SCALE FOR MOOD ASSESSMENT (EVEA)

IDENTIFICATION

Original name (in Spanish): *Escala de Valoración del Estado de Ánimo* (EVEA)

Name in English: Scale for Mood Assessment (EVEA) [also known as Mood Evaluation Scale; Pacheco-Unguetti, Acosta, Callejas & Lupiáñez, 2010)

Author: Jesús Sanz

Year: 2001 (EVEA first appeared in a doctoral dissertation by Sanz, 1993)

Versions: There are a Spanish adaptation developed by Pereira and Vargas (2005) for Venezuelans, an English translation carried out by Sanz (2013), and a brief English version developed by Álvaro Sánchez, Carmelo Vázquez and Jutta Joormann for the US population (Sánchez López, 2011, study 3; Sanchez, Vazquez, Marker, LeMoult & Joormann, 2013; A. Sánchez, personal communication, April 12, 2013). This brief English version does not include the anger-hostility subscale and the remaining three subscales are composed by three items (instead of the four items of the original subscales); however, their indices of internal consistency reliability are still appropriate (.88, .92 and .86 for the subscales of happiness, anxiety, sadness-depression, respectively) and their scores are still sensitive to changes in mood induced by mood induction procedures (Sanchez et al., 2013).

CHARACTERISTICS

Type of instrument: A self-report inventory with a paper-and-pencil format.

Aim: The EVEA is aimed at assessing current mood, especially in the context of the administration of a mood induction procedure (MIP), but it can be used whenever there is a need to measure transitory moods at any one time.

Population: The EVEA was developed with samples of Spanish university students and has been widely researched and validated in that kind of samples. However, several studies have used the EVEA in other kind of samples, both non-clinical (e.g., adults from the general population) and clinical ones (e.g., adult patients with major depressive disorder, adult patients with persecutory delusion, patients with anxiety disorders).

Number of items: 16

Description: The EVEA was developed as an instrument "to measure transitory moods in studies using mood induction procedures" (Sanz, 2001, p. 71). The EVEA is composed of 16 items. Each item has an 11-point Likert scale (from 0 to 10), flanked by

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the words "not at all" (0) and "very much" (10), that presents, in its left margin, a short statement describing a mood. All 16 statements have the same structure; all of them begin with the expression "I feel" and end with an adjective describing a mood (e.g., "I feel sad", "I feel happy"). The EVEA tries to assess four moods; anxiety, anger-hostility, sadness-depression, and happiness. Each mood is measured by four items with different adjectives, and these four items define a subscale. All items of a given subscale are worded in the same direction.

Psychometric properties:

Reliability: In a variety of Spanish samples totalizing between 542 and 1269 participants, internal consistency reliability indices (Cronbach's *alpha* coefficients) ranging from .86 to .92, with a mean of .88, have been reported for the sadness-depression subscale; for the anxiety subscale, those indices ranged from .92 to .94, with a mean of .92; for the anger-hostility subscale, they ranged from .93 to .95, with a mean of .93, and, for the happiness subscale, they ranged from .88 to .96, with a mean of .92 (Sanz, Gutiérrez y García-Vera, 2013). With Spanish university students, Sanz (2001) obtained 7-minute test-retest reliability indices of .64 and .62 for the sadness-depression subscale, of .63 and .50 for the anxiety subscale, of .73 and .55 for the anger-hostility subscale, and of .81 and .72 for the happiness subscale. Sanz (2001) also obtained 25-minute test-retest reliability indices of .76, .28, .67, and .88 for the sadness-depression, anxiety, anger-hostility, and happiness subscales, respectively.

