

I D E A FUSION

Introduction **Impasse** is the discontinuation of overt problem-solving **Interrater Reliability with Cohen's Kappa** behavior which is accompanied by a subjective feeling of not knowing what to do. agreement between two coders, beyond chance. Insight as a solution after impasse Gestalt insight problems SUCCESS • People with less appropriate initial problem 2012). representations are more likely to reach an impasse • Problems solved after impasse take longer than agreement and is therefore not very reliable. FAILURE problems solved without impasse (Ash, Jee, & • To test for reliability, 12 participants were Wiley, 2012) **Cognitive Reflection Test** analysis of 720 observations. Individual-differences measure of tendency for Kappa values were κ =.35, κ =.34, κ =.40 Type 1 vs. Type 2 processing (Frederick, 2005) **Table 1**. Relationships of WM, CRT(A), and CRT(I)



Methods



Investigating the Interrater Reliability in Coding of **Think Aloud Protocols for Impasse**

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Physical Signs of Impasse:

- repetition of the instructions
- verbal indications of impasse (e.g., "I don't know what do", "This is impossible")
- physical stillness (e.g., stop writing)
- still or frustrated body language (e.g., sitting back in throwing hands up in exasperation)

RSPAN: Working Memory Span Task As soon as I get done taking this envy I am going to go home. Q

Although Joe is sarcastic at times, he can also be very sweet. P ??

Cognitive Reflection Test (CRT) A bat and a ball cost \$1.10. The bat costs \$1.00 more than the ball How much does the ball cost?



- CRT scores correlate with number of solutions without impasse (i.e. non-insightful solutions) but not number of solutions after impasse (supporting Type 2 theories)
- Differences in results among previous studies may be due to type of problems used as "insight problems" (Gestalt Problems vs. Remote Associates Task)
- CRA coding has low reliability possibly due to the difficulty in the coder's ability to identify participant's problem space

Results

- Interrater reliability is a measure that shows the
- The higher Kappa, the more agreement and better reliability. Minimum Kappa for a strong measure of reliability is considered to be .80 - .90 (McHugh,
- Highest kappa value for this analysis was not above .40, meaning there was not a lot of
- randomly selected for analysis. 3 coders analyzed each participants' 60 problems, leaving a total

	1	2	3	4
RA Impasse (1)	1	04	06	04
RA Nonimpasse (2)	04	1	.35*	41*
RT Analytical (3)	06	.35*	1	74*
RT Intuitive (4)	04	41*	74*	1

* *p* < .01

Discussion

References

Ash, I. K., Jee, B. D., & Wiley, J. (2012). Investigating insight as sudden learning. *The Journal of Problem Solving*, 4(2), 2. Ash, I. K., & Wiley, J. (2006). The nature of restructuring in insight: An individual-differences approach. *Psychonomic Bulletin & Review*, *13*(1), 66-73.

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Figure 2. Mean solving time (RAT) in milliseconds: with impasse (*M* = 11449.98 ms, *SD* = 5266.74) and with no impasse (*M* = 13277.48 ms, *SD* = 3859.12,); *t*(42) = -2.52, *p* < .05, d = .40.

- kind of process.



Impasse

 CRA Nonimpasse is negatively correlated with CRT Intuitive, meaning the more strategic solutions are not solved intuitively.

CRA Nonimpasse is positively correlated with CRT Analytical, meaning the participants solved problems more strategically, and less intuitively. CRA Impasse did not correlate with performance on CRT, indicating that impasse is a different