

1 Chapter 12

2 **Credulity and the development of**
 3 **selective trust in early childhood**

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7 Many recent studies have underlined the fact that, under certain conditions, 3- and 4-year-old
 8 children will defer to proposals that run counter to their own ideas and observations. In opening
 9 a box, they set aside their own efficient procedure to reproduce a more elaborate and inefficient
 10 technique that has been demonstrated to them (Horner and Whiten 2005; Lyons et al. 2007, 2011;
 11 Nielsen and Tomaselli 2010). Asked to say what category an object belongs to and infer its proper-
 12 ties, they revise their initial, appearance-based categorization when an adult proposes an alterna-
 13 tive that is less consistent with the available perceptual evidence (Jaswal 2004). When told about
 14 the movement and final resting-place of an object falling down an opaque tube, they are prepared
 15 to set aside their otherwise robust, gravity-based expectations to search where told (Bascandzief
 16 and Harris 2010; Jaswal 2010). Indeed, even when confronted with repeated evidence that what
 17 they have been told is false, preschoolers continue to act on that information, for example, by
 18 following an adult's misleading indication of the location of a hidden object (Couillard and
 19 Woodward 1999; Jaswal et al. 2010). These deferential reactions lend support to the long-standing
 20 assumption that young children are credulous—disposed to trust claims made by other people
 21 even when those claims run counter to their own convictions or intuitions.

22 Contrary to this assumption, we argue that children are not prone to indiscriminate credulity.
 23 Instead, they engage in what we will refer to as selective trust. As just documented, young children
 24 do accept information from others, even when it runs counter to their own observations and
 25 intuitions. Nevertheless, when they meet informants who make conflicting claims they do not
 26 endorse both claims. They typically endorse those made by one informant rather than the other.
 27 In particular, they use two guiding principles or heuristics. They are inclined to accept the claims
 28 of informants with whom they have a social connection over those made by strangers. Second,
 29 they are inclined to accept the claims of informants who have proven well-informed rather than
 30 ill-informed. We describe the evidence for these two heuristics and then ask what children do
 31 when the two heuristics are placed in opposition. Whom do young children endorse if a relative
 32 stranger appears to be better informed than someone they know well?

33 Having reviewed the available findings, we consider their implications for children's metacog-
 34 nitive abilities. More specifically, we weigh up two possible interpretations. One possibility is that
 35 when children select among informants, such selectivity necessarily implies a capacity for meta-
 36 cognition, however limited or basic. A second possible interpretation is that children might
 37 initially select among informants, irrespective of any metacognitive capacity that they possess. On
 38 this argument, it is only when children begin to select among informants in terms of how well
 39 informed those informants are that it is legitimate to speak in terms of metacognition.

1 Trusting familiar informants

2 To find out if young children are selective when they encounter conflicting claims made by a
 3 familiar and an unfamiliar informant, we tested 3-, 4-, and 5-year-olds in two different daycare
 4 centres (Corriveau and Harris 2009a). In the presence of a familiar caregiver from their own centre
 5 and an unfamiliar caregiver from the second centre, children were presented with a series of
 6 novel objects obtained from the hardware shop. Because we tested children from both centres,
 7 approximately half regarded one caregiver as familiar and the other as unfamiliar. The children
 8 could ask for information about the name or function of the object from either caregiver. No
 9 matter which woman children asked, both women responded by proposing different names or
 10 functions for the object and children were invited to endorse one or the other. Figs 12.1 and 12.2
 11 show the findings from the two centres. Both tell essentially the same story. All three age groups
 12 preferred to seek and accept information from the caregiver with whom they were familiar.

13 In a later study, we asked how far children trust the information offered by their mother as
 14 compared to a stranger (Corriveau et al. 2009a) and whether the level of trust varies with attach-
 15 ment status. When children were approximately 15 months old, they had been categorized as
 16 secure, ambivalent, or avoidant in their relationship to their mother based on their behaviour in
 17 the Strange Situation¹ (Ainsworth et al. 1978). At 4 years of age, children's selective trust was

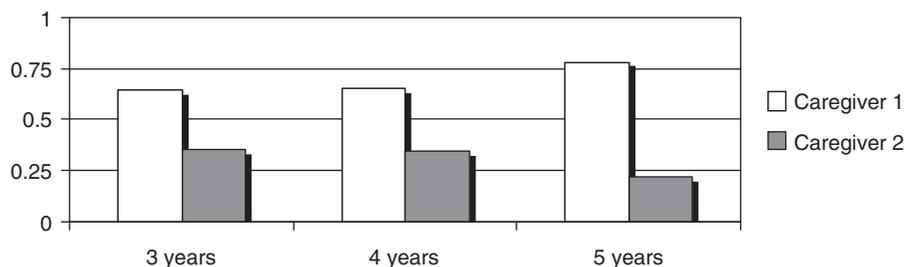


Fig. 12.1 Proportion of choices directed at each caregiver by 3-, 4-, and 5-year-olds in Centre 1.

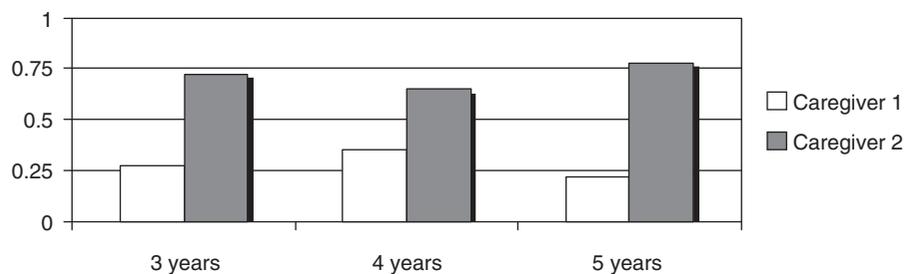


Fig. 12.2 Proportion of choices directed at each caregiver by 3-, 4-, and 5-year-olds in Centre 2.

¹ The Strange Situation consists of a series of episodes in the course of which infants are briefly separated from their mother and eventually reunited. The infants' behaviour is coded to assess how they cope with the separation and how readily they are reassured when the mother returns. A large body of findings suggests that children show a relatively stable set of reactions toward a given caregiver both during and after the separation, reactions that reflect expectations that infants build up about how reliable the caregiver is as a source of comfort and reassurance.

1 assessed using a procedure similar to the one just described for the two daycare centres. Children
 2 were invited to ask for and accept information about the names or functions of unfamiliar objects
 3 from either their mother or from a relatively unfamiliar stranger. Fig. 12.3 shows the proportion
 4 of choices that children in each of the three attachment groups directed at their mother as
 5 compared to the stranger. Inspection of Fig. 12.3 shows that, overall, we replicated the pattern
 6 found in the earlier study. Children preferred to trust the information supplied by a familiar
 7 informant—their mother—as compared to that supplied by a stranger. Nevertheless, Fig. 12.3
 8 also shows that the strength of that preference varied across the three attachment groups. It was
 9 an unreliable trend among children with an avoidant relationship. On the other hand, it was a
 10 systematic preference among children with a secure or ambivalent relationship.

