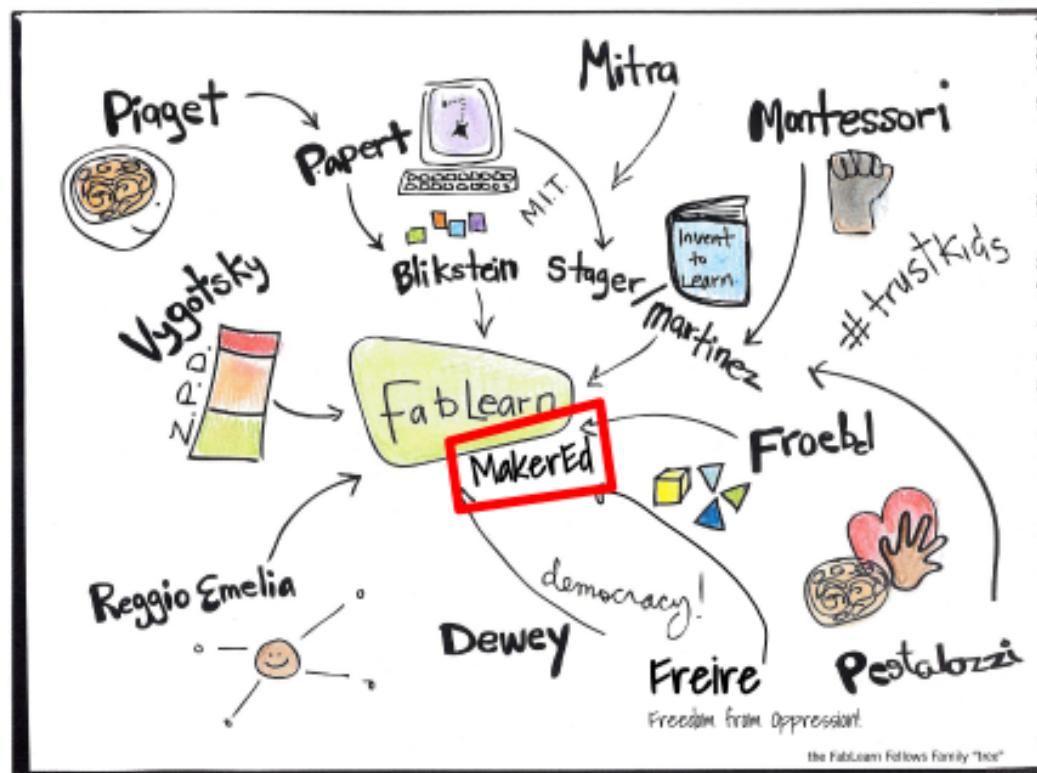


Who's in my zone?

Constructing Understanding



1. Developmental stages

Piaget, conservation, social referencing

2. Constructing understanding

Vygotsky, social scaffolding

Theories of social development

Theories tend to emphasize either *individualistic processes* of theory formation, maturation, or introspection, or the process of *enculturation*. However, such theories must be able to account for the accumulating evidence of the role of social interaction in the development of social understanding. ... Therefore, we need a theory that accords a fundamental role to social interaction, yet does not assume that children simply adopt socially available knowledge but rather that children *construct an understanding* of mind within social interaction.

Constructing an understanding
of mind: The development of
children's social understanding within
social interaction

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Piaget's developmental stages

