The Beads, the Fish and the Box: Interrelationship Between "jumping to Conclusions" Tasks and Their Links with Cognitive Abilities

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Introduction. Jumping to conclusions (JTC) is a reasoning bias where individuals make hasty decisions based on insufficient data. It is commonly observed among patients with delusions and is a risk factor for developing delusions. Several task paradigms have been developed to test JTC, but their convergence in measuring JTC remains unexplored.

Objectives. This is a pilot test to examine the consistencies between three JTC tasks with a student sample. The relationships between JTC and cognitive abilities were also explored.

Measures. Forty-six university students completed the Beads Task, Fish Task and Box Task, as well as assessment of memory, intellectual functioning, executive function, impulsivity and need for closure.

Results. There was a moderate correlation between the beads task and fish task on various measures of JTC (draws to decision [DTD], $r=.50$, $p<.01$; confidence, $r=.47$, $p<.01$; dichotomous JTC bias, $\chi^2=16.14$, $p<.001$). There was a mild correlation between DTD on the fish task and box task ($r=.30$, $p<.05$). General intelligence was associated with DTD and JTC bias (but not confidence) on the beads and fish tasks. Confidence in decision was associated with a higher level of impulsivity and a lower level of set-shifting ability.

Conclusions. Despite differences in materials and design of the three probability-based tasks, results of JTC measured by the beads task and box task were individually consistent with the fish task, and were not correlated between the two. The data-gathering process and the confidence in decision are associated with different cognitive abilities. Further study including a clinical sample is needed.