11 Apparently, children's trust in an informant, including a highly familiar informant such as their
 12 mother, is moderated by their history of interaction with her. It is too early to say what particular
 13 aspects of that interaction are critical. Still, in line with the classic tenets of attachment theory, it
 14 is plausible that mothers vary in their responsiveness and children come to notice and encode that
 15 variation and respond accordingly. For example, based on past experience, avoidant children
 16 might have come to the conclusion that their mothers are relatively unresponsive as informants.
 17 As a result, avoidant children show no particular preference for the information that she can sup-
 18 ply as compared to that of a stranger. Secure children might be confident about their mother's
 19 responsiveness and systematic in seeking and accepting the information that she provides.
 20 Ambivalent children might be especially, indeed uncritically dependent on the information sup-
 21 plied by their mother, especially in comparison to that supplied by a stranger.

22 One other, related point is worth emphasizing. Evidently, mere familiarity with an informant is
 23 no guarantee that the information she supplies will be preferred. It is tempting to draw that con-
 24 clusion from the study with children's caregivers in daycare (Figs 12.1 and 12.2) but the findings
 25 for the avoidant children (Fig. 12.3) show that such a conclusion would be mistaken. Even though
 26 avoidant children were obviously familiar with their mother, they did not prefer the information
 27 she supplied to that of a stranger. By implication, when children build up trust in a caregiver over
 28 repeated encounters, they are not just accumulating feelings of familiarity—they are also building
 29 up a social or emotional connection.

30 Approximately 12 months later, when the children were 5 years of age, we again tested their
 31 reactions to their mother as compared to a stranger. The children were presented with pictures of
 32 animal hybrids that were of two different types. One type consisted of symmetric hybrids: each
 33 hybrid resembled two different animals—such as a cow and a horse—to the same degree. We
 34 anticipated that when children heard their mother categorize the hybrid in one way—'That's a
 35 horse'—and the stranger categorize it in another way—'That's a cow'—they would respond as
 36 they had done with the novel, hardware objects. Even if, objectively speaking, each categorization

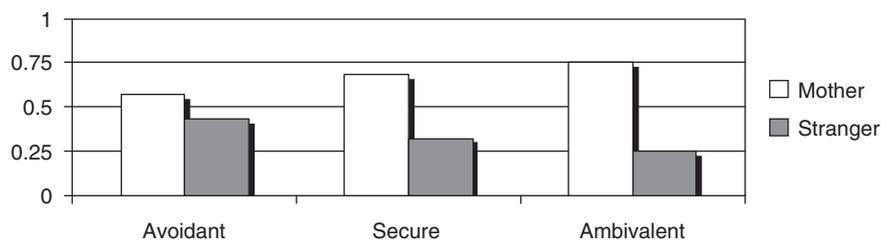


Fig. 12.3 Proportion of choices directed by 4-year-olds at their mother versus a stranger as a function of attachment classification (unfamiliar objects).

1 was equally consistent with the available perceptual evidence, we expected children to favour the
 2 categorization supplied by their mother. We also expected the strength of that preference to vary
 3 depending on the nature of children's attachment to their mother. Inspection of Fig. 12.4 shows
 4 that both of these expectations were borne out. Overall, children preferred to seek and accept
 5 information from their mother rather than from the stranger. Nevertheless, the strength of that
 6 preference varied with the child's attachment status. It was absent among avoidant children, sys-
 7 tematic among secure children, and very strong among ambivalent children.

8 These results were encouraging. They confirmed the pattern that we had observed initially,
 9 showing that it was robust even though children were almost 1 year older, thereby further extend-
 10 ing the time that had elapsed between children's assessment in the Strange Situation and our test
 11 of selective trust.

12 The second set of hybrids was asymmetric: they resembled two different animals to different
 13 degrees. For example, for 75% of its perceptual features an asymmetric hybrid might resemble a
 14 squirrel but for the remaining 25% of its features it might resemble a rabbit. The mother always
 15 named the animal in terms of the less plausible category (e.g. 'That's a rabbit') whereas the
 16 stranger named the animal in terms of the more plausible category (e.g. 'That's a squirrel'). We
 17 anticipated two different possible outcomes. First, suppose that children did not encode the bal-
 18 ance of the perceptual evidence. For example, they might simply note the resemblance to both a
 19 rabbit and a squirrel but fail to notice that overall the evidence pointed to its being a squirrel
 20 rather than a rabbit. If that were the case, the pattern of results should be the same as displayed in
 21 Figs 12.3 and 12.4. Alternatively, suppose that children did notice the asymmetry and left to their
 22 own judgement would be more likely to categorize the hybrid as a squirrel than a rabbit. To the
 23 extent that children weigh that perceptually plausible categorization against the alternative cate-
 24 gorization proposed by their mother, we might expect them to display less confidence in the claim
 25 made by their mother. Moreover, to the extent that all children, no matter what their attachment
 26 status, are likely to have similar perceptual intuitions about the hybrid, we might reasonably
 27 expect that reduction in confidence to be roughly comparable across all three attachment
 28 groups.

29 Inspection of Fig. 12.5 shows that the pattern of results fits the second proposal not the first.
 30 Children do seem to notice that they are dealing with asymmetric rather than symmetric hybrids.
 31 This perceptual intuition undermines confidence in their mother's claims and this reduction is of
 32 approximately the same magnitude for all three attachment groups: compare Figs 12.4 and 12.5.
 33 More broadly, the different pattern of findings obtained with the asymmetric as compared to the
 34 symmetric hybrids implies that children's reactions to the claims made by others depend on their
 35 own convictions about what they see. When they are uncertain—as they presumably were in the

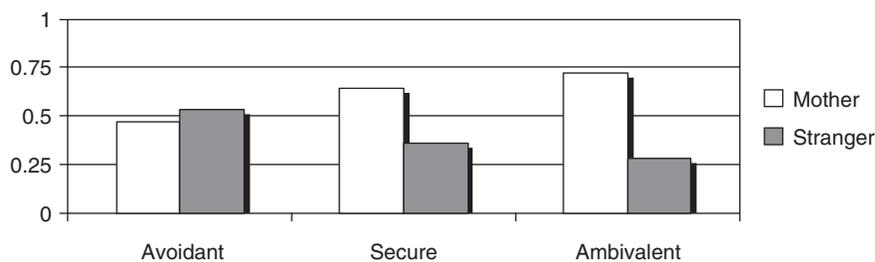


Fig. 12.4 Proportion of choices directed by 5-year-olds at the mother versus a stranger as a function of attachment classification (symmetric hybrids).

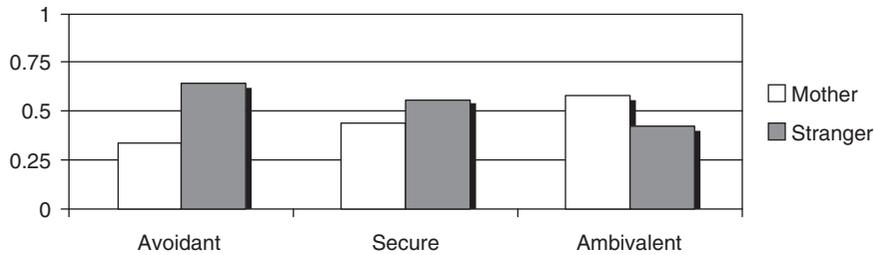


Fig. 12.5 Proportion of choices directed by 5-year-olds at the mother versus a stranger as a function of attachment classification (asymmetric hybrids).

1 case of the symmetric 50/50 hybrids—they readily yield to a trusted informant such as their
 2 mother. On the other hand, when provided with more counter evidence— as with the asymmetric
 3 75/25 hybrids, they are less likely to defer to an ordinarily trusted informant.

