

## “Praise Effect” Interpretation Guide

### EXPLORING THE EFFECT OF “EFFORT PRAISE” AND “INTELLIGENCE PRAISE”

#### Background:

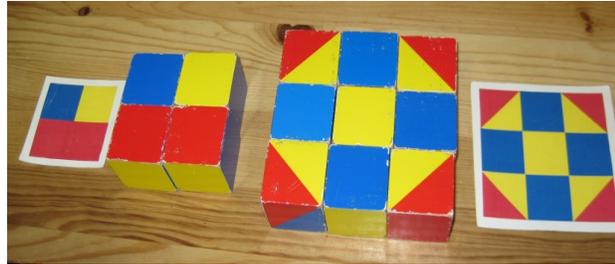
Most parents and teachers are aware that the praise they give children affects a child’s motivation and behavior, but they might not know the effects of different types of praise.

Researchers at Columbia University

conducted a series of studies to see how different types of praise affected 10 year olds while they were working with a set of block puzzles.

First the children worked on a set of easy puzzles. Some children received praise for their *effort*; “Wow, you’ve done really well. You must have tried hard on these problems.”

Other children received praise for their *intelligence*; “Wow, you’ve done really well. You must be smart at these problems.” Then the children were given a set of challenging puzzles that might cause them to struggle. After working the challenging puzzles, the children were asked a series of questions to determine their interest, enjoyment, and motivation.



#### Researchers Found:

1. Children praised for intelligence wanted to return to the easy puzzles, while children praised for their effort wanted to keep working on the harder puzzles.
2. Children praised for their intelligence did not enjoy the challenging task and wanted to stop working on it, while children praised for their effort enjoyed the challenging task and wanted to keep working at it.
3. When they struggled with the challenging problems, children praised for their intelligence claimed that they struggled because they weren’t good at this type of problem. Children who were praised for their effort claimed that they hadn’t worked hard enough.

#### Why is this important?

Children are very sensitive to adult praise. They pay close attention to the social cues that the praise contains. A difference of just a few words results in large differences in the children’s interest, enjoyment, and motivation for an activity. When children are praised for their effort, researchers found that they develop a *growth mindset*. That is: children believe they can get better at a task with strategy and effort. They are willing to struggle as long as they are making progress, and they feel that improvement is always possible. They feel smart when learning something new. When children are praised for their intelligence, researchers found that they develop a *fixed mindset*. That is: the children believe they have an innate and unchangeable amount of “smarts”. They are not willing to struggle, because they believe that struggle means they may not be as smart as they thought. They feel smart when they are doing something they already know how to do well. “You’re so smart!” (*fixed mindset*) and “You worked so hard!” (*growth mindset*) are both praise, but they give children very different messages. Children with a growth mindset are willing to be challenged and are open to learning; slight changes in the language caregivers and educators use can support adoption of this mindset among children with whom we interact.

## Method:

### *Recruiting Methods:*

1. Introduce yourself to parents and explain that you are playing a game with children based on a study done at Columbia University. Ask if their child would like to play.
2. Show children the blocks and ask if they would like to work on some puzzles with you.

### *Important Modifications:*

- The original study was done with 10 year olds. Since we are aiming our research toy at children age 6 and above, there have been some changes. Please read the activity instructions carefully.
- In the museum, we always demonstrate the effort praise condition, “You tried so hard!” not the intelligence praise condition.
- Do not feel like you have to praise the child after every puzzle. “You got it, would you like another?” is fine if the puzzle was obviously easy for them.

