

Outcome Measure	The Yoni Task
Sensitivity to Change	Not known
Population	Adult
How to obtain	From the authors
Domain	Social Cognition
Type of Measure	Objective test
Time to administer	Varies
Description	<p>The Yoni task (S.G. Shamay-Tsoory & Aharon-Peretz, 2007) is a computerised task designed to measure first and second order affective and cognitive ToM. The display comprises a central schematic face “Yoni” which changes in terms of eye gaze and mouth (upturned, downturned, straight). In the four corners surrounding Yoni are either objects (first order ToM items) or other faces with adjacent objects (second order ToM items). Questions are of the form “Yoni is thinking of.”. “Yoni loves...” (1st order) or “Yoni is thinking of/loves the fruit that ---- wants/loves” (2nd order). There is also a control condition requiring physical judgements, e.g. which object is closest to Yoni. All items are scored 1 or 0.</p> <p>The original task has 64 items (24 cognitive trials, 24 affective trials, 16 physical trials, all divided into equal numbers of 1st and 2nd order). However, there have been numerous variants of this with some studies using 98 trials (with differing number of items types that make up the 98), 54 trials and 60 trials.</p>
Properties	<p><u>Internal consistency</u></p> <p>There is no published data on internal consistency</p> <p><u>Test-retest</u></p> <p>There is no published data on test-retest reliability. A sample of adults with schizophrenia were found to improve on the Yoni when tested 18 months later, suggestive of practice effects: $\eta^2 = 0.193$ (Karen K. Ho et al., 2018).</p> <p><u>Construct validity</u></p> <p>Evidence for the extent to which the Yoni task is affected by other cognitive abilities is mixed with reports that all Yoni scores are associated with IQ and working memory (Liu et al., 2017) and also the Stroop (Li et al., 2017) but alternatively, that there were no associations between the ToM aspects of the Yoni task and cognitive abilities (Bodden et al., 2010). No gender differences on the Yoni have been found (Terrien et al., 2014).</p> <p>As regards convergent validity, it has been reported that the Yoni task- 2nd order ToM- both cognitive and affective scores are associated with another task tapping ToM namely comprehension of stories containing irony ($r = .29-.35$)(S.G. Shamay-Tsoory & Aharon-Peretz, 2007). On the other hand, there appears to be no association between the Yoni task and RMET (Bodden et al., 2010). The Yoni 2nd order tasks (especially Affective) are associated with the perspective taking subscale of the IRI in three studies (Hu, Jiang, Hu, Ma, & Wang, 2016; Simone G. Shamay-Tsoory, Aharon-Peretz, & Levkovitz, 2007; Simone G. Shamay-Tsoory, Hagai Harari, Judith Aharon-Peretz, & Yechiel Levkovitz, 2010) but not another (Adjeroud et al., 2016).</p> <p><u>Discriminant validity</u></p> <p>The Yoni task is sensitive to a range of clinical disorders. This is mainly true for the 2nd order as many studies fail to find the 1st order task differentiates clinical groups (Bodden et al., 2010; Hu et al., 2016; Liu et al., 2017; S.G. Shamay-Tsoory & Aharon-Peretz, 2007; S. G. Shamay-Tsoory, H. Harari, J. Aharon-Peretz, & Y. Levkovitz, 2010; Tin et al., 2018; Wang et al., 2018; Zhang et al., 2016).</p>

	<p>With respect to the 2nd order task, this has been found to differentiate healthy adults from people with brain lesions (Hu et al., 2016; S.G. Shamay-Tsoory & Aharon-Peretz, 2007; Simone G. Shamay-Tsoory et al., 2007; S. G. Shamay-Tsoory et al., 2010), Parkinson’s Disease(Bodden et al., 2010), mild cognitive impairment (Rossetto et al., 2018), OCD (Liu et al., 2017), Huntington’s Disease (Adjeroud et al., 2016), schizophrenia (K. K. Ho et al., 2015; Karen K. Ho et al., 2018; Li et al., 2017; Simone G. Shamay-Tsoory et al., 2007; Tin et al., 2018; Zhang et al., 2016), bipolar disorder (Wang et al., 2018), high functioning autism (Tin et al., 2018) and psychopathy (S. G. Shamay-Tsoory et al., 2010).</p> <p>There is also some evidence that the affective vs cognitive tasks differentiate different clinical disorders with some evidence that the affective task is particularly difficult for people with psychopathy or ventromedial frontal lesions (S.G. Shamay-Tsoory & Aharon-Peretz, 2007; Simone G. Shamay-Tsoory et al., 2007; S. G. Shamay-Tsoory et al., 2010).</p> <p><u>Concurrent validity</u></p> <p>The Yoni task has been reported to correlate with Health-related Quality of Life in people with Parkinson’s Disease (Bodden et al., 2010). It also correlates with positive and negative symptoms exhibited by people with schizophrenia on the PANASS (Wang et al., 2018; Zhang et al., 2016) (although not always (Simone G. Shamay-Tsoory et al., 2007)) and psychopathy symptoms in psychopathic individuals (S. G. Shamay-Tsoory et al., 2010)</p> <p><u>Normative data</u></p> <p>Normative data is limited and varies depending on the number of trials. Several studies using the original 64 items version (Karen K. Ho et al., 2018; S.G. Shamay-Tsoory & Aharon-Peretz, 2007; S. G. Shamay-Tsoory et al., 2010; Tin et al., 2018) provide percent accuracy estimates (and SDs) for small samples of adults (43, 44, 20 and 30 healthy adults respectively). One study using a 54 version, presents normative data (raw scores) for 316 normal adults (Mean age 23.3 +/-7.8) (Terrien et al., 2014).</p>
Advantages	<ul style="list-style-type: none"> • Simple and has limited verbal demands • Has been used in a number of studies and is sensitive to clinical disorders • Provides the capacity to look at cognitive and affective ToM and there appears to be evidence that these dissociate in some clinical conditions.
Disadvantages	<ul style="list-style-type: none"> • Psychometrics are not established • Does correlate with cognitive abilities in some studies at least • The use of different numbers of (and possibly type of) trials across studies, limits generalisability • Very little normative information

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