial compensation. The present study examined the current psychological adjustment of a community sample of ageing World War II (WW II) survivors, including survivors of bombardments, persecution, resistance, combat and other violence. *Method:* A community sample of 4057 Dutch WW II survivors answered a 4-page postal questionnaire. Of these, 1461 survivors answered a second follow-up questionnaire. *Results:* Even 50 years after World War II, a statistically significant but modest relationship was found to exist between exposure to shocking war events and current

psychological adjustment in terms of symptoms of PTSD, anxiety, and anger. A total of 66 respondents (4.6%) met the criteria for PTSD. The highest level of current PTSD (13%) was found among survivors of persecution. The lowest level of PTSD (4%) was found among civilian war victims and resistance participants, while military veterans had an intermediate score (7%). With regard to absolute numbers, civilian war victims represented the largest proportion of PTSD sufferers. *Conclusion:* In a study of a community sample of WW II survivors, we found that most of these survivors had no severe symptoms of PTSD. Nevertheless, probably tens of thousands of Dutch individuals are still suffering from long-term after-effects from World War II. For these vulnerable survivors, the ageing process will complicate the coping process.

COMIJS, H. C., PENNINX, B. W. J. H., KNIPSCHEER, K. P. M., & VAN TILBURG, W. (1999). **Psychological distress in victims of elder mistreatment: The effects of social support and coping.** *Journal of Gerontology: Psychological Sciences, 54B*, P240-P245. The objective of the study was to examine psychological distress in victims of elder mistreatment and to determine whether social support, coping style, mastery, and perceived self-efficacy favorably influence the psychological health of these victims. The study sample consisted of 77 subjects [selected from respondents in the Amsterdam Study of the Elderly] who reported recent chronic verbal aggression, physical aggression, or financial mistreatment, and a control group of 147 subjects who had not been mistreated. All participants were elderly persons who were over 65 years of age and living independently in the community. Social support, coping style, mastery, and perceived self-efficacy were measured by means of a standardized home interview. Psychological distress was measured by means of the General Health Questionnaire (GHQ-12). Victims of elder mistreatment had significantly higher levels of psychological distress than nonvictims. Social support showed a favorable effect on the level of psychological distress in victims, but not in nonvictims; victims who received more social support showed less psychological distress. A lower sense of mastery, a negative perception of self-efficacy, and a passive reaction pattern were associated with higher levels of psychological distress in victims as well as in nonvictims. The beneficial role of social support, locus of control, and perceived self-efficacy on the level of psychological distress could be of importance in the development of future intervention programs.

ELDER, G. H., SHANAHAN, M. J., & CLIPP, E. C. (1994). **When war comes to men's lives: Life-course patterns in family, work, and health.** *Psychology and Aging, 9*, 5-16. Men generally come to military service at a time of youth. However, the Second World War expanded the period of service eligibility from age 18 to the late 30s. Each year of delay in entry promised a smaller return from military service (economic and job benefits) and a greater risk of life disruption and related costs. Using longitudinal data from the Stanford-Terman sample, the authors examine whether social disruptions resulting from late service entry increased the risk of adverse change in adult health. Apart from preservice factors, the authors found that the late-mobilized men were at greatest risk of negative trajectories on physical health. Work-life disadvantages account in part for this health effect. Pathways that link stress and physical decline are discussed in relation to social disruption.

ENGDAHL, B. E., HARKNESS, A. R., EBERLY, R. E., PAGE, W. F., & BIELINSKI, J. (1993). **Structural models of captivity**

trauma, resilience, and trauma response among former prisoners of war 20 to 40 years after release. *Social Psychiatry and Psychiatric Epidemiology, 28*, 109-115. Long-term responses to captivity trauma were measured in a national sample of American former prisoners of war. Their responses included negative affect, positive affect, and somatic symptoms as assessed by the Cornell Medical Index in 1967 and the Center for Epidemiological Study Depression Scale in 1985. These responses were strongly associated with captivity trauma (as indexed by captivity weight loss, torture, and disease) and resilience (as indexed by age and education at capture). Symptoms reported in 1967 were related to symptoms reported in 1985, suggesting symptom stability. These results are consistent with a model of trauma response that incorporates both trauma exposure and individual resilience. The findings are interpreted within a theoretical view of trauma response as adaptive when viewed from an evolutionary perspective.