### *Materials:*

- 1 set of 9 puzzle blocks (see Appendix A)
- 18 small (2 x 2) puzzle cards (see Appendix B)
- 12 large (3 x 3) puzzle cards (see Appendix C)

### *Activity Instructions (the “study method”):*

1. Have a complete simple 2x2 puzzle sitting on the table next to its card. When a child arrives, introduce yourself and tell them, “I’m making the top of my blocks match the pattern on the card.” Rotate one of the blocks and say, “See, the blocks have different colors on each side so I can change my pattern. If I give you a new pattern card, do you think you could make the top of the blocks look like the pattern?”
2. Give them a new card with an easy 2x2 pattern. (Start with patterns that contain no diagonal lines.) After they complete it, say “Great! Are you ready for another?” In this manner, give them two or three of the easy patterns.
3. Then tell the child, “You’re doing so well on these puzzles. You must be trying hard. I have some more of these small puzzles that you could work on, or I can give you some of the bigger puzzles that are harder. Which would you like?”
4. Give the child a puzzle of their choosing and talk to the adult about the research.
5. The child can continue doing puzzles for as long as they are interested. Remember, all praise should be for their effort.

### Activity Tips:

#### *Help Parents Observe:*

- Was your child interested in working on the larger or more difficult puzzles?
- What did your child do when s/he struggled?
- What strategies does your child use to help them to complete the puzzles?

#### *Keeping Kids Interested:*

- Always start with the simplest puzzles. Slowly work up to the more complex puzzles.
- Some children may need strategies to help them complete the puzzles. Let them struggle a bit at first, but offer strategies if they seem to need them. Potential strategies:

- suggest they start at one corner or edge and work toward the other side.
- cover all but one column (or row) of the puzzle and have them complete that section first.
- draw imaginary grid lines with your finger and talk about what each section looks like.
- If the child completes all of the available puzzles and still wants to play, invite them to use the blocks to make a pattern for you (or another child) to copy.

#### *Engaging Younger Visitors:*

- With younger children (under 6) who may not be able to complete the more difficult puzzles, use some of the 2 x 2 puzzles with no diagonals. They may even be able to complete some more difficult 2 x 2 puzzles with some assistance.
- Very young children may choose to build structures with the blocks– they should still receive praise for their effort, and you can still talk to parents about the two types of praise.

#### *When parents have heard of this study:*

This study (and many follow ups) have been widely reported in popular media since the late 1990s. Advice in parenting books and magazines is often based on this line of research. Consequently, many parents have heard about the study – don't let this shut down conversation!

#### Ask Parents:

- Where did you hear about it?
- Would you like to know more about the study?
- What do you already know? I might be able to tell you more about it.
- Have you found it to be useful when thinking about your own child?

#### Provide more information:

- This study, using these types of block puzzles and done with 10 year olds, was the first in a series of studies to look into the effect of praise. The researcher is still working on studies in the same line of research.
- This study was one of the first to look at the effects of fixed and growth mindsets on kids' success - see "Background" and "Results of the Original Study" for more information.
- Discuss some topics in "Other Things to Talk About" section (below).

#### Results of the Original Study:

##### *Main Results:*

The researchers found that children are attuned to the underlying messages in adult praise. When children are praised for their hard work, they tend to try harder, enjoy a task more, and want to continue when they run into challenges. Praise for effort gives children the underlying message that it is their effort that matters, which encourages them to continue to keep trying.

When children are praised for their intelligence, they tend to want to continue to have good performance, may give up when they encounter a challenge, and may not enjoy a task as much. Praise for intelligence gives children the message that their performance at the task is what matters and encourages them to continue to do well at the task, no matter what.

### *Other Things to Talk About:*

- After working the challenging puzzles, children in the original study were told they could have one of two envelopes. One contained strategies to help solve the challenging puzzles, the other contained scores of children from the same grade in another school. Children who were praised for their *effort* chose the envelope of strategies, while children praised for their *intelligence* chose the envelope of scores.
- Children were asked to write a letter to a child in another school about the puzzles. Children praised for *intelligence* inflated how well they had done with the puzzles, while children praised for *effort* accurately reported how well they had done with the puzzles.

### Questions Parents May Ask:

*You said this study was done with 10 year-olds, my child is 5 years old. Would she notice the difference if I praised her for her smarts vs her effort?*

Other studies have shown that preschoolers react in similar ways as older children to different types of praise. Young children are highly attuned to the messages underlying praise from the adults in their lives. One study followed children from the time they were 14 months old until they were 8 years old. The children praised for their effort, strategies and actions throughout their early childhood were much more likely to have a growth mindset at age 8.