4 One final result is worth putting in context. In a series of experiments, Vikram Jaswal has also
 5 assessed the extent to which children defer to an informant when categorizing objects. He reports
 6 that when presented with asymmetric hybrids (for example, the rabbit–squirrel), and told by a
 7 single adult informant that the hybrid belongs to the less likely category, children are inclined to
 8 defer to the adult. Indeed, they defer despite the fact that, when left to their own devices, they
 9 categorize the hybrid in terms of the more likely category. This deference is less evident among
 10 4-year-olds than 3-year-olds but even 4-year-olds readily defer if the adult signals that what he or
 11 she is claiming might seem unlikely (‘You’re not going to believe this but ...’) (Jaswal 2004).
 12 Based on these findings, we might have expected that most children would defer to their mother’s
 13 claims even when presented with asymmetric hybrids. Indeed, to the extent that Jaswal found that
 14 most children deferred to an unfamiliar adult who identified the hybrid as belonging to the less
 15 likely category, we might have expected children in our study to defer even more to their own
 16 mother who also identified the hybrid as belonging to the less likely category.

17 The children in our study were somewhat older than those tested by Jaswal (2004). As children
 18 get older, they might be increasingly sceptical of counterintuitive claims, even those made by a
 19 trusted informant such as their mother. In addition, however, a procedural change may have
 20 played an important role. In the studies conducted by Jaswal (2004), children heard the unex-
 21 pected categorization proposed by a single, unfamiliar adult. By contrast, in the study that we
 22 conducted, children heard two informants propose conflicting categorizations—their mother
 23 proposed a less plausible categorization but a stranger proposed a more plausible categorization.
 24 Arguably, the children in our study did not simply weigh their own perceptual judgement against
 25 the proposal made by their mother, they were also bolstered in making their own judgement by
 26 the fact that it coincided with that of the stranger. In short, children are more confident of their
 27 own perception-based conviction if another person—even a stranger—agrees with them. Indeed,
 28 we might reasonably speculate that had their mother’s proposal coincided with their perception-
 29 based conviction whereas the stranger presented children with a less plausible categorization,
 30 children would have displayed a very strong preference for the more plausible categorization.

31 These findings underline the claim that in assessing children’s credulity, we should not simply
 32 try to find out how far they defer to the judgement of another person. We need to ask how they
 33 select among the conflicting claims of various informants. In the next section, we look at the ques-
 34 tion of whether preschoolers select among informants on epistemic as opposed to socioemotional
 35 grounds.

1 Trusting knowledgeable informants

2 To examine this dimension of children's selective trust, we have adopted the following basic
3 paradigm. First, children are given information about the differential knowledge or reliability of
4 two informants in a familiarization period. Then, in a test period, an unfamiliar object is pre-
5 sented and children are given an opportunity to seek and accept information about it from one or
6 other of the two informants. We measure the extent to which children choose to rely on the more
7 knowledgeable of the two informants. In one series of experiments, we assessed children's ability
8 to distinguish between a knowledgeable and an ignorant informant. In the familiarization period,
9 children were introduced to two informants—one named each of three common objects accu-
10 rately whereas the other admitted to not knowing their names (Koenig and Harris, 2005, experi-
11 ment 2). Because the objects were familiar, the children could confirm for themselves that one
12 informant knew the right names for the objects even if the other claimed ignorance. Before and
13 after the ensuing test period, children were asked to make an explicit judgement about the relative
14 knowledge of the two informants. More specifically, they were asked to judge who was 'not very
15 good at answering the questions' about the names of the objects. In the test period, children were
16 first shown another familiar object and asked to predict what the two informants would say about
17 it. They were then shown three novel objects whose names they did not know, invited to ask one
18 of the informants what each novel object was called, and after each had suggested a different name
19 for the novel object, to endorse one of the two supplied names.

20 Overall, both age groups proved to be remarkably good at judging, predicting and utilizing
21 the difference between the two informants (see Fig. 12.6). Thus, in answering the explicit judge-
22 ment questions, children reliably picked out the informant who was 'not very good' at answering
23 the questions. In the prediction trials, they anticipated that one informant would name the object
24 accurately whereas the other would acknowledge ignorance or make a mistake. When given
25 an opportunity to ask for information, they preferred to ask the knowledgeable as opposed to
26 the ignorant informant. Finally, when given an opportunity to endorse the name supplied by
27 one informant or the other, they tended to endorse the name supplied by the knowledgeable
28 informant—although this selective pattern of endorsement was weaker among 3-year-olds as
29 compared to 4-year-olds.

30 Is children's selective trust confined to object naming—the domain in which the two informants
31 had displayed differential knowledge? Alternatively, do they also display selective trust if the
32 two informants offer information about a different domain—for example, object functions—as

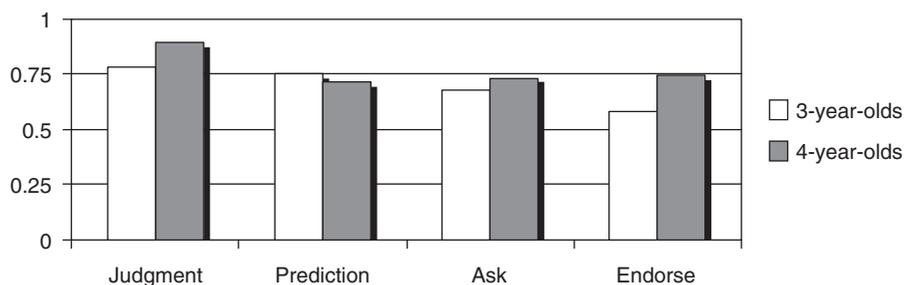


Fig. 12.6 Proportion of correct responses as a function of question type and age. (Koenig and Harris, 2005, experiment 2). Reproduced from Melissa A. Koenig and Paul L. Harris, *Preschoolers Mistrust Ignorant and Inaccurate Speakers*, *Child Development*, 76, 1261–77 © 2005, John Wiley and Sons, with permission.

1 well as object names? This issue was pursued in a follow-up experiment (Koenig and Harris 2005,
2 experiment 3).

3 Children were again introduced to two informants, one who proved accurate and one who
4 proved ignorant in naming familiar objects. They were then shown four unfamiliar objects. For
5 two of the four objects, children were invited to seek help concerning their names. For the other
6 two objects, they were invited to seek help concerning their functions. Fig. 12.7 displays the find-
7 ings for 3- and 4-year-olds. In the explicit judgement trials, children in both age groups were
8 again very accurate in picking out the person who was 'not very good' at answering the questions.
9 Moreover, as before, when the informants proposed conflicting names children typically endorsed
10 the name offered by the knowledgeable informant. Children also displayed a very similar pattern
11 with respect to object functions—they preferred to ask for help from and endorse the function
12 modelled by the more knowledgeable informant.

13 By implication, having learned about the accuracy with which the knowledgeable informant
14 could name objects, children did not make a very narrow assessment of her knowledge. They also
15 took her to be knowledgeable about object functions. In due course, we will revisit the question
16 of how broad or narrow children's attributions are.

17 Selective trust might be quite easy for young children to display when they are confronted by an
18 ignorant as compared to a knowledgeable informant—especially when one informant explicitly
19 admits ignorance. How do they react when the two informants vary in a less explicit fashion? To
20 explore this issue, we introduced children to one informant who was accurate and another who
21 was inaccurate in stating the name or the properties of familiar objects. In the subsequent test
22 phase, the two informants supplied information about the names or properties of unfamiliar
23 objects. In these initial experiments, the typical pattern was for 4-year-olds to display selective
24 trust by asking for and endorsing information from the accurate informant whereas 3-year-olds
25 were less systematic (Koenig et al. 2004; Koenig and Harris 2005).