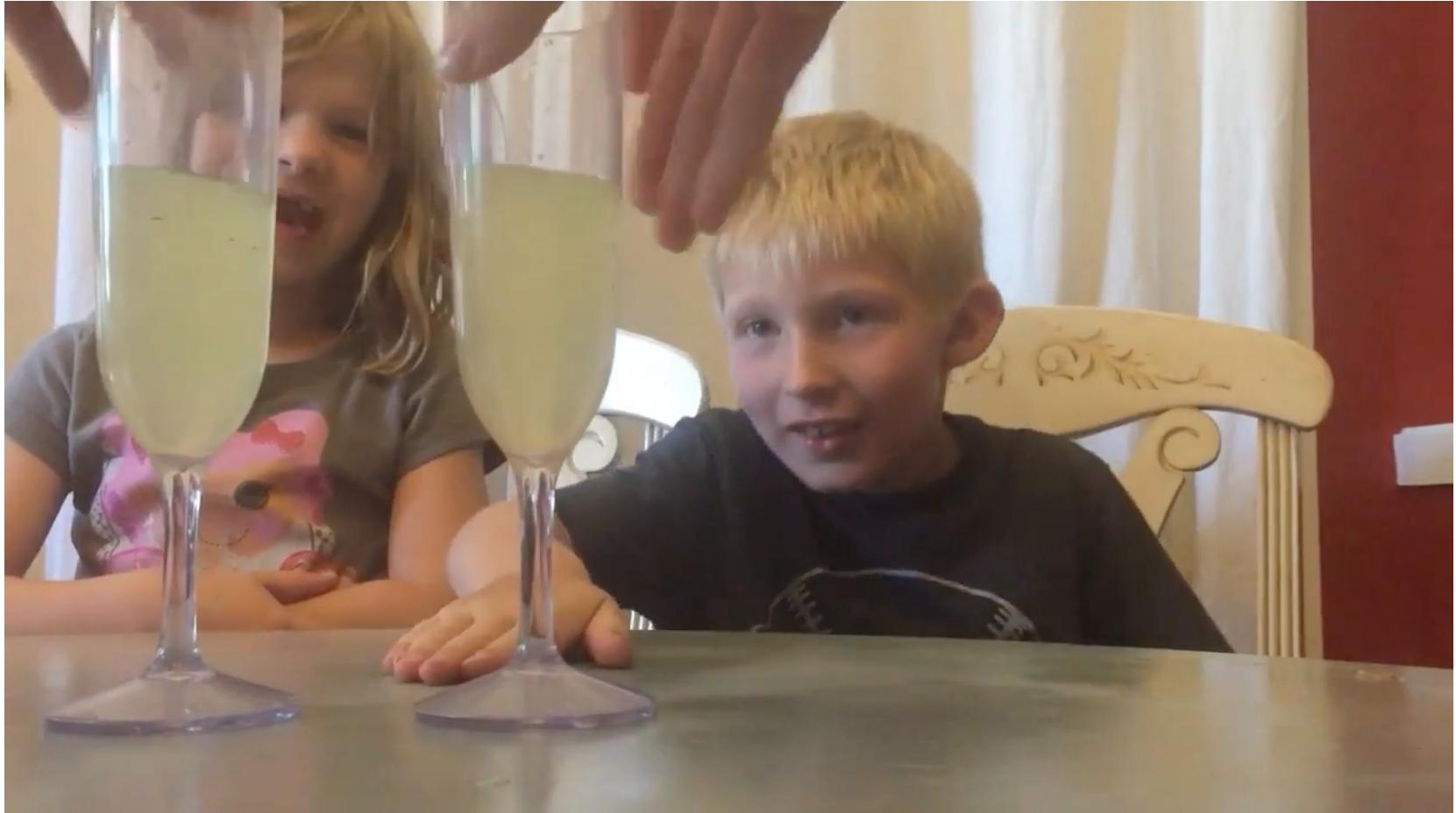
Stage	Age range	What happens at this stage?
Sensorimotor	0-2 years old	Coordination of senses with motor responses, sensory curiosity about the world. Language used for demands and cataloguing. Object permanence is developed. <i>Object permanence</i>
Preoperational	2-7 years old	Symbolic thinking, use of proper syntax and grammar to express concepts. Imagination and intuition are strong, but complex abstract thoughts are still difficult. Conservation is developed. <i>Symbolic thought</i>
Concrete Operational	7-11 years old	Concepts attached to concrete situations. Time, space, and quantity are understood and can be applied, but not as independent concepts. <i>Logical thought</i>
Formal Operational	11 years old and older	Theoretical, hypothetical, and counterfactual thinking. Abstract logic and reasoning. Strategy and planning become possible. Concepts learned in one context can be applied to another. <i>Scientific reasoning</i>