*Is my child smart for his/her age?*

These puzzles were chosen because they would present a challenge for most children in this age group. In the dynamic and busy exhibit, some children will have the ability to focus on the puzzles and others will be distracted. Performance on these puzzles in this environment is not an indicator of a child's general level of intelligence.

*Why is this important?*

Adults often praise their children, e.g. "Great job!" Research indicates that some types of praise encourage the mindsets and behaviors that adults want to foster in their children. For example, praising children for their hard work tends to encourage a growth mindset, and encourages them to work hard in the face of challenges.

*I tell my child that he's smart sometimes. Is this wrong or bad for him?*

Of course not. Think about the hundreds of thousands of times you have praised your child over the years. If you occasionally praise your child for a fixed trait, "You're so smart, pretty, athletic, artistic!" it will not harm your child. You might try praising your child mostly for concrete things that they have done, "You did your homework without complaint, wonderful!" or "I love the shading on this picture." or "You swam all the way across the pool today but last week you couldn't, that's excellent!" Your encouragement is crucial – no matter what form it takes.

*Where can I learn more about this study?*

The published study can be downloaded from the researcher's website at <https://web.stanford.edu/dept/psychology/cgi-bin/drupalm/cdweck>.

### Activities for Families to Try at the Museum:

Challenge your child to create a structure using blocks in the museum (e.g., build something taller than them, an arch, etc.). Praise your child for their hard work on the challenges. What strategies do they use to try to complete the challenges? Do they choose to work on more difficult challenges after being praised?

Use various animal “clues” (e.g. bones, furs, feathers) around the museum to identify different animals with your child. Some animals may be more familiar than with others – how does your child respond when they encounter a more challenging clue? Praise your child for their effort – does this change his/her response?

Encourage your child to try activities in the museum that use tools that may be novel to them. Some of the tools may be more difficult for young children’s developing motor skills. Praise your child for their effort and provide encouragement when they run into obstacles. Does your child enjoy the activity even when s/he faces challenges? Does s/he keep trying or try harder?

### Activities for Families to Try at Home:

If your child gets homework from school, observe their behavior when they encounter a challenging problem. Praise them for their hard work! Do they want to continue working on it? Do they want to try harder when working with a challenging problem or an easier one?

Try playing a game or sport outside with your child! Throwing, catching or kicking a ball may be difficult for young children as their motor skills are still developing. Praise them for trying hard while playing! Try sharing some strategies that may help them in their coordination or play – how do they use these strategies? Do they enjoy playing even when it may be more difficult?

### **Sources and Resources:**

Dweck, Carol. (2015). The secret to raising smart kids. *Scientific American* 23(5):36-43.  
Available online: <http://www.scientificamerican.com/article/the-secret-to-raising-smart-kids1/>

Mueller, Claudia & Dweck, Carol. (1998). Praise for intelligence can undermine children’s motivation and performance. *Journal of Personality and Social Psychology* 75(1):33-52.

### **Acknowledgements:**

This activity was originally developed for Living Laboratory® at the Maryland Science Center.

### *Appendix A – Puzzle Blocks*

We recommend using 30 blocks, so that several children may work on the puzzles at a time – this tends to be a popular activity and some children stay for 20+ minutes.