26 Subsequently, we made various procedural changes designed to facilitate children's recognition
27 and retention of the fact that one informant was accurate whereas the other was inaccurate. The
28 number of familiarization trials was increased from three to four—with the accurate informant
29 naming all four objects correctly and the inaccurate informant naming all four objects incor-
30 rectly. The two informants were made more distinctive from one another in terms of clothing.
31 Finally, they remained seated in the same place throughout the familiarization and the test period
32 to facilitate children's ability to re-identify each informant from one phase of the experiment to
33 the next (Pasquini et al. 2007).

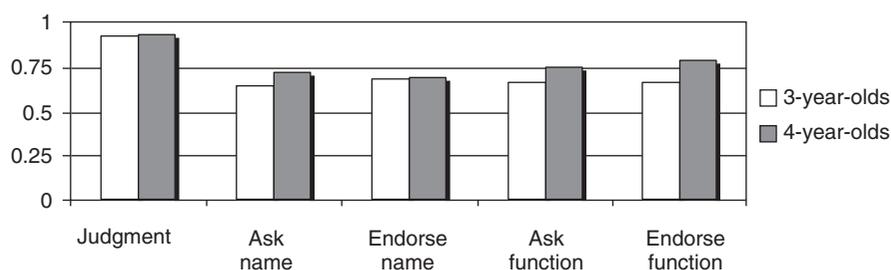


Fig. 12.7 Proportion of correct responses as function of question type and age (Koenig and Harris 2005, experiment 3). Reproduced from Melissa A. Koenig and Paul L. Harris, *Preschoolers Mistrust Ignorant and Inaccurate Speakers*, *Child Development*, 76, 1261–77 © 2005, John Wiley and Sons, with permission.

1 These modifications proved helpful. As Fig. 12.8 shows, although 3-year-olds continued to
 2 perform less accurately than 4-year-olds, both age-groups performed above chance on three types
 3 of probe: they explicitly judged the inaccurate informant to be ‘not very good’ at answering ques-
 4 tions during the familiarization period; they asked for help from the accurate as opposed to the
 5 inaccurate informant; and they endorsed the information that she supplied.

6 Children were also assessed for their ability to solve a standard false belief task involving a mis-
 7 leading container. Overall, they performed quite poorly: 3-year-olds performed below chance
 8 whereas 4-year-olds were more mixed with some performing correctly and others not, so that
 9 group performance was at chance. However, as just noted, this did not prevent either group from
 10 displaying selective trust in the more accurate informant. A clear implication of this conjunction
 11 of findings is that correct performance on a standard false belief task is *not* a prerequisite for selec-
 12 tive trust in a more accurate informant.

13 Summing up the findings so far, preschoolers are quite sensitive to variation between inform-
 14 ants in their knowledge. If one informant is consistently knowledgeable or accurate whereas the
 15 other is either consistently ignorant or inaccurate, they display selective trust. They appropriately
 16 judge the reliable informant to be better at answering questions; they anticipate how each inform-
 17 ant will describe an unfamiliar object; they seek information from the more reliable informant;
 18 and they selectively endorse the information that they receive from that informant.

19 In the experiments described so far, each of the two informants behaved in a consistent fashion.
 20 One was consistently reliable whereas the other was consistently unreliable. Outside of the labora-
 21 tory, however, informants are rarely so consistent. They are likely to display a mix of accuracy and
 22 inaccuracy, or truth and error. Despite this mix, we nonetheless judge some informants to be
 23 generally reliable whereas we are dubious about others. By implication, we form a global impres-
 24 sion of someone’s trustworthiness—weighing their overall accuracy against their occasional inac-
 25 curacy. Do preschoolers display a similar tendency? More specifically, when faced with informants
 26 who are less than fully consistent, do they form a global impression of their trustworthiness? To
 27 examine this issue, we included two further conditions in the experiment just described. Recall
 28 that in one condition children were introduced to one informant who was accurate across all four
 29 trials and one informant who was inaccurate across all four trials. We may refer to this as the
 30 ‘100% vs. 0%’ condition. In two further conditions, the accurate and/or the inaccurate informant
 31 were not fully consistent. In one condition (‘75% vs. 0%’) one informant was accurate on three
 32 of the four trials and the other was consistently inaccurate. In a second condition (‘100% vs.
 33 25%’), one informant was consistently accurate whereas the other was inaccurate on three of the
 34 four trials.

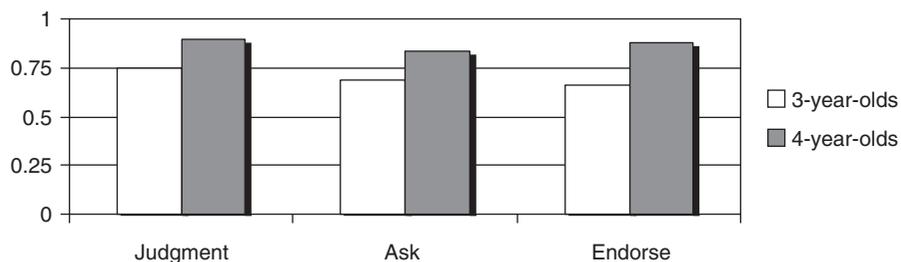


Fig. 12.8 Proportion of correct responses by age and type of question (Pasquini et al. 2007, experiment 1; 100% vs. 0% condition). Reproduced from Pasquini, E. S., Corriveau, K., Koenig, M., and Harris, P. L., Preschoolers monitor the relative accuracy of informants. *Developmental Psychology*, 43, 1216–26 © 2007, The American Psychological Association.

1 In the two new conditions, 4-year-olds were systematic across all three types of test question.
 2 They picked out the person who was ‘not very good’ at answering the questions; they sought help
 3 from the other informant; and when given suggestions by both informants, they typically endorsed
 4 the more accurate informant. These results show that 4-year-olds ‘forgive’ occasional errors. Even
 5 though the more accurate informant was not consistently accurate in the 75% vs. 0% condition,
 6 4-year-olds appeared to overlook that error and treat her as the more trustworthy informant.
 7 Conversely, even though the less accurate informant was not consistently inaccurate in the 100%
 8 vs. 25% condition, 4-year-olds still treated her as the less trustworthy informant. Stated simply,
 9 4-year-olds appear to recognize and accept that informants will display occasional inconsistency—
 10 they will sometimes be accurate and sometimes inaccurate—but they prefer those who, on balance,
 11 are more rather than less accurate.

12 The results for the 3-year-olds were less simple but provocative. First, in the 100% vs. 25%
 13 condition, although they were somewhat less accurate than 4-year-olds, they too were systematic
 14 in their answers to all three types of questions. On the other hand, in the 75% vs. 0% condition,
 15 they behaved in an essentially random fashion across all three test questions. Note that the more
 16 accurate informant in this condition made only a single error. By implication, 3-year-olds are
 17 ‘unforgiving’. They treat an informant making a single error as no more trustworthy than some-
 18 one making multiple errors.

