et al's reasons for rejecting the three-factor solution was that their third factor comprised heterogeneous items loading for both anxiety (items 7 and 11) and depression (item 14). Our three-factor structure discriminates the original depression factor and two separate constructs of anxiety: 'psychic anxiety' (items 3, 5, 9 and 13) and 'psychomotor agitation' (items 1, 7 and 11). This factor solution captured 48.6% of the variance and was relatively robust; it was not influenced by gender ratio and was also found in two random halves.

Two reasons may account for these discrepancies between our results. First, because of the high proportion of HAD scale non-completers (44%), Mykletun *et al*'s sample may have been biased. Patients with depression are probably not prone to answer such surveys and may therefore be underrepresented. Second, the factor structure of the HAD scale may not be stable across different categories of subjects: those with heterogeneous mental problems and those specifically suffering from major depression.

The HAD scale is not only useful for its initial screening purpose. It also showed potential ability in assessing change in specific symptoms of anxiety ('psychic anxiety' and 'psychomotor agitation' factors of the scale) during antidepressant treatment (Friedman *et al*, 2001). Moreover, recognition and monitoring of psychomotor agitation has several clinical implications: it is a potential side-effect of some antidepressants (Nutt, 1999), it may predict antidepressant response (Flament *et al*, 1999), it may predict adverse outcome and increase the risk of suicide (Schatzberg & DeBattista, 1999).

Declaration of interest

S.F. has formerly been CNS medical adviser for Pfizer France; J-C.S. has received fees from Pfizer France; J.D.G. has received fees from several pharmaceutical companies.

Flament, M. F., Lane, R. M., Zhu, R., *et al* (1999) Predictors of an acute antidepressant response to fluoxetine and sertraline. *International Clinical Psychopharmacology*, **14**, 259–275.

Friedman, S., Samuelian, J. C., Lancrenon, S., *et al* (2001) Three-dimensional structure of the Hospital Anxiety and Depression Scale in a large French primary care population suffering from major depression. *Psychiatry Research*, **104**, 247–257.

Mykletun, A., Stordal, E. & Dahl, A. A. (2001) Hospital Anxiety and Depression (HAD) scale: factor structure, item analyses and internal consistency in a large population. *British Journal of Psychiatry*, **179**, 540–544.

Nutt, D. J. (1999) Care of depressed patients with anxiety symptoms. *Journal of Clinical Psychiatry*, **60** (suppl. 17), S23–S27.

Schatzberg, A. F. & DeBattista, C. (1999) Phenomenology and treatment of agitation. *Journal of Clinical Psychiatry*, **60** (suppl. 15), S17–S20.

S. Friedman, C. Even Clinique des Maladies Mentales et de l'Encéphale (CMME), Centre Hospitalier Sainte-Anne, 1 rue Cabanis, 75674 Paris Cedex 14, France

J.-C. Samuelian CMU de la Timane, Aix Marseille II, France

J. D. Guelfi CMME, Centre Hospitalier Sainte-Anne, Paris, France

Authors' reply: Friedman *et al* raise doubts as to the two-factor structure of the HAD scale reported by us. The size of our sample (n=51 930) allowed us to test our finding in several sub-samples. Using principal-components analysis, the same two-factor solution was also found in all sub-samples reporting somatic and psychiatric problems, as well as in all age- and gender-groups from 20 to 89 years. This indicates that the two-factor structure of the HAD scale is robust and stable. Therefore, eventual minor biases due to response rates cannot account for the discrepancy between Friedman *et al*'s and our findings. Our third factor, which emerged only in sub-samples with low depression scores, always showed a low eigenvalue. Our results are in accordance with the conclusions of a recent literature review on the HAD scale (Bjelland *et al*, 2002) which concludes that a two-factor solution is most commonly found.

Friedman *et al* (2001) have a sample (n=2669) characterised by major depression (DSM–IV), which corresponds to high depression and probably variable anxiety scores on the HAD scale. When performing factor analysis, composition of the sample is essential for the results. If an inclusion criterion restricts the variance and covariance of the variables entered in the factor analysis, this will influence the factor solution found. The results by Friedman *et al* can be interpreted as a consequence of their restriction of their sample to major depression only, as this restricts the covariance between items on the HAD scale. In our sub-sample with *various* mental problems (n=2098) the two-factor solution is robust with high explained variance (82.1%).

Friedman *et al*'s findings are of interest, however, since they answer the question: What is the factor structure of the HAD scale when anxiety appears in major depression? Comparing the fit coefficients between two- and three-factor solutions using confirmatory factor analysis must show the advantage of a three-factor solution. Friedman *et al* seem to presume that the factor structure of anxiety found in major depression is identical to that found for anxiety in the general population.

The advantage of population samples is that selection bias is minimised. In several of our studies based on the unselected HUNT-II population (from the Nord-Trøndelag Health Study) we have found results at variance with those of clinical samples (Engum *et al*, 2002; Wenzel *et al*, 2002). This could also explain the discrepancy between Friedman *et al*'s and our results.

Bjelland, I., Dahl, A. A., Haug, T. T., *et al* (2002) The validity of the Hospital Anxiety and Depression Scale. An updated literature review. *Journal of Psychosomatic Research*, **52**, 69–77.

Engum, A., Bjøro, T., Dahl, A. A., *et al* (2002) An association between depression, anxiety and thyroid function – a clinical fact or an artefact? *Acta Psychiatrica Scandinavica*, in press.

Friedman, S., Samuelian, J.-C., Lancrenon, S., *et al* (2001) Three-dimensional structure of the Hospital Anxiety and Depression Scale in a large French primary care population suffering from major depression. *Psychiatry Research*, **104**, 247–257.

Wenzel, H. G., Haug, T. T., Mykletun, A., *et al* (2002) A population study of anxiety and depression among persons who report whiplash traumas. *Journal of Psychosomatic Research*, in press.

A. A. Dahl, A. Mykletun, E. Stordal
Department of Psychiatry, Aker University Hospital, N-0320 Oslo, Norway

Follow-up of childhood depression: historical factors

The study by Fombonne *et al* (2001), following adolescents with diagnoses of major depressive disorder into adulthood, raises some questions pertaining to the era when they were diagnosed (1970–1983).

First, it was only in the early 1980s that child abuse began to come into the awareness of professionals and, a few years later, the general public. Therefore, it is possible that some of the young people identified with depressive disorders may have had a history of sexual abuse which was not disclosed or enquired about. This raises the question of what would have been the outcome in those young people who had been sexually abused had they made disclosures and had appropriate therapeutic intervention for this. It is well known that

https://doi.org/10.1192/S0007125000161987 Published online by Cambridge University Press