Pre-made puzzle blocks are available at:

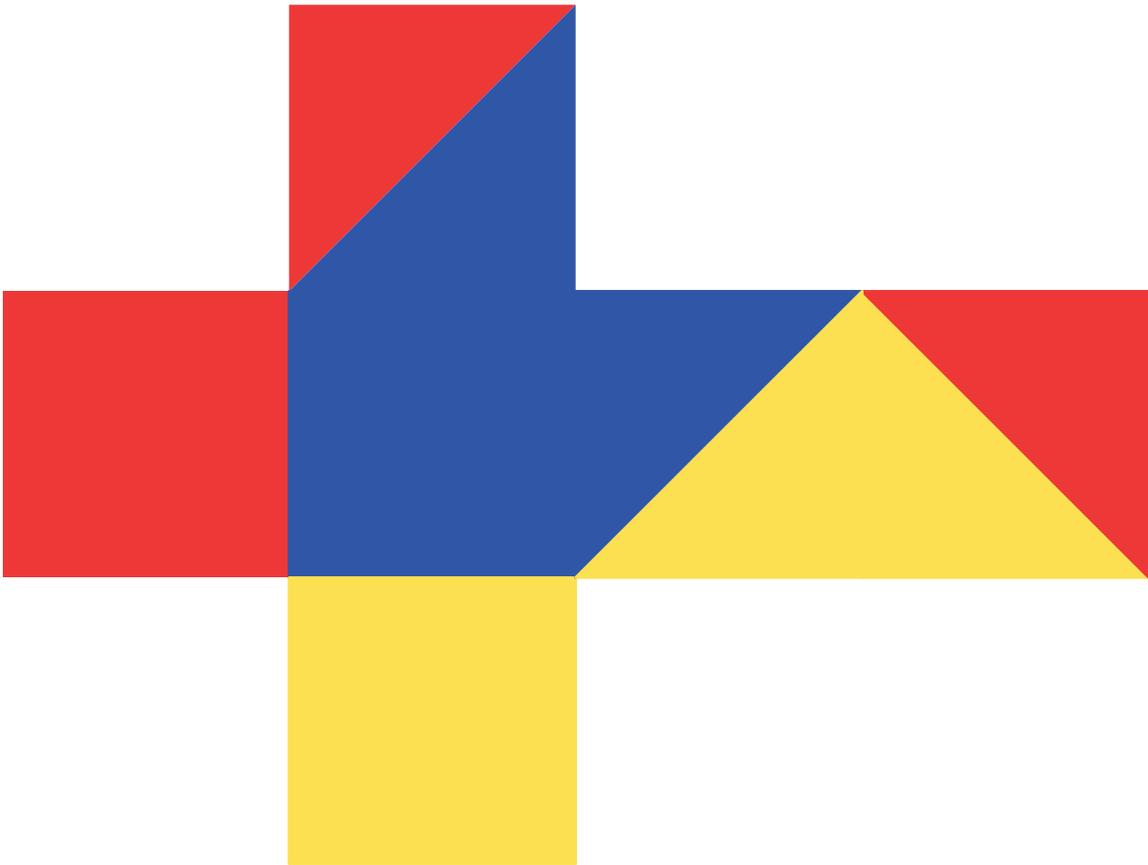
<http://www.crystalteaches.com/critical-thinking/games/blox-fun.html>

These blocks chip/ding easily.

Unpainted wood blocks are available at:

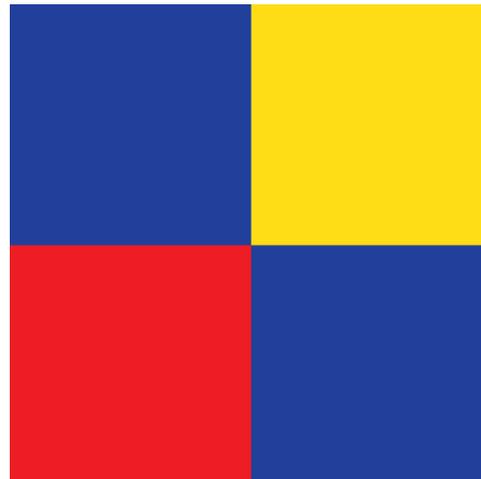
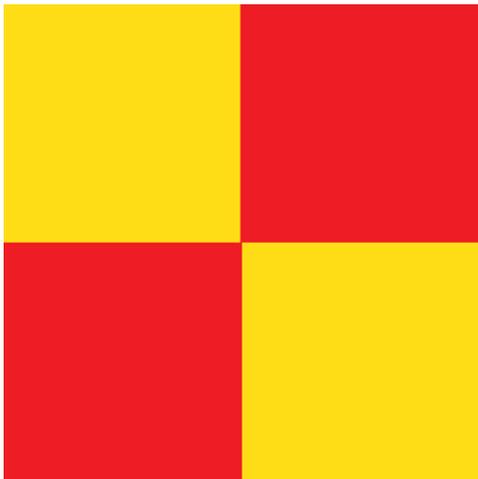
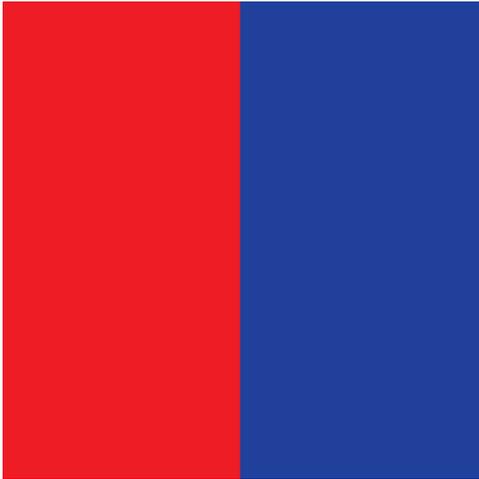
[http://www.amazon.com/Natural-Unfinished-Hardwood-Chicago/dp/B00J1KQYEQ/ref=sr\\_1\\_157?ie=UTF8&qid=1416427746&sr=8-157&keywords=blocks](http://www.amazon.com/Natural-Unfinished-Hardwood-Chicago/dp/B00J1KQYEQ/ref=sr_1_157?ie=UTF8&qid=1416427746&sr=8-157&keywords=blocks)

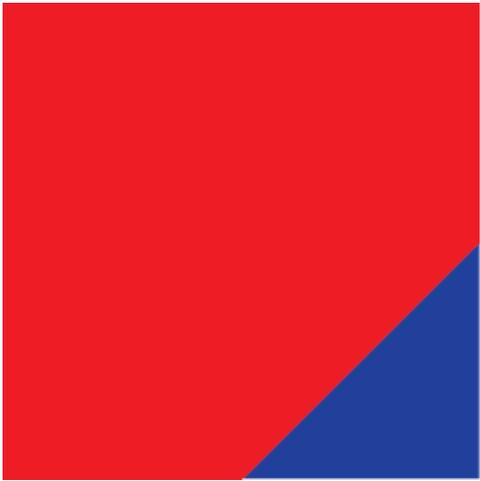
These blocks need to be hand-painted and sealed, but are more durable in the end. The paint pattern is shown below.