19 Further evidence for the different stance of 3- and 4-year-olds emerged in a follow-up experi-
 20 ment. We compared children’s performance in two conditions: 75% vs. 0% and 75% vs. 25%
 21 (Pasquini et al. 2007, experiment 2). If 4-year-olds can monitor the overall balance of accuracy
 22 versus inaccuracy, they should display selective trust in both conditions but if 3-year-olds are
 23 unforgiving of single errors, they should fail to display selective trust in either. The results fit these
 24 expectations. Overall, 4-year-olds displayed selectivity in both conditions but 3-year-olds did so
 25 in neither. Fig. 12.9 shows the results (collapsed across judgement, ask and endorse trials) for the
 26 three conditions of the initial study (100% vs. 0%; 100% vs. 25%; 75% vs. 0%) and the two condi-
 27 tions of the follow-up study (75% vs. 0%; 75% vs. 25%). Inspection of Fig. 12.9 confirms that
 28 4-year-olds performed above chance in all five conditions whereas 3-year-olds performed above
 29 chance in only two conditions—those in which one informant was 100% accurate.

30 In all the experiments described so far, one informant proved to be relatively well-informed
 31 and the other ill-informed. In principle, therefore, children might not have reduced trust in the
 32 ill-informed speaker. They might have increased trust in the well-informed speaker. To examine

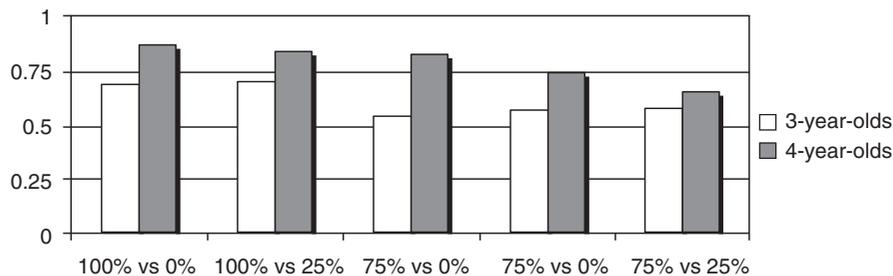


Fig. 12.9 Proportion of correct responses by age and condition (Pasquini et al. 2007, experiments 1 and 2). Reproduced from Pasquini, E. S., Corriveau, K., Koenig, M., and Harris, P. L., Preschoolers monitor the relative accuracy of informants. *Developmental Psychology*, 43, 1216–26 © 2007, The American Psychological Association.

1 this possibility, Corriveau et al. (2009b) tested 3- and 4-year-olds in three conditions. The
 2 accurate–inaccurate condition was similar to the 100% vs. 0% condition just described. In the
 3 familiarization period, one of the informants consistently named familiar objects accurately
 4 whereas the other informant consistently named them inaccurately. In the accurate–neutral con-
 5 dition, one of the informants consistently named familiar objects accurately whereas the other
 6 made only neutral or non-committal remarks—‘Oh, look at that’. Finally, in the inaccurate–
 7 neutral condition, one of the informants consistently named familiar objects inaccurately whereas
 8 the other made only neutral or non-committal remarks—‘Oh, look at that’.

9 Both 3- and 4-year-olds preferred the accurate informant in the accurate–inaccurate condition,
 10 consistent with earlier findings. In addition, both age groups preferred the neutral informant in
 11 the inaccurate–neutral condition suggesting that when one of two speakers makes mistakes that
 12 is sufficient to elicit mistrust. A clear age change emerged in accurate–neutral condition. Four-
 13 year-olds preferred the accurate informant whereas 3-year-olds were not selective.

14 These data suggest that 4-year-olds keep a fairly precise and comprehensive record of their
 15 informants, building up trust in those who have proven accurate and mistrust in those who have
 16 proven inaccurate. Three-year-olds, by contrast, appear to focus in a narrower fashion on inac-
 17 curacy. If an informant makes a mistake—even a single mistake—they become mistrustful. If
 18 both informants make mistakes even with differential frequency, or if one informant is accurate
 19 and the other non-committal, they invest no more trust in the one than the other. By implication,
 20 3-year-olds are solely on the look out for mistakes. Whether confronted by a single mistake or by
 21 several, their reservoir of trust in that person is depleted.

22 A plausible underpinning for this particular developmental change is the improvement in chil-
 23 dren’s understanding of false belief that is widely observed between 3 and 5 years (Wellman et al.
 24 2001). From that perspective, younger children think of the mind as a passive recorder or copier
 25 of events (Chandler 1988; Taylor et al. 1991). So, for 3-year-olds a source is trustworthy when he
 26 or she has been ‘in contact’ with the relevant information. By contrast, older children possess an
 27 interpretative theory of mind in which representations may be detached from, or even inconsis-
 28 tent with, their referent, so that the source may be more or less correct. According to this interpre-
 29 tation, children who grasp the potential for false beliefs—typically children aged 4 years and
 30 upward—not only withdraw credit in the case of false statements they also tender credit in the
 31 case of true statements. By contrast, 3-year-olds typically fail to grasp the potential for false
 32 beliefs. Hence, although they withdraw credit in the case of false statements they take true state-
 33 ments for granted. So, extending the argument made earlier: an understanding of false beliefs is
 34 not a precondition for mistrusting an inaccurate speaker. As noted earlier, children who fail
 35 standard false belief tasks, including 3-year-olds, are able to do that. On the other hand, an under-
 36 standing of false beliefs may well be a precondition for the augmentation of trust in an accurate
 37 speaker.

38 **Weighing socioemotional and epistemic signs** 39 **of trustworthiness**

40 So far, we have identified two quite different strategies that 3- and 4-year-olds use to select among
 41 their informants. First, they use a relational strategy. They prefer to gather and receive informa-
 42 tion from an informant with whom they have an established relationship—at least, provided it is
 43 not avoidant. Second, they use a more epistemic strategy. They prefer to gather and receive infor-
 44 mation from someone who has proven reliable. Thus, they are mistrustful of informants who
 45 have indicated their unreliability, either by acknowledging their ignorance or by making obvious
 46 and easily identifiable mistakes. Indeed, 4-year-olds seem especially attuned to differences in

1 accuracy because when someone proves accurate they do not take that accuracy for granted but
2 strengthen their trust in that person.

3 What happens when these two strategies, the relational and the epistemic, are placed in conflict
4 with one another? For example, how do preschoolers respond when they encounter a familiar
5 informant who makes mistakes? They might ignore the mistakes and continue to invest selective
6 trust in the familiar informant. Alternatively, they might attend to the mistakes and come to mis-
7 trust the informant despite his or her familiarity. Still, a third possibility is that there is an age
8 change in the preschool period with younger children attending more to familiarity and older
9 children to accuracy. To assess these three possibilities, Corriveau and Harris (2009a) extended
10 the experiment described earlier involving two preschool caregivers, one familiar and one unfa-
11 miliar. The complete experiment had three phases: pretest trials, accuracy trials and post-test
12 trials. As described earlier, 3-, 4-, and 5-year-olds were shown unfamiliar objects in the pretest
13 trials and given the opportunity to learn about them from the caregivers. Recall that children in
14 all three age groups and in each childcare centre displayed a preference for the more familiar
15 caregiver (Figs 12.1 and 12.2).

16 In the subsequent accuracy trials, children received information about the accuracy of the two
17 caregivers. They were shown a set of familiar objects whose names they knew. Half the children
18 heard the familiar caregiver name these objects accurately and the unfamiliar caregiver name
19 them inaccurately. The remaining children heard the reverse arrangement: the familiar caregiver
20 named them inaccurately whereas the unfamiliar caregiver named them accurately.