FALK, B., HERSEN, M., & VAN HASSELT, V.B. (1994). **Assessment of post-traumatic stress disorder in older adults: A critical review.** *Clinical Psychology Review, 14*, 383-415. Three trauma-related areas (combat, natural and man-made disasters, and the Holocaust) are reviewed to ascertain the extent to which assessment of PTSD has been carried out with an older adult population. Investigations that include subjects who are at least 50 years of age were considered for selection in each area. Although no single assessment strategy emerged as a reliable evaluative tool, many studies in the three areas found that older adults meet diagnostic criteria for PTSD-delayed onset as long as 45 years after experiencing such trauma. Lack of consistency in the findings is discussed in terms of methodological problems, differing theoretical perspectives, and revisions in the criteria for diagnosis from DSM-III to DSM-III-R. Recommendations for future research are made with proposed DSM-IV changes in criteria and subtype considered.

FONTANA, A., & ROSENHECK, R. (1994). **Traumatic war stressors and psychiatric symptoms among World War II, Korean, and Vietnam War veterans.** *Psychology and Aging, 9*, 27-33. Three hypotheses regarding symptoms of war-related PTSD and general psychiatric distress were tested: that symptoms are more severe the more severe the traumatic exposure, regardless of the war in question; that symptoms are less severe the older the veterans' age; and that symptom levels differ across sociocultural cohorts. A total of 5,138 war zone veterans who were seeking treatment from specialized Veterans Affairs outpatient clinical teams made up the sample: 320 World War II, 199 Korean War, and 4,619 Vietnam War veterans. All hypotheses were supported significantly. The similarity of relationships between traumatic exposure and symptoms across wars testifies to the generality of these experiences. Furthermore, the results suggest the operation of significant effects due both to aging and to cohort differences in sociocultural attitudes toward the stigma of mental illness and the popularity of the wars.

NORRIS, F. H. (1992). **Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups.** *Journal of Consulting and Clinical Psychology, 60*, 409-418. The frequency and impact of 10 potentially traumatic events were examined in a sample of 1,000 adults. Drawn from four southeastern cities, the sample was half Black, half White, half male, half female, and evenly divided among younger, middle-aged, and older adults. Over their lifetimes,

69 % of the sample experienced at least one of the events, as did 21 % in the past year alone. The 10 events varied in importance, with tragic death occurring most often, sexual assault yielding the highest rate of PTSD, and motor vehicle crash presenting the most adverse combination of frequency and impact. Numerous differences were observed in the epidemiology of these events across demographic groups. Lifetime exposure was higher among Whites and men than among Blacks and women; past-years exposure was highest among younger adults. When impact was analyzed as a continuous variable (perceived stress), Black men appeared to be most vulnerable to the effects of events, but young people showed the highest rates of PTSD.

NORRIS, F., & MURRELL, S.A. (1988). **Prior experience as a moderator of disaster impact on anxiety symptoms in older adults.** *American Journal of Community Psychology, 16*, 665-683. As participants in a panel study, 234 older adults were interviewed before, as well as after, serious flooding occurred in southeastern Kentucky. Floods are not uncommon in this area, but these were more widespread than most, and resulted in both previously exposed and newly exposed subsamples of disaster victims. Flood impact was measured at both personal and community levels. With pre-flood symptoms controlled, there were modest flood effects on both trait anxiety and weather-specific distress in older adults without prior flood experience, but no flood effects in older adults who had been in floods before. Thus, the study provides support for the "inoculation hypothesis" and other conceptualizations that emphasize the advantage of being familiar or experienced with a stressor that is at hand. An implication is that "experienced" victims could be a valuable resource in prevention efforts.

PILLEMER, K., & FINKELHOR, D. (1988). **The prevalence of elder abuse: A random sample survey.** *The Gerontologist, 28*, 51-57. In this first large-scale random sample survey of elder abuse and neglect, interviews were conducted with 2020 community-dwelling elderly persons in the Boston metropolitan area regarding their experience of physical violence, verbal aggression, and neglect. The prevalence rate of overall maltreatment was 32 elderly persons per 1000. Spouses were found to be the most likely abusers and roughly equal numbers of men and women were victims, although women suffered more serious abuse. Implications for public policy are discussed.