Piaget's theory of conservation



An object's mass or volume remains the same irrespective of form

Piaget's theory of conservation



Conservation emerges at around age 7



Developmental stages

Triadic interaction

- Emerges at about 12 months of age, and takes the form of gaze following and pointing
- Pointing becomes ‘protodeclarative’, which unlike ‘imperative pointing’, is to direct an adult’s attention to objects rather than to simply make requests
- The capacity for joint attention is thought to play an essential role in word learning during the second year
- How it comes online (at once vs. gradually) and which factors drive its development remains largely unknown



BIRTH TO 3 MONTHS

From the start, babies eagerly explore their world, including themselves and other people. They can:



3 TO 6 MONTHS

Babies are more likely to initiate social interaction. They begin to:



6 TO 9 MONTHS

Babies show a wider emotional range and stronger preferences for familiar people. Most can:



9 TO 12 MONTHS

Imitation and self-regulation gain importance. Most can:



1 YEAR
TO 2 YEARS

Children become more aware of themselves and their ability to make things happen. At this stage, most can:



2 YEARS
TO 3 YEARS

Children begin to explore everything, showing a stronger sense of self and expanded range of self-help skills. They begin to:



3 YEARS
TO 4 YEARS

Children become more interested in other children. They are more likely to:

Be comforted by a familiar adult
Smile and show pleasure in response to social interaction

Play peek-a-boo
Smile spontaneously

Express several clearly differentiated emotions
Distinguish friends from strangers

Mimic simple actions
Show anxiety when separated from primary caregiver

Show pride and pleasure at new accomplishments
Show a strong sense of self through assertiveness, directing others to do things

Develop notions of themselves as good, bad, attractive, etc.
Show awareness of their own feelings and feelings of others

Initiate or join in play with other children
Share toys

Theory of Mind

- Inconsistency between false-belief in the lab and in the wild: children may pass standard lab tests only by the age of 4 years, while parents report an understanding of false belief in the home at age 2,5 or 3 years
- Task variations, such as making the protagonist's motive more explicit or children acting out the answer with a doll, can cause preschoolers to pass the test in greater numbers
- Is it possible that children do better on false-belief tasks when they are actively involved, because their understanding of the events is supported by the social interaction?