21 In post-test trials, children were shown four unfamiliar objects and were given Ask and Endorse
22 probes akin to those in the pretest trials. Thus, we could check whether children's initial prefer-
23 ence for the familiar caregiver was either strengthened or undermined depending on her behav-
24 iour in the accuracy trials. Fig. 12.10 shows the proportion of times that children continued to
25 select the familiar informant after receiving information about her relative accuracy during the
26 accuracy trials.

27 In the post-test trials, 5-year-olds were very sensitive to the information provided during the
28 preceding accuracy trials. If the familiar informant had been accurate, they displayed a marked
29 preference for her but if she had proven inaccurate, they switched, and displayed a preference for
30 the hitherto unfamiliar—but accurate—informant. Four-year-olds also proved sensitive to the
31 information provided during the accuracy trials. Like the 5-year-olds, they displayed a marked
32 preference for the familiar informant if she had proven accurate but no systematic preference for

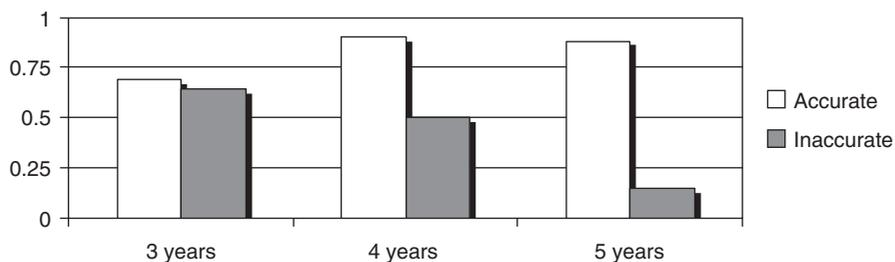


Fig. 12.10 Proportion of times children selected the more familiar informant (collapsing across ask and endorse probes) by age and behaviour of the familiar informant (accurate versus inaccurate) during the accuracy trials. Reproduced from Kathleen Corriveau and Paul L. Harris, Choosing your informant: weighing familiarity and recent accuracy, *Developmental Science*, 12, 426–37 © 2009, John Wiley and Sons, with permission.

1 her if she had proven inaccurate. Finally, the 3-year-olds were the least affected by accuracy
 2 information. Ignoring the feedback they had received in the accuracy trials, they maintained the
 3 preference for the familiar informant that they had displayed during the pretest trials.

4 Clearly, this pattern of findings supports the third possibility: younger preschoolers attend
 5 more to familiarity and older preschoolers attend more to accuracy. But how can we explain the
 6 age change? Three possible explanations can be quickly ruled out. First, it might be argued that
 7 3-year-olds did not notice the mistakes made by the unfamiliar informant during the accuracy
 8 trials. This is implausible because, as we saw earlier, in comparable experiments in which an unfa-
 9 miliar informant made mistakes, 3-year-olds ended up mistrusting the person who made them
 10 (Pasquini et al. 2007; Corriveau and Harris 2009b).

11 A variant on this explanation is similarly problematic. It could be argued that 4-year-olds, and
 12 certainly 5-year-olds, typically have an understanding of false belief. As argued earlier, they might
 13 be more appreciative than 3-year-olds of the fact that an informant has proven accurate. Hence,
 14 4- and 5-year-olds might be more swayed by the information provided during accuracy trials,
 15 noting not just who is inaccurate but also who is accurate. Again, however, this argument over-
 16 looks the fact that 3-year-olds do differentiate between an accurate and an accurate informant
 17 when both are unfamiliar (Pasquini et al. 2007; Corriveau and Harris, 2009b).

18 Another possibility is that 3-year-olds weigh the few mistakes they have witnessed on the part
 19 of the familiar informant against a much longer history of interaction in which she has, presuma-
 20 bly, proven accurate and they therefore discount those few errors. This line of explanation allows
 21 for the fact that 3-year-olds do differentiate between an accurate and an inaccurate informant
 22 when both are unfamiliar, and indeed are relatively unforgiving of a single error, but in the case
 23 of an unfamiliar informant, no prior history of interaction is available to serve as a counterweight
 24 to recent evidence of inaccuracy. However a similar argument would seem to apply just as force-
 25 fully to 4- and 5-year-olds. After all, they are likely to have had at least as long a history of interac-
 26 tion with the familiar informant as 3-year-olds. Yet despite their potentially deeper reservoir of
 27 accumulated trust, 4- and 5-year-olds did alter their pattern of trust in the wake of inaccuracy on
 28 the part of the familiar informant.

29 A more plausible explanation is that the findings reflect an important developmental shift in
 30 the relative weight that children attach to two different indices of trustworthiness: familiarity, or
 31 more broadly a feeling of social connection on the one hand and epistemic competence on the
 32 other. The data suggest that even though 3-year-olds can assess epistemic competence—they
 33 prefer accurate and knowledgeable informants to those who are inaccurate and ignorant—when
 34 asked to weigh that index of trustworthiness against familiarity, they attach more weight to social
 35 connection. The reverse is true for 5-year-olds. Other things being equal, they prefer to put their
 36 questions to, and accept information from, a familiar informant. However, when asked to weigh
 37 familiarity against epistemic competence—as indexed, for example, by accuracy—they prefer an
 38 unfamiliar but accurate informant to one who is familiar but inaccurate.

39 One concern about this line of explanation is that it could be regarded as a simple re-description
 40 of the findings. However, it is important to emphasize that, as formulated, the explanation goes
 41 beyond an account of the pattern of results depicted in Fig. 12.10. The implication is that a variety
 42 of cues that might promote a sense of social connection will be increasingly trumped by epistemic
 43 competence in the course of the preschool years. For example, recent evidence shows that pre-
 44 schoolers prefer to learn from an informant who speaks with a native accent versus a foreign
 45 accent (Kinzler et al. 2010). We assume that this preference is driven by feelings of social con-
 46 nectedness toward someone perceived as a member of the ingroup. As such, we anticipate that
 47 this preference would be relatively persistent among 3-year-olds. Thus, even if an informant
 48 with a native accent proved inaccurate, they would favour him or her over an informant with a

1 foreign accent. By contrast, among 4- and 5-year-olds epistemic competence would be weighed more
2 heavily. Recent findings provide support for exactly this age change (Corriveau et al. submitted).

3 **Implications for metacognition**

4 We have argued that young children use two different heuristics for selecting among informants.
5 First, they prefer to learn from those who elicit feelings of social connectedness. Second, they
6 prefer to learn from someone who displays epistemic competence by making well-informed
7 claims. When these two heuristics are placed in conflict with one another, younger children—
8 3-year-olds—favour social connectedness whereas older children—5-year-olds—favour epis-
9 temic competence.

10 We may now step back and consider the relationship between children's selective trust and the
11 development of metacognition. We will consider whether children select among their informants
12 by relying on either analytic metacognitive judgements or on metacognitive feelings (Koriat 2000;
13 Proust 2007). At first sight, the developmental shift that we have described strongly suggests that
14 children increasingly do make metacognitive evaluations in the sense that they appraise the epis-
15 temic standing of their informants. Still, this conclusion is open to doubt. Arguably, even though
16 4- and 5-year-olds choose among their informants in terms of relative accuracy it could be argued
17 that they do so without any systematic recourse to metacognitive reflection. We will consider
18 arguments for and against this conservative conclusion.

