orexin-A has been proposed: in particular, for ELISA, the cut-off has been suggested at approximately 50 pg/mL.[5,6]

Hence, considering the need to develop a simpler and less expensive method to measure CSF orexin-A, we further support the work by Ono *et al.*, given the need for a new controlled method for assessing CSF orexin-A concentration.

Disclosure statement

The authors have no conflicts of interest to declare.

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Reliability and validity of the resilience competency scale: Japanese short version

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Psychological resilience is a crucial element in recovery from stressful experiences. Efforts to enhance resilience have been made in the field of occupational medicine, but resilience rating scales focusing on worker populations are few. The Resilience Competency Scale (RCS)[1] is a six-factor (connection, optimism, mental agility, self-awareness, self-regulation, character strengths), 20-item self-report questionnaire developed to evaluate the effect of resilience training in the US Army. We tested the reliability and validity of the RCS Japanese version in the Japan Ground Self-Defense Force (JGSDF) personnel. In a preliminary interview we confirmed the six factors. Two cross-sectional studies were conducted: (i) examination of the RCS for goodness of fit, and development of its short version; and (ii) examination of the reliability and validity of the short version (Table S1).

This study was approved by the ethics committee of the National Defense Academy. Informed consent was obtained prior to participation. In study 1, data were collected from a single JGSDF troop (n = 326). The goodness of fit for the Japanese version of the 20-item RCS was low (Fig. S1). Therefore, we deleted items with a low standardized estimate so that the Akaike information criterion would decrease (Table S2). The result was the RCS Japanese short-version (RCS-JS), consisting of six factors and 12 items (Table S3), which showed sufficient goodness of fit [χ^2 = 99.176, d.f. = 39, P < 0.001; goodness-of-fit index (GFI) = 0.954; adjusted GFI (AGFI) = 0.907; comparative fit index (CFI) = 0.970; root mean square error of approximation (RMSEA) = 0.069].

In study 2, we collected data from 945 randomly sampled JGSDF personnel and evaluated the general suitability of the RCS-JS. Confirmatory factor analysis showed sufficient goodness of fit (χ^2 = 122.587, d.f. = 39, P < 0.001; GFI = 0.979; AGFI = 0.958; CFI = 0.988; RMSEA = 0.048), and internal consistency reliability was excellent (Cronbach's alpha = 0.92, Table S4). The RCS-JS positively correlated with the Connor–Davidson Resilience Scale[2] (r = 0.65, P < 0.001) and negatively correlated with the Kessler Psychological Distress Scale[3] (r = −0.37, P < 0.001), demonstrating concurrent and construct validity (Table S5).

Several limitations should be noted. Although the six factors were confirmed in a preliminary interview, a portion of the development process was arbitrary. The RCS-JS does not take Japanese culture into consideration, which might induce low goodness of fit for the original RCS. Despite these limitations, the RCS-JS might be useful to evaluate resilience in JGSDF personnel or other worker populations who deal with emergency situations.

Disclosure statement

The authors have no conflicts of interest to declare.

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Figure S1. Confirmatory factor analysis for the original RCS 20-item version (study 1).

Table S1. Demographic variables.

Table S2. Confirmatory factor analysis of the RCS from the 20-item version to the 12-item version (study 1).

Table S3. RCS original and Japanese versions.

Table S4. Confirmatory factor analysis and inter-factor correlations for the RCS-JS (study 2).

Table S5. Correlations between the scales (study 2).

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