1. Developmental stages

Piaget, conservation, social referencing

2. Constructing understanding

Vygotsky, social scaffolding

Still face experiment



Infants' need for connection



Vygotsky's theory of social development

THE ZONE OF PROXIMAL DEVELOPMENT

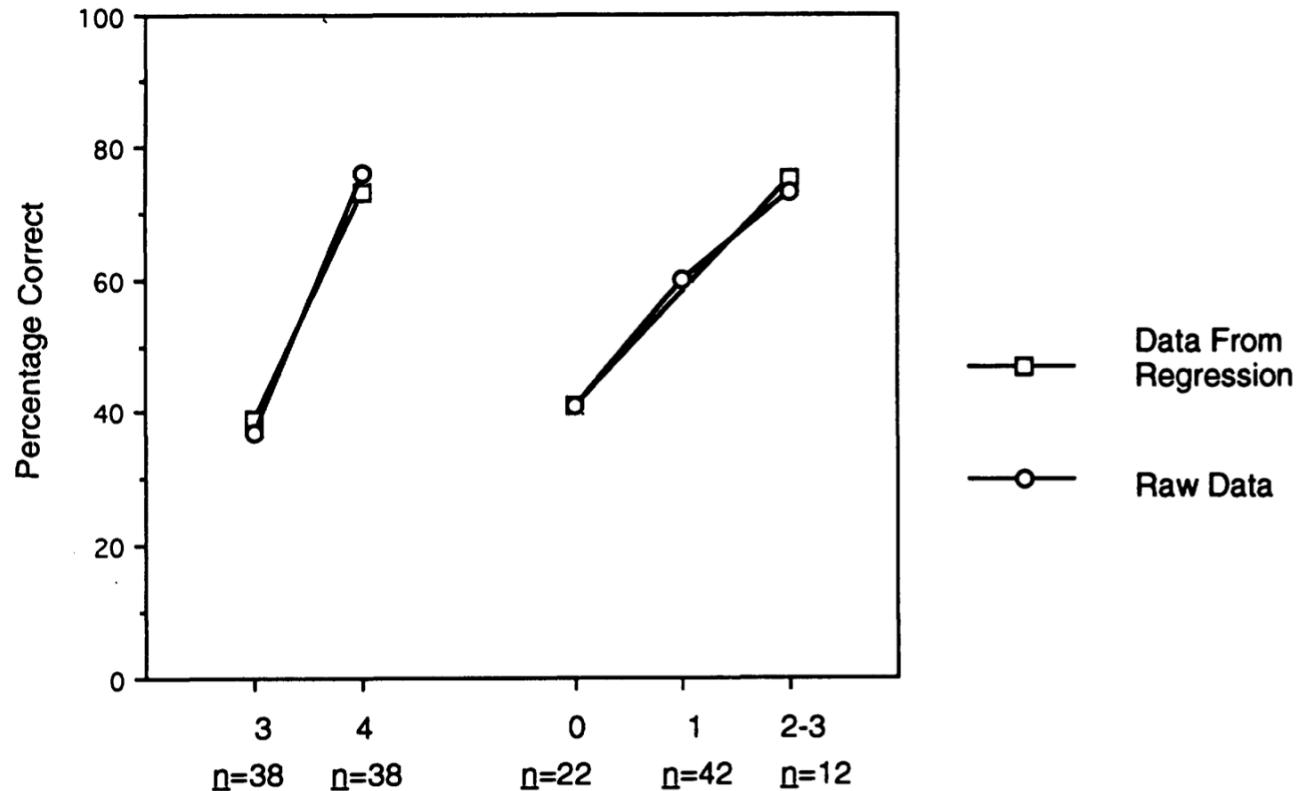


Produced on MinuteVideos.com

Elementary mental functions and the zone of proximal development