PORT, C. L., ENGDAHL, B., & FRAZIER, P. (in press). **A longitudinal and retrospective study of PTSD among older POWs.** *American Journal of Psychiatry.* Using the Mississippi Scale for Combat Related PTSD (MPTSD), the study examined the longitudinal changes in PTSD symptom levels and prevalence rates over a four year time period among American former prisoners of war (POWs) of WWII and the Korean War. Retrospective symptom reports by WWII POWs dating back to shortly after repatriation were examined for a) additional evidence of changing PTSD symptom levels, and b) evidence of PTSD cases with a long-delayed onset. For the longitudinal portion of the study, participants were 177 community residing WWII and Korean POWs. For the retrospective portion, participants were 244 community residing WWII POWs. PTSD prevalence rates and symptom levels, as measured by the MPTSD, increased significantly over the four-year measurement interval. Retrospective symptom reports indicated that symptoms were highest shortly after the war, declined for several decades, and increased within the past two decades. Long-delayed onset of PTSD symp-

toms was rare. Demographic and psychosocial variables were used to characterize participants with increased symptoms at Time 2 and differentiate participants reporting a long-delayed symptom onset. Both longitudinal and retrospective data support a PTSD symptom pattern of immediate onset and gradual decline, followed by increasing PTSD symptom levels amongst older survivors of remote trauma.

SCHNURR, P. P., SPIRO, A., & PARIS, A. H. (2000). **Physician-diagnosed medical disorders in relation to PTSD symptoms in older male military veterans.** *Health Psychology, 19*, 91-97. The association between physician-diagnosed medical disorders and combat-related PTSD symptoms was examined in 605 male combat veterans of World War II and the Korean conflict. Physician exams were performed at periodic intervals beginning in the 1960s. PTSD symptoms were assessed in 1990. Cox regression was used to examine the onset of each of 12 disorder categories as a function of PTSD symptoms, controlling for age, smoking, alcohol use, and body weight at study entry. Even with control for these factors, PTSD symptoms were associated with increased onset of arterial, lower gastrointestinal, dermatologic, and musculoskeletal disorders. There was only weak evidence that PTSD mediated the effects of combat exposure on morbidity. Possible mediators of the relationship between combat exposure, PTSD, and physical morbidity are discussed.

SOLOMON, Z., & PRAGER, E. (1992). **Elderly Israeli Holocaust survivors during the Persian Gulf War: A study of psychological distress.** *American Journal of Psychiatry, 149*, 1707-1710. The aim of the current study was to systematically assess the psychological effects of the Persian Gulf War on a nonclinical group of elderly Israeli civilians with and without a Holocaust background. 61 elderly Holocaust survivors and 131 elderly civilians without a Holocaust background completed questionnaires in their homes. Measures included sense of safety, symptoms of psychological distress, and levels of state and trait anxiety. Findings indicate that Holocaust survivors perceived higher levels of danger and reported more symptoms of acute distress than comparison subjects. In addition, they displayed higher levels of both state and trait anxiety. Findings do not support the notion that prior experience with extreme stress has an inoculating effect that leads to greater resilience in dealing with other forms of stress. On the contrary, Holocaust experience was found to render the elderly more vulnerable rather than less. These findings of greater vulnerability among Holocaust survivors are of particular significance since they stem from a nonclinical group.

SPIRO, A., SCHNURR, P. P., & ALDWIN, C. M. (1994). **Combat-related posttraumatic stress disorder symptoms in older men.** *Psychology and Aging, 9*, 17-26. Nearly 25% of U.S. men aged 55 or older served in combat, yet its impact on aging is unknown. The relationship of PTSD symptoms to combat exposure was examined in 1,210 veterans of World War II (WWII) and the Korean War, who were participants in the Normative Aging Study. Over 54% of WWII and 19% of Korean veterans reported combat experience. The relationship between combat exposure and PTSD symptoms was stronger in the WWII cohort. The sample prevalence of PTSD by combat exposure ranged from 0% to 12.4%, differing by the PTSD measure. WWII veterans exposed to moderate or heavy combat had 13.3 times greater risk of PTSD symptoms measured 45 years later, compared with noncombat

veterans. It is suggested that military service in general, and combat exposure in particular, is a "hidden variable" in the study of aging men.

