

Outcome Measure	Facial Expression of Emotion: Stimuli and Tests (FEEST)
Sensitivity to Change	No
Where to obtain	Previously available from Pearson Assessment/ Thames Valley Test company
Population	Adult
Domain	Social Cognition
Type of Measure	Objective test
Time to administer	Not known
Description	<p>The FEEST (Young, Perret, Calder, Sprengelmeyer, & Ekman, 2002) is a computerized tests that uses a subset of the faces taken from the Ekman and Friesen series (Ekman & Friesen, 1976). There are two subtests</p> <ol style="list-style-type: none"> 1. Emotion labelling: Sixty faces (10 each of happiness, surprise, anger, sadness, fear and disgust) are shown for 5 seconds apiece. Following this the participant is asked to select the label which best describes the emotion 2. Emotion hexagon task (30 images): Uses morphed images of two emotions that are most often confused with each other (happy-surprised; surprised- fear; fear-sadness; sadness-disgust; disgust-anger; (and anger- happiness – though these not confused usually). Each “morphed emotion” represented at 5 intensity blends: 90%; 70%; 50% 30% and 10% blend of first emotion with second. Total of 30 images shown (randomly ordered) for 5 seconds apiece. Participant asked to name the emotion that appears choosing from 6 labels.
Properties	<p><u>Normative data</u> is available for 227 people aged 20-70 years of age (IQ >90) and 5% cut-off scores are provided in the manual. Other research studies have used the 60 Faces Test with additional normative data, e.g. (Spikman, Timmerman, Milders, Veenstra, & van der Naalt, 2012) N =33; (Westerhof-Evers et al., 2017), N =88; (Trepáčová et al., 2019), N= 51; (Rowland et al., 2013) N =58.</p> <p><u>Reliability</u> (Young et al., 2002)</p> <p>60 faces test: Split half reliability 50 participants = .62 (total score); .21-.66 (individual emotions)</p> <p>Hexagon test: Split half reliability 40 participants = .92 (total score); .18-.92 (individual emotions)</p> <p><u>Concurrent Validity:</u></p> <p>FEEST 60 faces tests is associated with Empathic Concern on the IRI in people with Schizophrenia ($\beta=.41$) (Sparks, McDonald, Lino, O'Donnell, & Green, 2010). It also correlates with the audiovisual TASIT (Part 1; 0.69) (Cooper et al., 2014), measures of vocal emotion (0.65), detecting emotion from posture (0.70) and also social judgements in people with Autism Spectrum Disorders (Philip et al., 2010) and correlates with a pictorial TOM task (0.53) although not a verbal ToM task (0.42, ns) (Spikman et al., 2012).</p> <p><u>Discriminant Validity</u></p> <p>60 Faces test is performed poorly by people with temporal lobe epilepsy (Amlerova et al., 2014). It is performed poorly in people with other brain lesions. Specifically, fear is selectively poorly recognized by people with amygdala damage (Broks et al., 1998; Calder et al., 1996; Sprengelmeyer et al., 1999). People with FTD are also relatively impaired on this test (Kumfor et al., 2011), while recognition of faces is relatively preserved (Keane, Calder, Hodges, & Young, 2002). People with Alzheimer’s, known to have fewer social cognitive problems, are less impaired than those with FTD (Hsieh, Hodges, & Piguet, 2013). People with Autism Spectrum Disorder and schizophrenia, two clinical conditions associated with poor social cognition also do poorly on the 60 faces test (Sparks et al.,</p>

	2010) (Philip et al., 2010) and this is not necessarily associated with poor face recognition (Philip et al., 2010).
Advantages	<ul style="list-style-type: none"> • The Ekman Faces are the most widely used images in emotion perception research.
Disadvantages	<ul style="list-style-type: none"> • The black and white photos are very dated and lack ecological validity • Static images do not provide an ecologically valid representation of emotional expressions. • Availability may be a problem