Evidence for social scaffolding



Theory of Mind Is Contagious: You Catch It
from Your Sibs

Age Group

Number of Siblings

Josef Perner and Ted Ruffman

University of Sussex at Brighton

Susan R. Leekam

University of Kent at Canterbury

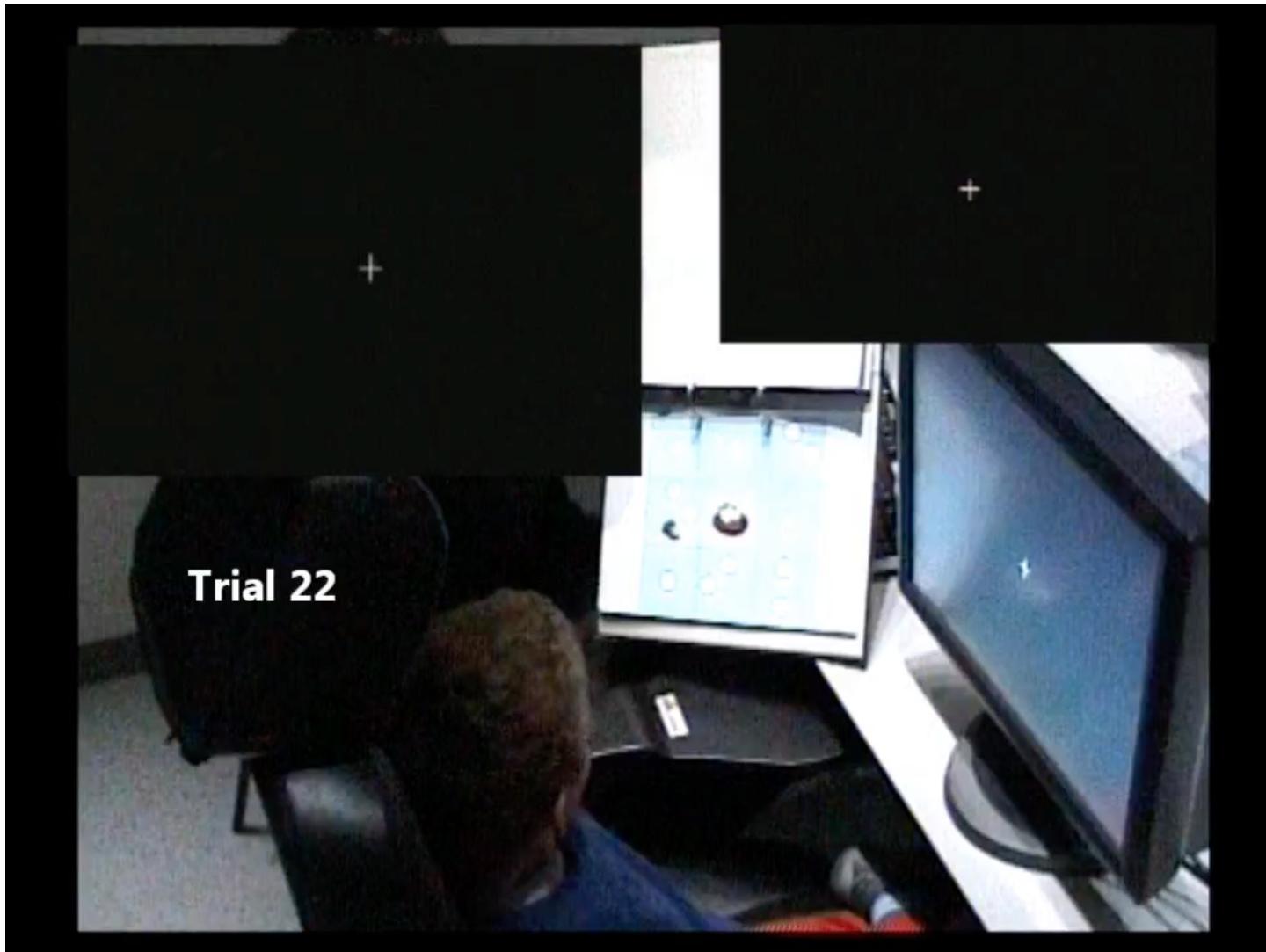
Effect of family size on false-belief understanding