SUMMERS, M. N., HYER, L., BOYD, S., & BOUDEWYNS, P.A. (1996). **Diagnosis of later-life PTSD among elderly combat veterans.** *Journal of Clinical Geropsychology, 2*, 103-115. 114 elderly combat veterans of World War II and Korea (aged 60 years or above) were evaluated on measures of PTSD developed for use with Vietnam veterans. Criterion measures of PTSD were interviewer-rated scales that were independently corroborated. The self-report scales included the Mississippi Scale for Combat Related PTSD, the MMPI-PK subscale (MMPI-2), the Impact of Events Scale, and the PTSD Scale from the Symptom Checklist 90-Revised. As hypothesized, these PTSD measures proved to discriminate between veterans with and without PTSD (full and no PTSD), with lower cutoff scores than applicable to other age groups. Correct classification ratios were also presented for each scale. Implications for the use of these measures with elderly veterans and directions for future research are discussed.

YEHUDA, R., KAHANA, B., BINDER-BRYNES, K., SOUTHWICK, S. M., MASON, J. W., & GILLER, E. L. (1995). **Low urinary cortisol excretion in Holocaust survivors with posttraumatic stress disorder.** *American Journal of Psychiatry, 152*, 982-986. The authors' objective was to compare the urinary cortisol excretion of Holocaust survivors with PTSD ($N = 22$) to that of Holocaust survivors without PTSD ($N = 25$) and comparison subjects not exposed to the Holocaust ($N = 15$). 24-hour urine samples were collected, and the following day, subjects were evaluated for the presence and severity of past and current PTSD and other psychiatric conditions. Holocaust survivors with PTSD showed

significantly lower mean 24-hour urinary cortisol excretion than the two groups of subjects without PTSD. Multiple correlation analysis revealed a significant relationship between cortisol levels and severity of PTSD that was due to a substantial association with scores on the avoidance subscale. The present findings replicate the authors' previous observation of low urinary cortisol excretion in combat veterans with PTSD and extend these findings to a non-treatment-seeking civilian group. The results also demonstrate that low cortisol levels are associated with PTSD symptoms of a clinically significant nature, rather than occurring as a result of exposure to trauma per se, and that low cortisol levels may persist for decades following exposure to trauma among individuals with chronic PTSD.

YEHUDA, R., KAHANA, B., SCHMEIDLER, J., SOUTHWICK, S. M., WILSON, S., & GILLER, E.L. (1995). **Impact of cumulative lifetime trauma and recent stress on current posttraumatic stress disorder symptoms in Holocaust survivors.** *American Journal of Psychiatry, 152*, 1815-1818. The purpose of this study was to examine the relationships among cumulative lifetime trauma, recent stressful events, and presence and severity of current PTSD symptoms in Holocaust survivors and nonexposed comparison subjects. Lifetime trauma, recent stressful events, and presence and severity of PTSD were assessed in Holocaust survivors ($N = 72$) and comparison subjects ($N = 19$). Survivors with PTSD ($N = 40$) reported significantly greater cumulative trauma and recent stress than survivors without PTSD ($N = 32$) and comparison subjects. Severity of PTSD symptoms, cumulative trauma, and recent stress were significantly associated. The presence and severity of current PTSD were related to having experienced stressful events in addition to the Holocaust.

ADDITIONAL CITATIONS Annotated by the Editor

DANIELI, Y. (1997). **As survivors age: An overview.** *Journal of Geriatric Psychiatry, 30*, 9-26.

Discusses why aging may be particularly difficult for Holocaust survivors and provides a multidimensional framework for understanding the long-term effects of trauma in this population.

EATON, W., SIGAL, J. J., & WEINFELD, M. (1982). **Impairment in Holocaust survivors after 33 years: Data from an unbiased community sample.** *American Journal of Psychiatry, 139*, 773-777.

Compared 135 Holocaust survivors and 133 controls from a community sample of Jewish adults. Mental health symptoms were elevated in the survivors, particularly among those who perceived a rise in anti-Semitism within the prior 5 years.

GOENJIAN, A. K., NAJARIAN, L. M., PYNOOS, R. S., STEINBERG, A. M., MANOUKIAN, G., TAVOSIAN, A., & FAIRBANKS, L. A. (1994). **Posttraumatic stress disorder in elderly and younger adults after the 1988 earthquake in Armenia.** *American Journal of Psychiatry, 151*, 895-901.

