Supplementary materials

Appendix A (Pilot-Study)

Participants: 57 typically-developing monolingual British-English speaking children (*N* = 25 boys; Mean age = 90.56 months, range 73-109 months)

Task: Five video-based mini interactions between two protagonists, ending with an indirect statement. The child is asked to select one of the three options which best summarises what the speaker means.

Example: Sam and Tom play in the same football team.

Sam: "Tom, we desperately need you to play in the football match today"

Tom: "I don't feel well. I'm coughing and sneezing".

DV (forced choice, reaction time): "What does Tom mean?"

A. I can't play because the weather is not good for playing football.

B. I am warning you of my cold so you don't catch it.

C. I can't play in your football match because I'm ill.

Additional measures: Nonverbal IQ (NVIQ, assessed using the 'Matrices' sub-test of the British Ability Scale – 3, Elliot & Smith, 2011), sentence production (assessed using the 'Formulated Sentences' sub-test of the Clinical Evaluation of Language Fundamentals – Fifth Edition, Wiig, Semel & Secord, 2013), real-world knowledge (assessed using the 'Information' sub-test of the WISC, Wechsler, 2003), and Theory of Mind (assessed using four items from Happé's (1994) 'Strange Stories').

Results:

Table 7.

Correlation matrix showing relationships between the variables assessed in Pilot-Study.

	1.	2.	3.	4.	5.	6.
1. Relevance Inferencing	-					
2. Age in months (N = 57)	.21	-				
3. NVIQ raw score (N = 53)	-.09	.48**	-			
1. Expressive Language raw score (N = 57)	.38**	.59***	.32*	-		
2. Real-world Knowledge raw score (N = 57)	.22$^{\forall}$	.64***	.56**	.66***	-	
3. Theory of Mind (N= 52)	.25$^{\forall}$	.43**	.29*	.52***	.45**	

$^{\forall}$ = p < .1 * = p < .05 ** = p < .01 *** = p < .001

In a linear regression analysis (N = 51) only core language (CELF 'Formulated Sentences') was a significant predictor for Relevance Inferencing (β = .39, *SE* = .004, *t* = 2.044, *p* = .047), accounting for 7% unique variance as assessed by the squared part correlation. The model itself ($F(5, 45) = 2.43$, $p = .05$) accounted for 13% of variance.

Appendix B (Materials for Study 1 and Study 2)

1.

a. Positive statement

Girl puppet: [BIG YAWN] Oh, I slept really well.

Boy puppet: [BIG YAWN] I'm really hungry. I'd like to have breakfast.

Girl puppet: Do you want cereal or toast?

Boy puppet: There's milk.

Target picture: cereal.

Foil picture: toast.

b. Negative statement

Girl puppet: [BIG YAWN] Oh, I slept really well.

Boy puppet: I'm really hungry. I'd like to have breakfast.

Girl puppet: Do you want cereal or toast?

Boy puppet: The milk's all gone.

Foil picture: cereal.

Target picture: toast.

2.

a. Positive statement

Boy puppet: We need to look after our pets.

Girl puppet: Do you want to walk the dog or feed the cat?

Boy puppet: I've got a lead.

Target picture: dog.

Foil picture: cat.

b. Negative statementBoy puppet: We need to look after our pets.

Girl puppet: Do you want to walk the dog or feed the cat?

Boy puppet: The lead is broken.

Target picture: cat.

Foil picture: dog.

3.

a. Positive statement

Boy puppet: Let’s get dressed.

Girl puppet: Do you want to wear your scarf or your sunglasses?

Boy puppet: It is hot and sunny outside.

Target picture: Sunglasses

Foil picture: Scarf

b. Negative statementBoy puppet: Let’s get dressed.

Girl puppet: Do you want to wear your scarf or your sunglasses?

Boy puppet: It isn’t hot and sunny outside.

Target picture: scarf.

Foil picture: sunglasses

4.

a. Positive statement

Boy puppet: Snacktime!

Girl puppet: What should we eat? Cake or biscuits?

Boy puppet: I’ve got a knife.

Target picture: cake

Foil picture: biscuits.

b. Negative statement

Boy puppet: Snacktime!

Girl puppet: What should we eat? Cake or biscuits?

Boy puppet: We don’t have a knife.

Target picture: biscuits.

Foil picture: cake.

5.

a. Positive statement

Boy puppet: Let’s have a healthy snack.

Girl puppet: What should we have? Orange juice or an apple?

Boy puppet: Our cups are clean.

Target picture: orange juice.

Foil picture: apple.

b. Negative statement

Boy puppet: Let’s have a healthy snack.

Girl puppet: What should we have? Orange juice or an apple?

Boy puppet: Our cups are dirty.

Target picture: apple.

Foil picture: juice.

6.

a. Positive statement

Boy puppet: Let’s get ready for bed

Girl puppet: Are you going to brush your teeth or your hair?

Boy puppet: We have toothpaste

Target picture: Toothbrush.

Foil picture: Hairbrush

b. Negative statement

Boy puppet: Let’s get ready for bed

Girl puppet: Are you going to brush your teeth or your hair?

Boy puppet: We don’t have any toothpaste left.

Target picture: Hairbrush

Foil picture: Toothbrush.