

Outcome Measure	Interpersonal Negotiation Strategy (INS)
Sensitivity to Change	Yes
Population	Paediatric and adult? - Adolescents
Domain	Social Cognition
Type of Measure	Interview / Clinician-rated
ICF-Code/s	d710-d729
Description	<p>The INS (Yeates, Schultz, & Selman, 1990; also see Elman et al., 1981) measures social cognition through semi-structured interview. Four scenarios are presented to the subject, who must employ social problem-solving skills to work through four steps:</p> <ul style="list-style-type: none"> (I) defining the problem, (II) generating alternative strategies, (III) selecting specific strategy, and (IV) evaluating outcome. <p>For each task, the respondent's response is scored on a scale from 1 to 4 (impulsive = 1 point, unilateral = 2 points, reciprocal = 3 points, or collaborative = 4 points). An average score is obtained from the four problems. Higher scores indicate better interpersonal negotiation strategies.</p> <p>The test is normed for ages 6-16.</p> <p>The INS model embodies several conceptual advances compared to previous models linking social cognition to social behavior:</p> <ul style="list-style-type: none"> (1) It integrates functional (information-processing) and structural (cognitive-developmental) approaches; (2) It specifies a linkage between social cognition and action within a particular domain of social interaction; and (3) It provides for developmental, individual, and contextual variations in the expression of behavior in that domain.
Properties	<p>Inter-rater agreement: (Yeates, Schultz, & Selman, 1991)</p> <p>Two raters achieved 75% exact agreement when scoring 22 interviews of elementary and junior high school children, yielding a moderate Cohen's k of .56.</p> <p>Inter-rater reliability in this study ranged from .74 to .87. The correlation between scores representing the overall level of INS development in thought, finally, was especially high ($r = .895$).</p>

Inter-rater agreement was .89 to .98 in a more recent study (Hanten et al., 2008).

Test-retest reliability: (Yeates, Schultz, & Selman, 1991).

Across a 4-month interval, the overall score representing INS development in thought was correlated significantly, $r = .69$.

Ecological validity: (Schultz, Selman, Yeates, & Fortier-Dube, 1990).

Teachers' and counselors' mean ratings of INS development was significant, $r = .36$ (lower correlation due to rating of different contexts). Studies have demonstrated that children differentiate between contexts on the INS Interview, utilising higher-level problem-solving when contexts involve children rather than adults, or familiar rather than unfamiliar participants (Adalbjarnardottir & Selman, 1989; Selman et al., 1986; Yeates et al., 1991). One of these studies also showed that the level of the problem-solving steps within contexts did not vary despite this contextual differentiation (Yeates et al., 1991), although a replication found no differentiation across either contexts or problem-solving steps (Yeates et al., 1991).

Hanten et al. (2008) found that in children with TBI performance at a higher developmental level (i.e., made a higher score) was achieved when the conflict involved same-aged children than when the conflict involved a child interacting with an adult compared to orthopaedic controls.

Construct validity:

Overall scores on the INS Interview and mean ratings on the INS Rating Scale are significantly related (Fleischer, 1989; Yeates et al., 1991), with correlations varying in magnitude from .32 to .45. Correlations between IQ scores and the overall INS Interview score have generally been around .45 (Yeates, Schultz & Selman., 1990).

In contrast, association with INS development in action has been less consistent, although usually still significant; one study found that IQ did not predict ratings from the INS Rating Scale after the overall score on the INS Interview was controlled (Yeates et al., 1991). These findings indicate that INS development in thought is linked in a predictable manner to "colder" aspects of internal psychological functioning, such as intellectual performance.

Two other studies (Fleischer, 1989; Schultz & Selman, 1989) have shown that it may be linked in complex ways to "hotter" aspects of such functioning as well. Both studies linked INS development to the sophistication of object relations, and one also demonstrated an association with preferred defense mechanisms. Thus, emotional or personality functioning may help explain the occurrence of gaps between a child's level of INS development in thought and his or her level of INS development in action.

In both normal (Yeates et al., in press, Studies 1 & 2) and at-risk populations (Beardslee et al., 1987; Leadbeater et al., 1989), higher scores

	<p>on the INS Interview and the INS Rating Scale have been associated with better psychosocial adaptation. Correlations have tended to fall around 0.30.</p> <p>In Hanten et al. (2008), Sternberg Task Item Recognition was positively related to the overall score of the INS, $F(1, 64) = 4.79$, $p = .032$ (regardless of group). In other words, slower responses due to increased memory load predicted better performance on the INS.</p> <p>Strategic Memory Word Span showed a strong significant overall positive relation to INS score, $F(1, 72) = 35.91$, $p = .001$, which differed by group, $F(1, 72) = 6.52$, $p = .013$, such that the relation was stronger for children with OI than TBI. The contribution of a language composite, The Flanker Task Interference measure, or processing speed to the INS mean score was not significant in TBIs.</p> <p>Total INS scores have been found to predict Parent ratings of the CBCL competence scales (Janusz et al., 2002).</p> <p><u>Concurrent validity:</u></p> <p>In Bearslee et al., (1987), whereas the non-risk (normative) group showed a direct relation between INS level and Adaptive Functioning Ratings (i.e., high INS levels tend to be associated with good functioning and low INS levels with poor functioning), the risk group did not.</p> <p>In a more recent study, Hanten et al. found that the TBI participants scored lower than the OI group on social problem-solving skills as measured by the INS from baseline through one year post-injury. Children who sustained a TBI performed more poorly than did children who had OIs, but there was no differential improvement in performance over the 1-year period in the two groups.</p>
Advantages	Based on a conceptual model
Disadvantages	<p>(1) Difficult to administer and score, and training required;</p> <p>(2) Experimental; and</p> <p>(3) Interview is lengthy.</p>
Additional Information	The INS is an Emerging measure in the Social Cognition Domain in McCauley et al. (2012)
Reviewers	<p>Vicki Anderson (paediatrics)</p> <p>Cathy Catroppa (paediatrics)</p> <p>Skye McDonald (adults)</p>

References

- Hanten, G., Wilde, E., Menefee, D., Li, X., Lane, S., Vasquez, C., Chu, Z., Ramos, M., Yallampalli, R., Swank, P., Chapman, S., Gamino, J., Hunter, J., and Levin, H.(2008). Correlates of social problem solving during the first year after traumatic brain injury in children. *Neuropsychology* 22(3), 357-370.
- Janusz, J., Kirkwood, M., Yeates, K., and Taylor, H. (2002). Social problem-solving skills in children with traumatic brain injury: Long-term outcomes and prediction of social competence. *Child Neuropsychol* 8, 179-194.
- Selman, R., Beardslee, W., Schultz, L., Krupa, M., & Podorefsky, D. (1986). Assessing adolescents interpersonal negotiation strategies: Toward integration of structural and functional models. *Developmental Psychology*, 22 (4), 450 – 459.
- Yeates, K., Schultz, L., and Selman, R. (1990). Bridging the gaps in child-clinical assessment: Toward the application of social-cognitive development theory. *Clin Psychol Rev* 10, 567-588.
- Yeates, K., Schultz, L., and Selman, R. (1991). The development of interpersonal negotiation strategies in thought and action: A social cognitive link to behavioral adjustment and social status. *Merrill Palmer Q* 37, 369-406.