We thank Dr. Kawada (1) for his comments on our paper (2). With regard to our Insomnia Rating Scale (IRS), Dr. Kawada suggests that “if one prefers to use the original IRS with a 5-component sleep disturbance score as an independent variable, one should not use sleep duration as another independent variable, to avoid overadjustment” (1, p. 838). His concern assumed that our measure of sleep disturbance—one of the main exposures in our paper—contained the sleep duration component, but this was not the case. As we described in our paper (2), our measure of sleep disturbance was the Women’s Health Initiative IRS developed by Levine et al. (3). Sleep disturbance was estimated from the following 5 items: 1) Did you have trouble falling asleep? 2) Did you wake up several times at night? 3) Did you wake up earlier than you planned to? 4) Did you have trouble getting back to sleep after you woke up too early? 5) Overall, how was your typical night’s sleep during the past 4 weeks? These items are intended to assess sleep latency, sleep maintenance insomnia, early morning awakening, and sleep quality. The measure does not include sleep duration. Secondly, we did not adjust for sleep duration in the model of sleep disturbance as an independent variable. Thus, the analysis of sleep duration as a separate independent variable did not overadjust for the findings of sleep disturbance. Thirdly, we agree with Dr. Kawada that sleep duration may not reflect sleep quality. That is why we assessed sleep duration separately as another independent variable in the study. Finally, in response to Dr. Kawada’s suggestion that “overall sleepy feeling” be
excluded from the components of the IRS (1, p. 838), we think it is a good idea to explore; however, as we mentioned in our paper, the Women’s Health Initiative IRS was developed by Levine et al., and its reliability and validity have been evaluated in 2 studies (4). It was reported that the Women’s Health Initiative IRS has very good short-term test-retest reliability and acceptable internal consistency (4). Thus, we think it would be better to verify Dr. Kawada’s suggested modification to the sleep disturbance score before using it.

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REFERENCES

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