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Are All Perspective Taking Tasks Created Equal? The Relationship Between Performance on Perspective Taking Tasks in Children

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Are All Perspective Taking Tasks Created Equal?

The Relationship Between Performance on Perspective Taking Tasks in Children

Pearl Christine McGee; Melissa A. Czarnogursky; Dai'jah Diggs, B.A.; Lauren Grove, M.A.

Introduction

- Spatial abilities assist in manipulating, constructing, and navigating the physical world (Newcombe & Shipley, 1992; Montello, 2001).
- Perspective taking is a specific spatial ability that allows someone to understand or perceive something from another point of view that is different from one's egocentric view.
- The overall goal of this study was to examine the relationship between two commonly used spatial perspective taking tasks- Piaget's Three Mountain Task and a perspective taking task modeled after a study by Newcombe and Huttenlocher (1992).
- Hypothesis:** The two tasks would be highly correlated, even when controlling for age, as they are both meant to measure the same construct of perspective taking.

Method

Participants: $N = 59$; $M_{age} = 6$, Range 4-9

Piaget's Three Mountain Task

- Participants were seated at a table that faced a display of three model mountains that included: a small red mountain with a pink flower, a white mountain with a pink flower (second tallest), and a green mountain with a red star (tallest).
- Participants were asked to identify and distinguish the mountains
- Participants were then asked to walk around the table and identify which mountains were visible and not visible.
- Participants returned to their seated position where the researcher moved a stuffed animal around the mountains and asked participants to identify the stuffed animal's viewpoint based on a book of pictures of the mountains.

Perspective Taking Task

Participants were seated at a table and were asked to identify the perspective of one of four stuffed animals presented in front of them at four specific viewpoints. To aid in identifying animals located on their left or right sides, a sticker was placed on the left and right hand of the child to identify their observations. For example, when prompted a child might respond "on the star side of my body."

Results

Correlation

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	59	4	9	6.17	1.830
Valid N (listwise)	59				

	Mean	Std. Deviation	N
Perspective_Taking	19.30	5.099	56
Three_Mountain	15.86	4.298	58

Correlations

		Perspective_Taking	Three_Mountain
Perspective_Taking	Pearson Correlation	1	.463**
	Sig. (2-tailed)		.000
	N	56	55
Three_Mountain	Pearson Correlation	.463**	1
	Sig. (2-tailed)	.000	
	N	55	58

** . Correlation is significant at the 0.01 level (2-tailed).

Partial Correlation

Descriptive Statistics			
	Mean	Std. Deviation	N
Perspective_Taking	19.42	5.072	55
Three_Mountain	15.91	4.398	55
Age	6.25	1.868	55

Correlations

Control Variables			Perspective_Taking	Three_Mountain
Age	Perspective_Taking	Correlation	1.000	.058
		Significance (2-tailed)		.675
		df	0	52
Three_Mountain	Correlation		.058	1.000
		Significance (2-tailed)		.675
		df	52	0

Discussion

- Consistent with predictions, the two perspective-taking tasks were moderately and significantly correlated ($r = .46$).
- However, after running a partial correlation controlling for age, the correlation was no longer statistically significant ($r = .06$).
- These results could indicate that the tasks may not be uniformly measuring the same type of perspective taking, such as a difference in construct or difficulty.
- This study lays the groundwork for looking at validity and reliability in these measures in the lab