Validity: Several studies have found good *convergent validity* indices for the EVEA in a variety of samples (e.g., university students, adults from the general population, patients with psychological disorders), especially for its sadness-depression and anxiety subscales. These studies have showed that the EVEA is moderately or highly correlated to other self-report measures of mood such as the positive and negative affect subscales of the Positive and Negative Affect Schedule (PANAS), to other self-report of anxiety such as the Beck Anxiety Inventory (BAI) or the trait and state anxiety subscales of the State-Trait Anxiety Inventory (STAI), or to other self-report of depression such as the 1978 version of the Beck Depression Inventory (BDI-IA), the second edition of the Beck Depression Inventory (BDI-II) or the Zung Self-Rating Depression Scale (SDS) (e.g., Pacheco-Unguetti et al., 2010; Pino-Sedeño et al., 2010; Provencio Ortega, 2012; Romero Martín, 2012; Sanz, 2001). For example, in a sample of 35 university students, Pacheco-Unguetti et al. (2010) found a high correlation of .81 between the EVEA anxiety subscale and the STAI state anxiety subscale. After reviewing seven studies analyzing the relationship of the EVEA sadness-depression subscale with the BDI-IA, BDI-II and SDS and totalizing a sample of 857 participants, Sanz et al. (2013) found a mean correlation coefficient of .52 between both instruments. Finally, with a sample of 140 university students, Pino-Sedeño et al. (2010) found that the EVEA anxiety and sadness-depression subscales were highly correlated with the PANA negative affect subscale (.64 and .74, respectively), whereas the EVEA happiness subscale was highly correlated with the PANA positive affect subscale (.67).

Concerning *discriminant validity* indices for the EVEA, although scientific literature shows that instruments assessing different moods are moderately or highly correlated among themselves, the correlation among the EVEA subscales are lower than those

shown by other instruments among their subscales. For example, after reviewing three studies analyzing the correlations among the EVEA negative mood subscales (sadness-depression, anxiety, and anger-hostility subscales), Sanz et al. (2013) reported that those correlations ranged from .34 to .78, with a mean correlation of .47. This discriminant validity coefficient is substantially lower than those found in the scientific literature on other self-report instruments assessing mood. For example, the anxiety, depression and hostility subscales of the MAACL and of its revised version (MAACL-R) show correlations among themselves ranging between .70 and .90 for the MAACL and between .61 and .62 for the MAACL-R (Watson & Clark, 1997), whereas the correlations among the fear, sadness and hostility subscales of the expanded form of the PANAS (PANAS-X; Watson & Clark, 1994b) range between .49 and .61, with a mean correlation of .56, and the correlations among the tension-anxiety, depression and anger-hostility subscales of the Profile of Mood States (POMS; McNair, Lorr & Droppleman, 1971) range between .63 and .69, with a mean correlation of .66 (Watson & Clark, 1997).

Data supporting EVEA scores' construct validity concerning its ability to distinguish between groups that it should theoretically be able to distinguish between have been found in four studies (Pacheco-Unguetti et al., 2011; Provencio Ortega, 2012, studies 2 and 3; Romero Martín, 2012, study 2; see Sanz et al., 2013). These studies revealed, for example, that, as it can be expected and in comparison to normal or no-disorder persons, patients with major depressive disorder scored significantly higher in the EVEA sadness-depression subscale (Cohen's d = from 1.59 to 1.73) and significantly lower in the EVEA happiness subscale (Cohen's d = from -1.36 to -1.52) (Romero Martín, 2012, study 2), whereas patients with anxiety disorders scored significantly higher in the EVEA anxiety subscale (Cohen's d = 1.49) (Pacheco-Unguetti et al., 2011). Sánchez López (2011, study 3) has also found statistically significant differences between participants with major depressive disorder and without any psychological disorder in the anxiety, sadness-depression and happiness subscales of the short English version of the EVEA.

Data concerning *factorial validity* for the EVE are also good since they consistently indicate in two studies with university students the existence of four factors perfectly defined by the items that compose the four subscales of the instrument (Pino-Sedeño et al., 2010; Sanz, 2001).