Studied PTSD in 179 earthquake survivors. Older and younger survivors were comparable in overall PTSD severity, although the older group had relatively higher arousal symptoms and lower intrusive symptoms.

HAREL, Z., KAHANA, B., & KAHANA, E. (1988). **Psychological well-being among Holocaust survivors and immigrants in Israel.** *Journal of Traumatic Stress, 1*, 413-429.

Compared 180 Holocaust survivors with 160 socioculturally similar controls, both of whom were drawn from non-treatment-seeking samples. Survivors had worse outcomes than controls—e.g., poorer health, lower morale—but appeared healthier than treatment-seeking survivors. The two groups had similarities and differences in factors that predicted morale.

HYER, L.A. & WOODS, M.G. (1998). **Phenomenology and treatment of trauma later in life.** In V.M. Follette, J.I. Ruzek, & F.R. Abueg (Eds.), *Cognitive-behavioral therapies for trauma* (pp. 383-414). New York: Guilford Press.

Applied knowledge about psychotherapy for older adults to the specific problem of treating PTSD in this population. The authors present a model and describe the application of their approach to the treatment of a Korean conflict veteran.

KNIGHT, B. G., GATZ, M., HELLER, K., & BENGSTON, V. L. (2000). **Age and emotional response to the Northridge earthquake: A longitudinal analysis.** *Psychology and Aging, 15*, 627-634.

Examined depression before and after an earthquake in 166 adults who were categorized into 1 of 3 age groups: 30-54, 55-75,

and 76+. The middle group was the least depressed before and after the earthquake.

MAERCKER, A. (in press). **Life-review technique in the treatment of PTSD in elderly patients: Rationale and report on three single cases.** *Journal of Clinical Geropsychology*.

Developed a structured life-review technique for treating PTSD in older adults. The author describes the treatment and then presents 3 cases. Analyses of psychometric data showed that symptoms declined over time and remained lower than pretreatment values.

MCCABE, K. A., & GREGORY, S. S. (1998). **Elderly victimization: An examination beyond the FBI's index crimes.** *Research on Aging, 20*, 363-372.

Used data from the FBI's National Incident-Based Reporting System to examine age differences in criminal victimization. Compared to adults under age 65, adults over age 65 were more likely to experience robbery, intimidation, vandalism, and forgery/fraud. Among the older group, women were more likely than men to experience violent crimes like rape and murder.

PERETZ, T., BAIDER, L., EVER-HADANI, P., & DE-NOUR, A. K. (1994). **Psychological distress in female cancer patients with Holocaust experience.** *General Hospital Psychiatry, 16*, 413-418.

Examined the effect of Holocaust experience on psychological distress in 82 female cancer patients and 71 women who did not have cancer. Holocaust survivors with cancer were more symptomatic than Holocaust survivors without cancer, and cancer patients and healthy controls who did not experience the Holocaust.

SCHNURR, P. P., SPIRO, A., ALDWIN, C. M., & STUKEL, T. A. (1998). **Physical symptom trajectories following trauma exposure: Longitudinal findings from the Normative Aging Study.** *Journal of Nervous and Mental Disease, 186*, 522-528.

Modeled physical symptoms trajectories in 1079 older male military veterans who were prospectively studied since the 1960s. The combined experience of combat and civilian trauma

was associated with a 16% higher rate of symptoms, compared with the rate in nontraumatized veterans.

SUTKER, P. B., VASTERLING, J. J., BRAILEY, K., & ALLAIN, A. N. (1995). **Memory, attention, and executive deficits in POW survivors: Contributing biological and psychological factors.** *Neuropsychology, 9*, 118-125.

Examined the relationships among weight loss during captivity, neuropsychological dysfunction, and PTSD symptoms in 108 repatriated prisoners of war from World War II or the Korean conflict. Both psychological and physical effects of captivity were uniquely associated with neuropsychological outcomes.

WOLKENSTEIN, B. H. & STERMAN, L. (1998). **Unmet needs of older women in a clinic population: The discovery of possible long-term sequelae of domestic violence.** *Professional Psychology: Research and Practice, 29*, 341-348.