19 To the extent that children select among their informants in terms of social connectedness, one
20 can plausibly argue that it is unnecessary to invoke any role for metacognition in that selection.
21 On this sceptical argument, children give no thought to the possibility that those with whom they
22 have a social connection offer more reliable or trustworthy information. Instead, they have an
23 early and non-reflective bias to encode and retain information from their nearest and dearest. In
24 much the same way, recent evidence suggests that non-human primates are biased to emulate
25 models with greater prestige. Here too, it is plausible that such a bias is not guided by any consid-
26 eration of the relative reliability of the information that high-ranking individuals provide as
27 compared to low-ranking individuals. Admittedly, this is not to explain the origins of such a bias.
28 Arguably, it is an innate bias that is built into social learning whether it is undertaken by children
29 or by non-human primates. Alternatively, it is a by-product of information-processing biases that
30 are likely to ensue from social preferences. For example, it is feasible that information delivered
31 by a familiar attachment figure or by a high-ranking model is processed more extensively or
32 deeply because such a source typically receives preferential attention. Still, even pending a fuller
33 explanation of the basis for children's preference for information supplied by a familiar inform-
34 ant, it is unlikely that we need to infer any metacognitive basis for that selectivity.

35 However, it is worth discussing a possible caveat to this sceptical conclusion. Recall that when
36 their mother and a stranger provided conflicting information, children's reactions varied in two
37 ways. First, children's trust in their mother as compared to the stranger varied depending on the
38 type of attachment that they had to her. But second, and more relevant to a potential role for
39 metacognition, no matter what their attachment history, children were less prone to trust the
40 claim provided by their mother when the hybrid creatures were asymmetric, i.e. in those cases
41 when the categorization proposed by the mother was less consistent with the available perceptual
42 evidence than the categorization proposed by the stranger. Recall that this was evident in the
43 pattern of trust invested in the mother in Figs 12.3 and 12.4 as compared with the pattern in
44 Fig. 12.5.

45 An initially plausible interpretation of this variation is that children engage in a metacognitive
46 assessment of their level of confidence in the categorization that they themselves believe to

1 be likely. Indeed, animal studies have demonstrated that such uncertainty evaluations exist even
 2 in monkeys and dolphins (Smith 2009). Moreover, recent developmental studies have suggested
 3 that 3-year-olds also have an implicit access to their knowledge states (Balcomb and Gerken
 4 2008). Thus, children may have looked at the asymmetric squirrel–rabbit hybrid and judged
 5 themselves to be more confident of its being a squirrel than a rabbit. Hence, when their mother
 6 called it a rabbit but the stranger called it a squirrel, their differential confidence in those two
 7 categories inclined them to accept the stranger’s proposal—at least more so than in cases when
 8 the mother’s claim had been as consistent with the available perceptual evidence as the stranger’s.
 9 However, it is also possible that children make no such metacognitive assessment of their feelings
 10 of confidence in a particular categorization or even if they are capable of such an assessment,
 11 make no use of it in weighing up the conflicting proposals. Instead, it is possible that two alterna-
 12 tive categorizations—‘squirrel’ and ‘rabbit’ each come to mind but the strength or availability of
 13 those two representations differs. As a result, one representation is more susceptible to endorse-
 14 ment and retention than the other. Thus, when the mother and the stranger make conflicting
 15 proposals, the proposal that coincides with the stronger representation has a greater chance of
 16 survival, and of being adopted and endorsed by the child. On this admittedly cautious view, even
 17 if children were capable of stating their relative confidence in the two different categorizations
 18 (‘I’m sure it’s a rabbit – I doubt it’s a squirrel’), it could still be the underlying strength or avail-
 19 ability of the two representations that actually determines whether the mother or the stranger’s
 20 claim is accepted.

21 In sum, reviewing the evidence that was mustered in the first section, there is, for the time being
 22 anyway, no compelling reason to conclude that children’s selective learning from particular
 23 informants implies that they engage in any metacognitive assessment of the relative trustworthi-
 24 ness of different informants or the relative plausibility of their own intuitions. Children do
 25 undoubtedly display selective trust but, for the time being, there is no firm evidence that it is
 26 guided by any metacognitive reflection on either the knowledge of their informants or their own
 27 knowledge.

28 We may now consider the evidence discussed in the second section. To the extent that children
 29 appraise informants in terms of the accuracy with which they have named familiar objects, does
 30 this imply some type of metacognitive reflection? At first sight, the evidence would seem to call
 31 for a positive answer. Recall that both 3- and 4-year-olds consistently preferred to learn from an
 32 informant who had proven more accurate in naming familiar objects. A plausible interpretation
 33 of this selectivity is that children judge that the hitherto more accurate informant is more knowl-
 34 edgeable. To that extent, such selective trust would imply a capacity for metacognition in the
 35 sense that children make judgements about the differential knowledge base of the two informants
 36 and accept information from the more knowledgeable informant—even if they give little thought
 37 to the mental processes by which an informant retrieves information from his or her knowledge
 38 base in answering a given question.

39 However, there are again reasons for caution. First, when the less accurate informant consist-
 40 ently misnames familiar objects, children may conclude, particularly when there is no obvious
 41 reason for the informant’s errors, that the less accurate informant is simply deviant. Lucas and
 42 Lewis (2010, p. 168) formulate this caution as follows: ‘It may be that the expectation for correct
 43 labelling is so ingrained in young children that a violator is perhaps more likely to be viewed as
 44 globally incompetent or bizarre, rather than misinformed’. Hence, on this interpretation, chil-
 45 dren do not make a genuinely metacognitive appraisal of the less accurate informant. Instead,
 46 they make a more generic appraisal (she is ‘globally incompetent’). Alternatively, they focus on
 47 her repeated deviation from a social norm (she is ‘bizarre’). Both of these possibilities warrant
 48 consideration because preschool children are indeed prone to global attributions and they are
 49 also quite sensitive to deviations from social norms (Rakoczy et al. 2008). Still, other evidence

1 shows that neither of these two possibilities offers a satisfactory account of all the relevant find-
2 ings on selective trust.

3 Fusaro et al. (2011) presented preschoolers with two puppets, one who named familiar objects
4 accurately and one who named them inaccurately. Children were then asked to make various
5 predictions about each puppet. They predicted that the accurate puppet would be better at label-
6 ling objects but they anticipated no differences in other behavioural domains. Thus, they did not
7 expect the two puppets to differ in terms of lifting objects, knowing what food particular animals
8 eat, throwing basketballs into a hoop, or sharing cookies. Had children inferred that the inaccu-
9 rate puppet was ‘globally incompetent’ they would presumably have expected him to do worse
10 than the accurate puppet on the lifting, knowing and throwing tasks. Additionally, had children
11 inferred that the inaccurate puppet was ‘bizarre’—prone to deviate from social norms—they
12 would presumably have expected him to share less than the accurate puppet. Indeed, in a control
13 condition in which children were presented with two puppets who consistently differed in
14 strength as indexed by their ability to lift four different containers, children did make global infer-
15 ences: they predicted that the weaker puppet would be better not just at lifting but at labelling,
16 knowing animal foods, throwing and sharing. In summary, these findings confirm the point that
17 preschooler do indeed sometimes make global attributions of incompetence or non-conformity.
18 Nonetheless, having observed two informants differ in accuracy, they make relatively narrow
19 attributions.