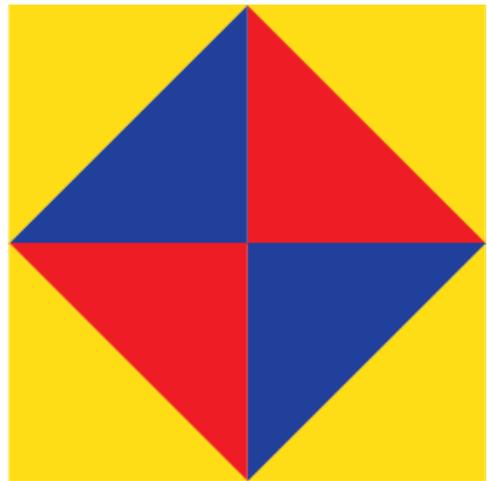
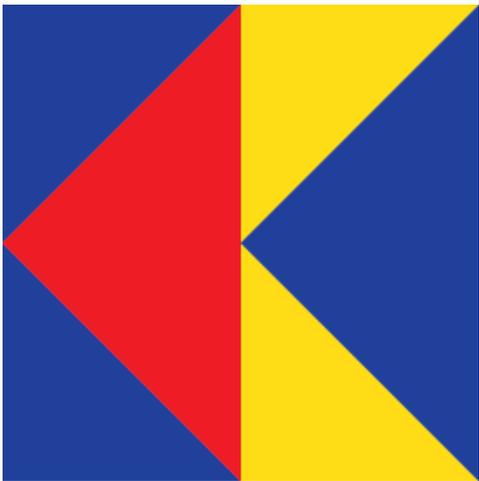
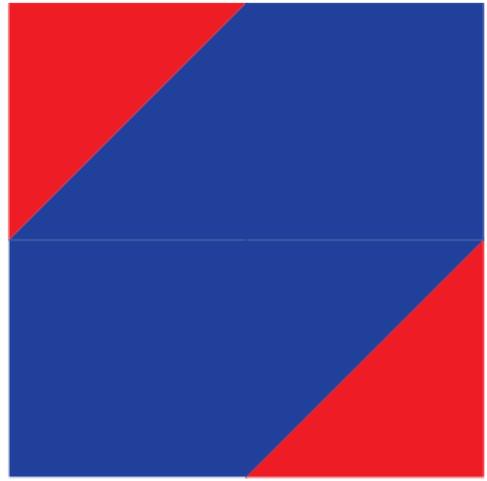
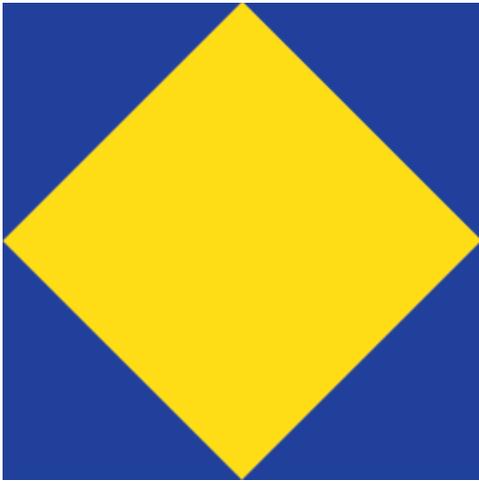
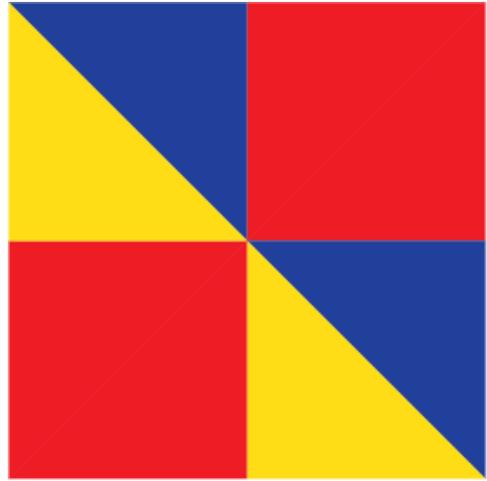


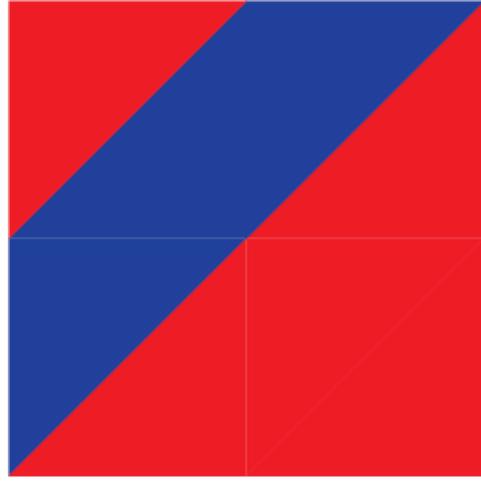
### *Appendix B – Small Puzzle Cards*

The cards range from very easy to very hard. They have been floor tested and work well with 6-8 year olds. Younger children enjoy doing the simpler puzzles. The puzzle cards are purposefully smaller than the blocks to make it a little more challenging.









*Appendix C – Large Puzzle Cards*