Social scaffolding in (inter) action



Development of social understanding within social interaction

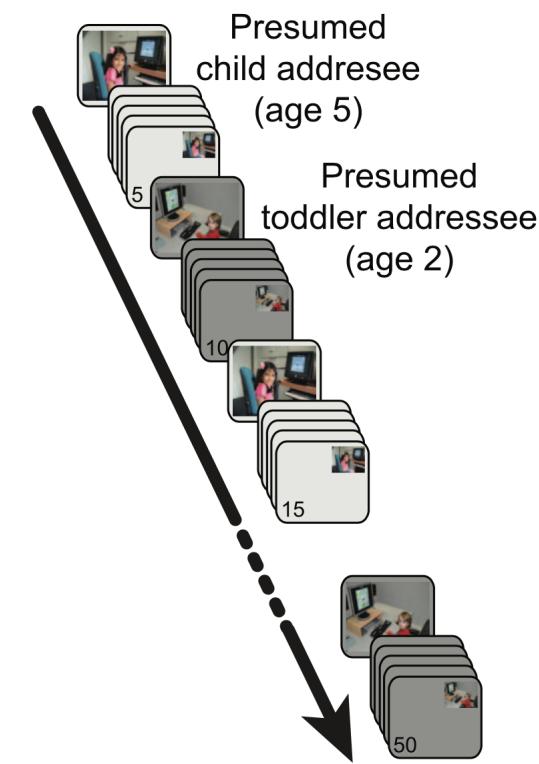
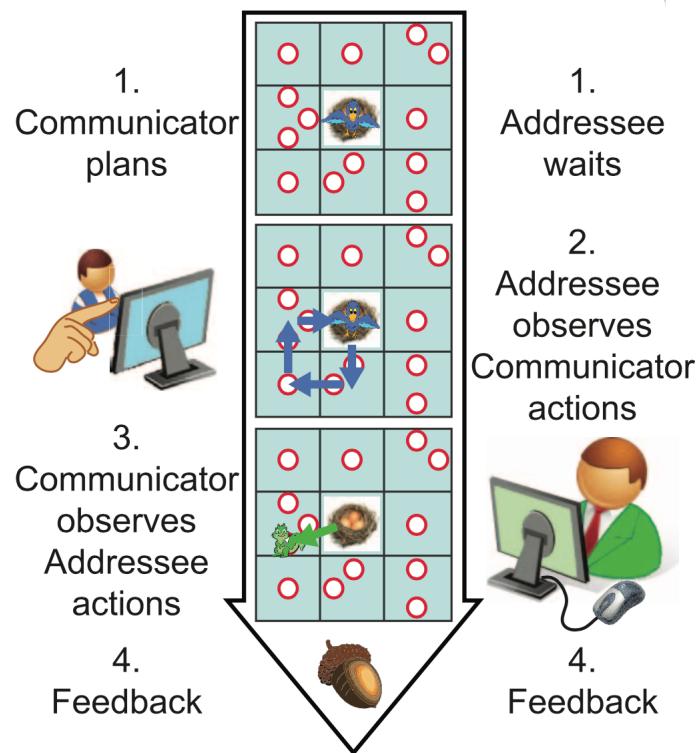
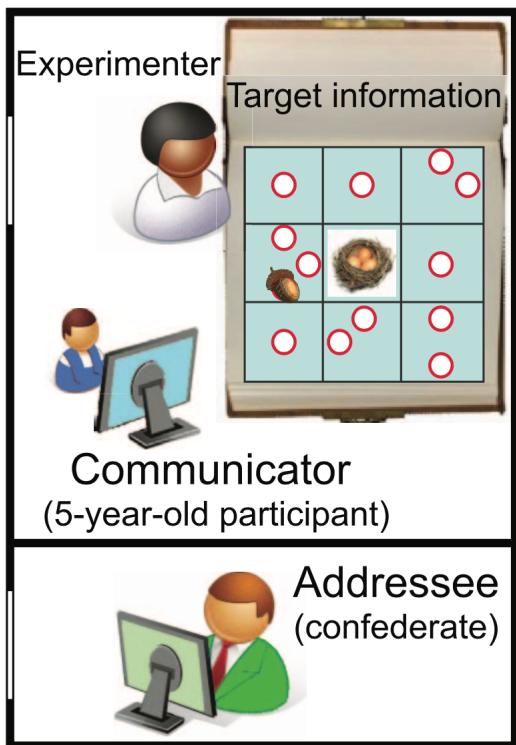
Social interaction in the lab



Measuring social understanding within social interaction



Audience design



Early Social Experience Predicts Referential
Communicative Adjustments in Five-Year-Old Children

