Seeing The World Through Rose-colored Glasses? Neglect of Consensus Information in Young Children's Personality Judgments

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Abstract:
The present study examined the use of consensus information in early childhood. Ninety-six three- to six-year-olds watched a demonstration that depicted the positive or negative behavior of one or several actors toward a recipient (low vs. high consensus, respectively). Subsequently, participants made behavioral predictions and personality judgments about the actors and recipients. Participants viewed all story characters favorably and were reluctant to assign blame for negative outcomes, although the appropriate use of consensus information increased with age for behavioral predictions. These findings suggest that there is a positivity bias in young children's personality judgments even in the face of explicit contradictory behavioral evidence. Children's early 'theory of personality' is apparently driven by a baseline assumption that people are nice.
Keywords: personality trait understanding; behavioral frequency; consensus; positivity bias

Article:
Introduction
The ability to make accurate personality judgments about other people is essential for successful navigation of the social environment (see Erdley & Dweck, 1993). For example, we may be motivated to avoid or approach a particular individual depending on what we know about their personality. Also, knowledge about the dispositional characteristics of other individuals enables us to predict what might happen in the future (i.e., how people will behave). Accordingly, personality traits can be construed as categories that enable us to organize and anticipate different aspects of our social world (e.g., Heyman & Gelman, 2000).

It is well-known that adults tend to make personality attributions automatically and efficiently across a variety of contexts (e.g., Newman, 1991; Winter & Uleman, 1984), in part because they have substantial world experience (e.g., Aloise, 1993). However, given that we do not always have direct personal knowledge about a particular individual, one way in which we make personality judgments is by drawing on the opinions, behaviors or expertise of other people who have had experience with that individual (see White, 1995). The more information that can be obtained from different sources, the more confidence we have about what can be expected and how we should behave. Use of this kind of information, called consensus, has been widely studied in adulthood in the context of Kelley's (1973) attribution theory.

Research with adults indicates that when many actors think about or behave in the same way toward a single recipient (i.e., a high consensus setting), a causal attribution is made about that recipient. For example, if Ann, Mary, Jim, and Ted all report that Tim is 'difficult', we are likely to believe that this is true. In contrast, when only *one* actor perceives the recipient in a particular way (i.e., a low consensus setting), a causal attribution is made about the actor rather than the recipient (e.g., Kelley, 1973; McArthur, 1972). Thus, we are less likely to conclude that Tim is difficult if *only* Ann feels this way about him. Instead, we may believe that there is something about Ann (even if we are not certain what it is) that contributes to her negative interactions with Tim.

Behavioral frequency is an inherent aspect of all attributional information, including consensus. Specifically, in a high consensus condition, people are more likely to make a particular judgment because they are provided with a large amount of relevant information (in the form of judgments or behaviors by others) that can be used to make behavioral predictions and personality attributions. In contrast, in a low consensus condition, people are less likely to make a particular judgment because they have access to fewer amounts of relevant information.

Use of Consensus Information in Early Childhood

Although there is a large body of knowledge about the use of consensus and other cues in adulthood (see White, 1995), less is known about children's use of attributional cues, and in particular, their use of consensus. In the present article, we examined three- to six-year-old children's use of consensus information to make global personality judgments about actors and recipients. This type of information may be particularly important during childhood, given that children face the task of learning how to navigate their social world. For example, children's decisions about who to befriend may be influenced in part by the behaviors and opinions of others around them.

There are many reasons to believe that consensus may be a potent source of information for personality judgments in early childhood. A fundamental way in which humans learn about the world is through the detection of frequency or 'statistical regularity' information (Hasher & Zacks, 1984). People extract regularities from the environment which play a role in forming conceptual knowledge in many domains (e.g., Hasher & Zacks, 1984; Kemp & Bryant, 2003; Sloutsky, 2003). For example, children capitalize on frequency information to discriminate tones (e.g., Saffran, Johnson, Aslin, & Newport, 1999), learn about word morphology (e.g., Akhtar & Tomasello, 1997), and use verbs appropriately (e.g., Naigles & Hoff-Ginsberg, 1998). Thus, given that frequency is an inherent aspect of consensus, it is reasonable to expect that even young children will draw on this information to make personality judgments.

Although previous research suggests that children do not generally use consensus appropriately until at least eight or nine years of age or older (e.g., DiVitto & McArthur, 1978; Hortacsu, 1987; Schuster, Ruble, & Weinert, 1998), this work has typically employed the standard adult attributional paradigm in which the frequency information is presented implicitly, rather than explicitly. For example, in one study (DiVitto & McArthur, 1978, p. 477) children were told, 'Almost everyone else gives Bob a cupcake' rather than having the opportunity to hear about *each* interaction directly and without any information about the specific *number* of acts involved (i.e., how many people gave Bob a cupcake). Thus, the lack of multiple, explicit behavioral exemplars may have hampered children's ability to use the frequency information appropriately. Moreover, studies of consensus have typically assessed children's use of all three attributional cues (consistency, distinctiveness, and consensus) simultaneously (but see Higgins & Bryant, 1982 and Ruble, Feldman, Higgins, & Karlovac, 1979),[1] which may have resulted in excessively high information processing demands on children.