Studied abuse histories in treatment-seeking women age 55 or older and found that 93% of women at a community mental health center and 85% of women at a senior mental health center reported a history of child abuse or adult domestic abuse. Two case studies are included.

YEHUDA, R., ELKIN, A., BINDER-BRYNES, K., KAHANA, B., SOUTHWICK, S. M., SCHMEIDLER, J., & GILLER, E. L. (1996). **Dissociation in aging Holocaust survivors.** *American Journal of Psychiatry, 153*, 935-940.

Studied dissociation in 60 Holocaust survivors and 16 elderly community controls. Compared with survivors who did not have PTSD, survivors who had PTSD reported higher dissociative scores, although both groups had lower scores than other traumatized groups.

ZEISS, R. A., & DICKMAN, H. R. (1989). **PTSD 40 years later: Incidence and person-situation correlates in former POWs.** *Journal of Clinical Psychology, 45*, 80-87.

Surveyed 1,112 World War II ex-POWs about PTSD and captivity experiences. Among the 442 respondents, 62% reported being intermittently troubled since repatriation, and 24% reported being continuously troubled.

PILOTS UPDATE

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cited by—as many of their colleagues as possible. Any barrier to the widespread availability of their publications works against their interests. This sets up an obvious conflict of interest between the scientific community, who are both the suppliers of publishers' input and the consumers of their output, and the publishers. A business model that alienates both one's suppliers and one's customers is probably not a good one on which to base a company's future.

Thousands of researchers have signed a pledge not to cooperate with publishers who refuse to disseminate their publications for free after a fixed period of time. Many scientific societies are exploring alternatives to traditional publishing arrangements. In some disciplines preprint servers and other Web-based services have already assumed

many of the roles traditionally played by printed journals.

We do not know exactly how these trends will change scientific communication, but we are working to ensure that we are prepared for whatever these changes might be. We do our best to keep up with new developments in communications technology, and we are fortunate that the Dartmouth College Information System, which hosts our bibliographic databases, has long been one of the leaders in this area. We also do our best to keep up with sociological, economic, and political trends in scientific communication. Our membership in the National Federation of Abstracting and Information Services puts us in constant touch with the leading producers and distributors of bibliographic databases, and helps us to keep the PILOTS database on track so that we can continue to serve the needs of psychotrauma researchers and clinicians.

PILOTS UPDATE

Keeping a bibliographic database up to date is not just a matter of seeking out the current literature and indexing it quickly. It is also necessary to follow developments in scientific communication and publishing, and to ensure that these developments do not render the database irrelevant to the needs of its potential users. There have been many changes in the information environment since we began producing the PILOTS database. We have put a lot of effort into tracking those changes, understanding their implications, and changing the way we do business.

When we began the PILOTS database, most bibliographic searching was done by librarians and other intermediaries. Database vendors often charged by the minute for access to their files. An inept searcher might easily run up a large bill by fumbling with a search while the meter was ticking—and still not be satisfied with the results of that search. It was much more cost-effective for an expert searcher to work together with the end user to produce a list of the required citations. With any luck, many of the actual publications might be found in the end user's own library, or in a library nearby. But others would need to be ordered by interlibrary loan, and it might be weeks or months before they finally reached their intended reader.

A lot has changed since then. Database searching has become more user-friendly. Today bibliographic databases routinely offer end users a graphical interface, and even expert searchers type in their commands across the

World Wide Web. The search results often contain the complete text of the publications retrieved, or hypertext links to facsimiles of the entire documents. Instead of weeks or months, the information needed is available in minutes or seconds.

"I want it all, for free, on my desktop, now." A speaker at a recent NFAIS conference summed up the attitude of the typical information seeker, conditioned by access to the vast resources of the World Wide Web. That demand may be an unrealistic one, but it is one that the information industry will have to learn to live with. Those companies that expect to make a living charging for information will need to offer their potential customers a good reason to pay for information that they believe they can and should get for free.

Some of these companies—the ones that publish scientific journals—have got another problem. When scientific communication depended upon mailing printed publications around the world, researchers had few other options. In an age when anyone can establish a website, and when documents can be transmitted at practically no cost, the need for traditional publishers is not so obvious. Many participants in the scientific communication process are questioning the need for researchers to relinquish their publications free of payment to commercial entities that will then charge their colleagues large sums of money to read them.

Researchers want to have their work known to—and
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