We thank Dohrenwend et al. (1), Smith et al. (2), and Hoge (3) for their perspectives on our paper (4). In their letter, Dohrenwend et al. note that our 1.6% incidence rate of posttraumatic stress disorder (PTSD) (4) is “far lower than rates of ‘probable PTSD’ estimated in previous research of troops serving in Iraq and Afghanistan that has relied on symptom screening scales” (1, p. 1093) such as the PTSD Checklist (PCL) (5). The resulting inference—that survey scales would have produced substantially higher incidence estimates in our sample—is likely wrong. To illustrate, Smith et al. (6) recently reported PTSD estimates, based on survey
results, of 2.8% and 5.7% for deployed Marines without and with combat exposure, respectively. This finding is important because, to our knowledge, it is the only published data on cohorts comparable to ours, meaning that Smith et al. reported PTSD in deployed Marines experiencing varying levels of combat exposure.

In addition, Terhakopian et al. (7) recently demonstrated that the uncalibrated use of the PCL for incidence estimation, as is commonly the case, may lead to large errors. Terhakopian et al. found that applying the sensitivity and specificity of the PCL to a population with a true PTSD prevalence rate of 15% would result in 27% screening positive for PTSD, almost double the true prevalence. Therefore, one might view PCL-based incidence estimates as an upper bound biased by false positives and estimates based on the International Classification of Diseases, Ninth Revision as a lower bound biased by avoidance of treatment. Most critically, no matter whether surveys or diagnoses are used, estimates of the incidence of PTSD in Marines remain in the low single digits.

Dohrenwend et al. (1) also suggest the possibility that our cohorts may be biased by high stigma among Marines selected for combat. However, research (8, 9) indicates that perceptions of stigma are highest among individuals with mental disorders and/or those experiencing relatively higher levels of emotional distress. Dohrenwend et al.’s proposition about high stigma among Marines selected for combat therefore leads to an untenable scenario wherein troops with mental disorders are also the most likely to be sent to combat. We are aware of no data suggesting that this argument is plausible.

Dohrenwend et al. (1) imply that the association between psychiatric problems and early separation from military service is not well documented. We disagree, and we can point to an extensive literature supporting our position (10–12).

In another letter about our article (4), Hoge (3) states that “any analyses of electronic International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) mental disorder 290-319 codes used in the military health care system will lead to grossly erroneous conclusions about incidence and prevalence” (3, p. 1095) in part because “military mental health professionals no longer record ICD-9-CM 290-319 diagnostic codes in the majority of their clinical encounters, even as the primary diagnosis” (3, p. 1095). We have examined the source given for this statement (13) and believe that the referenced manuscript (Table 5, specifically) contradicts the claim; ICD-9-CM mental disorder 290-319 codes are reported in far greater numbers than V-codes in the referenced manuscript. Interestingly, we also observed that the referenced manuscript used V-codes reflecting marriage and family problems as proxy measures of mental health, a practice likely to produce distorted conclusions. Additionally, data published by the Armed Forces Health Surveillance Center indicate that the use of psychiatric ICD-9-CM mental disorder codes has continued to increase since 2004, directly contradicting Hoge’s (3) concern (14).

Hoge (3) also comments that a true healthy warrior effect would need to include comparison of rates among combat deployed and nondeployed persons who had also completed their first 6 months of service. Our data (4) (and Figure 1 in the paper) demonstrated that the healthy warrior effect persists beyond the first 6 months of service and was evident throughout the study period.

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