Arjen Stolk*, Sabine Hunnius, Harold Bekkering, Ivan Toni

Five-year-olds spontaneously tailor their communication to an addressee



Evidence for social scaffolding

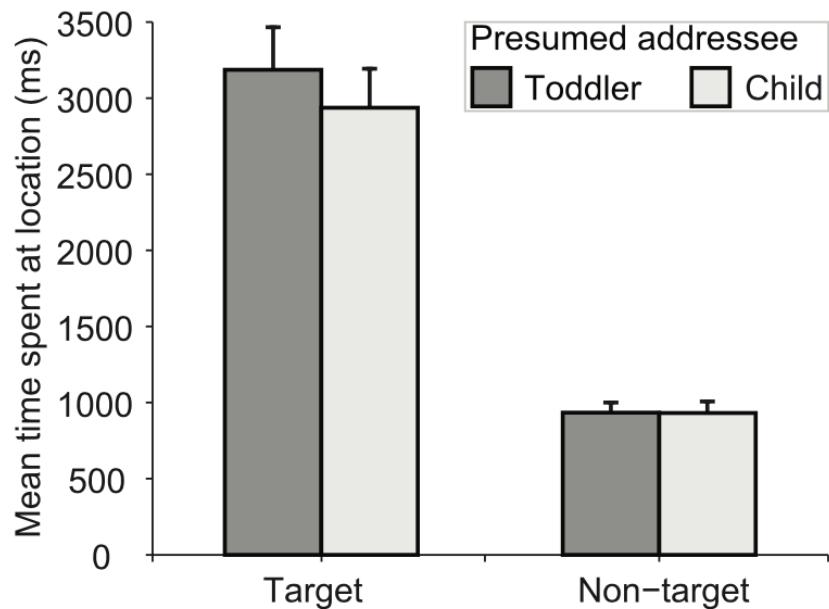


Figure 2. Communicative adjustments. Time spent on Target and Non-target locations (during event 2 in Figure 1B; mean \pm SEM; average time per trial) by the participants as a function of presumed Addressee (Toddler, Child).

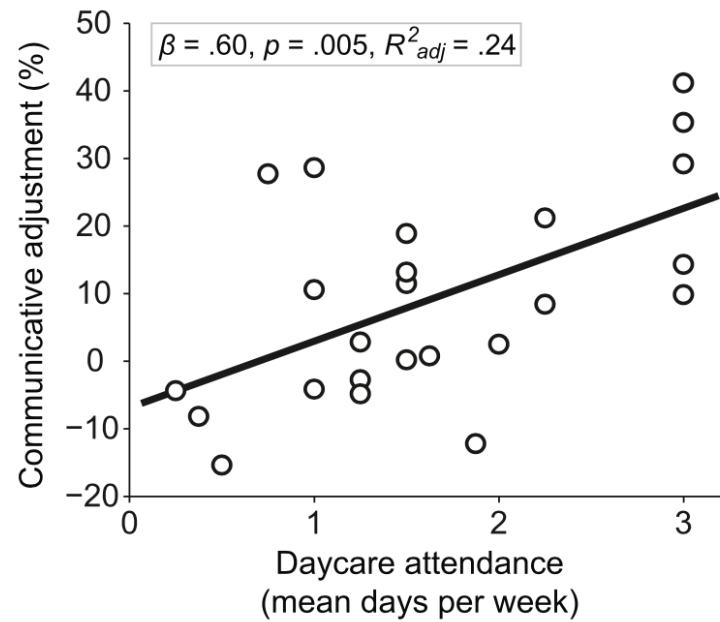


Figure 3. Effect of daycare attendance on communicative adjustments. Individual communicative adjustments of 5-year-old participants plotted against days spent at daycare before starting school (mean of ages 0 to 4). Communicative adjustment was indexed by the relative difference of time spent on Target locations (see Figure 2) between presumed toddler and child Addressees.

Effect of daycare attendance on communicative adjustment

Cooperative breeding hypothesis

The more effective performance of cooperative breeders in sociocognitive tasks is likely to be a side effect of motivational changes directly related to the deployment and coordination of caregiving activities, as well as a side effect of *developmental adjustments by immature individuals*, who must monitor the whereabouts and intention of their mother and allomothers.

Cooperative Breeding and Human Cognitive Evolution

J. M. BURKART, S. B. HRDY, AND C. P. VAN SCHAIK

Evolutionary Anthropology 18:175–186 (2009)



- Consistent with Vygotsky, there is *prima facie* evidence for the notion that we develop higher mental functions, including an understanding of mind, through social interaction
- An open challenge is to study social understanding within social interaction, the context in which those abilities are developed and found altered in social disorders
(wait for the Communication module...)

- Psychiatry of Social Cognition