Finally, and more importantly for the objectives of the EVEA, its subscales have shown sensitivity to change after the administration of a variety of MIPs (e.g., music, autobiographic recall, video, guided imagination, images) aimed at inducing anxiety, sadness-depression or happiness. Particularly, the EVEA negative mood subscales (sadness-depression, anxiety, and anger-hostility subscales) have shown their ability to detect changes due to MIPs and, in general, such as changes have been higher and more consistent in the EVEA subscales related to the moods that were intended to be induced. Thus, according to Sanz et al.'s (2013) review, four out of five studies (e.g., Pacheco-Unguetti et al., 2012, study 2; Sanz, 1994a, cited in Sanz, 2001) reported that the EVEA anxiety subscale showed significant pre-post increases after MIPs to induce anxiety, and such increases were great in terms of their effect sizes (Cohen's d = from 1.09 and

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1.26), whereas 10 out of 11 studies (e.g., Sanz, 1994b, 1997, cited in Sanz, 2001; Hervas & Vazquez, 2013, studies 2 and 3a) reported that the EVEA sadness-depression subscale showed significant pre-post increases after MIPs to induce sadness-depression, and, in general, such increases were also great in terms of their effect sizes (Cohen's $d =$ from .62 and 2.20, with a mean of 1.31). Moreover, the sadness-depression, anxiety and happiness subscales of both the Venezuelan version of the EVEA and the brief English version of the EVEA have also shown their ability to detect changes in sadness, happiness and anxiety induced by MIPs (Pereira & Vargas, 2005; Sánchez López, 2011, study 3). On the other hand, the EVEA sadness-depression and happiness subscales have also been shown to be sensitive to natural changes in mood in university students (Hervas & Vazquez, 2013, study 1).

ADMINISTRATION

Estimated administration time: 1-2 minutes.

Norms for administration: The EVEA instructions emphasize the assessment of current, transitory moods by asking respondents to circle the number from 0 ("Not at all") to 10 ("Very much") that best indicates how he or she "feel right now", at the very moment of completing the questionnaire. At developing the EVEA, the order of item presentation was randomized, with the proviso that two items of a given subscale could not occur in succession.

Scoring and interpretation: Each item is scored between 0 and 10 points as a function of the answer of the person being examined. After summing the score of the four items of each subscale and dividing the sum by 4, four total scores are obtained, one for each subscale. The ranges of these total scores are between 0 and 10. Thus, to obtain the total score of the sadness-depression subscale, the scores of the following items are summed: "melancholy", "depressed", "downcast", and "sad" (items 4, 7, 10, and 16). The total score of the anxiety subscale is obtained by summing the following items: "nervous", "tense", "anxious", and "restless" (items 1, 5, 9, and 13), whereas the total score of the anger-hostility subscale is obtained by summing the following items: "irritated", "angry", "annoyed", and "displeased" (items 2, 8, 11, and 14), and the total score of the happiness subscale is obtained by summing the following items: "happy", "optimistic", "joyful", and "cheerful" (items 3, 6, 12, and 15). Some researchers do not divide the sum of item scores for each scale by 4, and, therefore, instead of total scores ranging from 0 to 10, they obtain total scores ranging from 0 to 40 for each scale (e.g., Hervas y Vazquez, 2013; Romero Martín, 2012). Anyway, a higher score in the EVEA subscales would indicate that the respondent has a higher level of sad-depressed, anxious, angry-hostile, and happy mood, respectively. To interpret EVEA scores, normative data (means and standard deviations) provided by Sanz (2001) can be used. These normative data were obtained with a sample of 402 Spanish university students individually assessed in university laboratories. Since EVEA scores are close to normal distributions (except for hostility subscale scores; Sanz, 2001), scores higher than two standard deviations above the mean would indicate that the respondent has a higher level of sad-depressed, anxious, angry-hostile, and happy mood than 98% of the Spanish university

student population (that cutoff point is the 98th percentile and is the equivalent of a 70 T-score).

Time of administration: The EVEA has received widespread use for research purposes in mood induction research. It may be used before, during, or after MIPs. The EVEA could be also administered whenever there is a need to measure a person's current mood.

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