20 Lucas and Lewis (2010) advocate the use of two criteria for demonstrating that children’s
21 selective trust involves an assessment of the knowledge states of potential informants. First, they
22 propose that children should be provided with reasons that would explain the differential accu-
23 racy of two informants. They point out for example, that in the film *The Little Mermaid* children
24 are introduced to a character Ariel who lives under the sea and misnames the human artefacts that
25 happen to come her way from shipwrecks. In such a case, children would be likely to view her—
26 appropriately enough—as lacking in a particular domain of knowledge rather than incompetent
27 or socially deviant and to have a ready explanation for her ignorance, namely her non-human
28 umwelt.

29 However, this criterion is overly stringent. Selective trust is likely to be especially useful if it is
30 based on a metacognitive appraisal of informants’ accuracy that is fast and frugal rather than
31 probative. As adults, we readily make metacognitive inferences about people who differ in
32 accuracy—namely that their differences in accuracy are due to differences in knowledge – even
33 when we lack an explanation for the origin of those differences in knowledge. Similarly, when
34 children encounter two informants who vary in accuracy, it is plausible that they attribute that
35 variation to differences in knowledge, even when they are at a loss to explain how those differ-
36 ences in knowledge came about. Indeed, if children postponed mistrust in an inaccurate inform-
37 ant until they had an adequate explanation for the informant’s inaccuracy, they might be
38 vulnerable to all sorts of misinformation.

39 Consistent with this line of argument, when Koenig and Harris (2005) asked 3- and 4-year-olds
40 to explain why one of the two informants had been inaccurate (i.e. was ‘not good at answering
41 questions’) although over one-third were unable to supply an explanation, among those who did
42 volunteer an explanation, the most frequently cited reason (12 out of 25 children) was speaker
43 ignorance (‘She didn’t know the things’ ‘She doesn’t know what they are’). Thus, even when chil-
44 dren were given no background or life-history information that could explain the speaker’s inac-
45 curacy, ignorance was still the explanation that they favoured.

46 The second criterion proposed by Lucas and Lewis (2010) is a capacity for withholding trust in
47 a selective fashion. More specifically, they propose that children be tested for their willingness to
48 be ‘forgiving’—to withhold negative assessments of an inaccurate informant in domains outside
49 of the observed inaccuracy. Effectively, this means that children should be tested to check that

1 they make relatively, narrow, domain-specific attributions of lack of knowledge rather than glo-
 2 bal attributions of wide-ranging incompetence. As noted earlier, the findings of Fusaro et al.
 3 (2011) indicate that preschoolers do indeed make such narrow attributions.

4 One final important point has been emphasized by Einav and Robinson (2011). They underline
 5 the fact that accurate informants are not necessarily knowledgeable. They may be accurate only
 6 because they have just consulted someone else. Thus, when children infer that someone is knowl-
 7 edgeable on the basis of their accuracy, it would be appropriate for children to suppress that infer-
 8 ence if there is evidence showing that the person's accuracy derives from a source other than that
 9 person's own knowledge. To examine this possibility, 4-year-olds were introduced to two puppets.
 10 One puppet named animals accurately without any help but the other named them accurately after
 11 receiving help from a third party. Subsequently, children were shown pictures of two unfamiliar
 12 animals and the puppets made conflicting claims about which animal was 'a tark'. Asked which
 13 puppet was right, children appropriately favoured the puppet whose prior accuracy was unaided.

14 Thus, the available evidence suggests that when children encounter two informants who differ
 15 in accuracy, they are prone to make a metacognitive inference—to conclude that the variation in
 16 accuracy reflects variation between the informants in their knowledge. Three pieces of evidence
 17 lend support to that conclusion. First, having observed that two potential informants differ in
 18 their accuracy, preschoolers expect local differences in knowledge rather than global differences
 19 in competence or social conformity. Second, when children are invited to explain those differ-
 20 ences in accuracy they frequently and explicitly attribute them to differences in knowledge.
 21 Finally, their trust in a more accurate person is withdrawn if that person's accuracy appears to be
 22 based on help from a third party rather than their own knowledge base.

23 If we keep in mind the fact that 3-year-olds understand that knowing involves a certain causal
 24 relationship with a piece of information, and can monitor their own level of uncertainty (Sodian
 25 and Thoermer 2006), we can better understand why, in the previously described situations, even
 26 younger children are not prone to indiscriminate credulity. Situations in which the source has
 27 been causally linked to the relevant information and children have no contradictory perceptual
 28 information are likely to induce their trust in claims made by the source. By contrast, indications
 29 that the causal link between the source and the information has been broken will tend to discredit
 30 claims from that source.

31 Do these findings throw any light, however indirect, on children's understanding of the impact
 32 of informants on their own knowledge? For the time being, an agnostic answer is probably appro-
 33 priate. It is certainly plausible that children seek knowledge in a selective fashion because they are
 34 aware of their own ignorance and recognize that one of the two informants can help reduce that
 35 ignorance. On the other hand, in virtually all of the experiments described in this chapter, chil-
 36 dren were prompted to ask one of the two informants and they were then invited to endorse one
 37 or the other of the claims that the two informants made. In future research, it will be important
 38 to study the conditions under which children seek knowledge from particular informants in a
 39 spontaneous fashion. We know from naturalistic studies of children's speech that they spontane-
 40 ously ask many questions during the preschool period, especially when talking to a familiar car-
 41 egiver (Chouinard 2007; Harris 2012). What we do not yet know is how far children understand
 42 that such information-seeking will reduce their ignorance, particularly if they put their questions
 43 to a knowledgeable informant.

44 **Conclusions**

45 Assuming that children do increasingly assess their informants not in terms of a social or emo-
 46 tional connection but in terms of a metacognitive appraisal of how knowledgeable they are, how

1 does such a shift come about? We may speculate about three different possibilities. First, in the
 2 course of development, children might draw up an increasingly detailed map of the way that
 3 knowledge is distributed. So long as they remain within their family circle, the limits to the
 4 knowledge of familiar adult caregivers may not be obvious. However, children may increasingly
 5 realize that their familiar caregivers are not fully conversant with every aspect of the wider world.
 6 An informant who is a relative stranger may turn out to be a more knowledgeable source of infor-
 7 mation. More generally, as young children's social horizon expands, they are likely to observe that
 8 knowledge and skill are not universal—particular informants know about particular contexts
 9 (Keil et al. 2008). On this hypothesis, children will be more or less slow to privilege epistemic
 10 competence over social connectedness depending on the breadth of their social experience.

11 A second possibility is that the shift is intimately connected to conceptual changes in children's
 12 understanding of knowledge and belief during the preschool years. We have emphasized that
 13 children who fail classic measures of false belief understanding will still come to mistrust an
 14 inaccurate informant. Nevertheless, it is feasible that progress in understanding the risk of false
 15 beliefs prompts children to recognize that accuracy is not automatic and should not be taken for
 16 granted. Hence, those who are consistently or predominantly accurate should be regarded as
 17 trustworthy.

18 Finally, the shift may have a strong maturational component. In most human societies, chil-
 19 dren's social circle gradually widens beyond the family in the course of the preschool years.
 20 Arguably, nature has built into children's cultural learning an endogenous shift in the weights
 21 that they attach to various signals of trustworthiness. Thus, more or less independent of the
 22 breadth of their social horizon or indeed of their level of conceptual development, children may
 23 become increasingly prone to compare familiar caregivers to other less familiar informants in
 24 terms of their accuracy and more broadly in terms of their epistemic competence.

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