References

- Amlerova, J., Cavanna, A. E., Bradac, O., Javurkova, A., Raudenska, J., & Marusic, P. (2014). Emotion recognition and social cognition in temporal lobe epilepsy and the effect of epilepsy surgery. *Epilepsy Behav*, *36*, 86-89. doi:10.1016/j.yebeh.2014.05.001
- Broks, P., Young, A. W., Maratos, E., Coffey, P. J., Calder, A. J., Isaac, C. L., . . . Hadley, D. (1998). Face processing impairments after encephalitis: Amygdala damage and recognition of fear. *Neuropsychologia*, *36*(1), 59-70.
- Calder, A. J., Young, A. W., Rowland, D., Perrett, D. I., Hodges, J. R., & Etcoff, N. L. (1996). Facial emotion recognition after bilateral amygdala damage: Differentially severe impairment of fear. *Cognitive Neuropsychology*, *13*(5), 699-745.
- Cooper, C. L., Phillips, L. H., Johnston, M., Radlak, B., Hamilton, S., & McLeod, M. J. (2014). Links between emotion perception and social participation restriction following stroke. *Brain Injury*, *28*(1), 122-126.
- Ekman, P., & Friesen, W. V. (1976). Pictures of facial affect. In. Palo Alto, CA: Consulting Psychological Press.
- Hsieh, S., Hodges, J. R., & Piguet, O. (2013). Recognition of positive vocalizations is impaired in behavioral-variant frontotemporal dementia. *J Int Neuropsychol Soc*, *19*(4), 483-487. doi:10.1017/s1355617712001592
- Keane, J., Calder, A. J., Hodges, J. R., & Young, A. W. (2002). Face and emotion processing in frontal variant frontotemporal dementia. *Neuropsychologia*, *40*(6), 655-665.
- Kumfor, F., Miller, L., Lah, S., Hsieh, S., Savage, S., Hodges, J. R., & Piguet, O. (2011). Are you really angry? The effect of intensity on facial emotion recognition in frontotemporal dementia. *Social Neuroscience*, *6*(5-6), 502-514
- Philip, R. C., Whalley, H. C., Stanfield, A. C., Sprengelmeyer, R., Santos, I. M., Young, A. W., . . . Hall, J. (2010). Deficits in facial, body movement and vocal emotional processing in autism spectrum disorders. *Psychol Med*, *40*(11), 1919-1929. doi:10.1017/s0033291709992364
- Rowland, J. E., Hamilton, M. K., Vella, N., Lino, B. J., Mitchell, P. B., & Green, M. J. (2013). Adaptive associations between social cognition and emotion regulation are absent in schizophrenia and bipolar disorder. *Frontiers in Psychology*, *3*(JAN). doi:10.3389/fpsyg.2012.00607
- Sparks, A., McDonald, S., Lino, B., O'Donnell, M., & Green, M. J. (2010). Social cognition, empathy and functional outcome in schizophrenia. *Schizophrenia Research*, *122*(1-3), 172-178. doi:10.1016/j.schres.2010.06.011
- Spikman, J. M., Timmerman, M. E., Milders, M. V., Veenstra, V. S., & van der Naalt, J. (2012). Social Cognition Impairments in Relation to General Cognitive Deficits, Injury Severity, and Prefrontal Lesions in Traumatic Brain Injury Patients. *Journal of Neurotrauma*, *29*(1), 101-111. doi:10.1089/neu.2011.2084
- Sprengelmeyer, R., Young, A. W., Schroeder, U., Grossenbacher, P. G., Federlein, J., Buttner, T., & Przuntek, H. (1999). Knowing no fear. *Proc Biol Sci*, *266*(1437), 2451-2456. doi:10.1098/rspb.1999.0945
- Trepáčová, M., Řezáč, P., Kurečková, V., Zámečník, P., Řezáč, J., & Kopečková, L. (2019). Differences in facial affect recognition between non-offending and offending drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, *60*, 582-589. doi:https://doi.org/10.1016/j.trf.2018.11.009

Westerhof-Evers, H., Visser-Keizer, A., Fasotti, L., C. Schönherr, M., Vink, M., Naalt, J., & Spikman, J. (2017). Effectiveness of a Treatment for Impairments in Social Cognition and Emotion Regulation (T-ScEemo) After Traumatic Brain Injury: A Randomized Controlled Trial. *Journal of Head Trauma Rehabilitation*, 32(5), 296-307. doi:10.1097/HTR.0000000000000332

Young, A., Perret, D., Calder, A., Sprengelmeyer, R., & Ekman, P. (2002). *Facial expression of emotion-stimuli and tests (FEEST)*. Bury St Edmunds, England: Thames Valley Test Company.