Recent research supports the notion that explicit frequency information is important for personality attribution and that children are able to make personality judgments when they are provided with an adequate amount of information. Boseovski and Lee (2006, Exp. 2) found that three- to six-year-olds differentiated their personality judgments and behavioral predictions about an actor based on the amount of behavioral frequency information provided. In this study, children were told about an actor who behaved positively or negatively toward a single recipient five times (high consistency) or only once (low consistency). Participants were more likely to judge the actor as nice or mean (in the positive and negative conditions, respectively) in the high consistency conditions. Thus, these findings suggest that young children can use attributional information appropriately when given multiple, explicit behavioral exemplars.

In addition to exhibiting a sensitivity to attributional information when the frequency information is abundant and explicit, there is evidence that young children engage in sophisticated social causal reasoning (e.g., Miller & Aloise, 1989; and Wellman, 1990) and this type of reasoning is important in a consensus context. Specifically, appropriate use of consensus requires attention to the fact that a certain effect (e.g., dislike of a recipient) is constant across many actors in a high consensus condition (e.g., wherein many actors dislike the

recipient). Thus, in this case, a causal attribution (e.g., unpleasant disposition) is made about the recipient. In contrast, a low consensus condition does not permit the same judgment of the recipient because the effect varies across actors (e.g., only one actor dislikes the recipient) and may be a function of the actors themselves. Previous research indicates that children as young as four years of age reasoned in this way in deciding whether a person's preference for an object (e.g., their favorite among a set of pictures) reflected something about him or her vs. something about the object itself (Ruble et al., 1979).

Early Biases in Personality Judgments

If preschoolers can use consensus appropriately, then we would expect them to differentiate their personality judgments according to the amount of consensus information provided (i.e., that their judgments about actors and recipients would differ in low vs. high consensus conditions). At the same time, it is possible that young children's initial ideas about people are based on other, potentially more salient, sources of information. It is well known that personality judgments are complex, susceptible to biases (e.g., Rozin & Royzman, 2001) and influenced by myriad factors such as race (Olson & Fazio, 2004), gender (e.g., Krueger, Hasman, Acevedo, & Villano, 2003), and physical attractiveness (Langlois, Kalakanis, Rubenstein, Larson, Hallam, & Smoot, 2000). For example, although adults generally subscribe to the principles of attribution theory, they tend to exhibit negativity biases in their judgments of others (e.g., Ito, Larsen, Smith, & Cacioppo, 1998; Rozin & Royzman, 2001; Skowronski & Carlston, 1989). Thus, it is possible that consensus information takes a 'back seat' to other types of information in early childhood as well. In support of this notion, there is evidence that both preschoolers and older children are susceptible to a positivity bias wherein they overattribute favorable personality traits to others (e.g., Drozda-Senkowska, 1990; Heyman & Giles, 2004; Schuster et al., 1998; Stipek & Daniels, 1990). For example, Stipek and Daniels (1990) found that kindergartners and fourth graders inappropriately assumed that an intelligent child would also be successful in the athletic domain.

However, additional work is necessary prior to concluding that children exhibit a positivity bias in their judgments of other people. Specifically, in some studies that have reported a positivity bias, researchers have focused on children's general attitudes about traits rather than giving them direct behavioral information with which to reason (e.g., Heyman & Giles, 2004). Accordingly, it is important to assess whether this positivity bias is borne out when children are exposed to direct behaviors, both positive and negative, and must use that information to make a personality judgment. Also, in previous research that has reported a positivity bias, participants have typically been given relatively little information (e.g., Drozda-Senkowska, 1990). Thus, it is possible that children exhibit a positivity bias *only* when they do not have enough explicit information to make a reasonable judgment about an individual and that this 'benefit of the doubt' attitude may shift in the face of sufficient behavioral evidence. This is consistent with research indicating that children are more likely to make appropriate trait attributions and behavioral predictions when they are provided with several pieces, rather than only one piece, of relevant behavioral evidence (Boseovski & Lee, 2006).

The Present Study

In the present study, we investigated the degree to which preschoolers are sensitive to different amounts of consensus information when making personality judgments and behavioral predictions about story characters. Three- to six-year-olds heard about the positive or negative target behavior of one actor (low consensus) vs. several different actors (high consensus) toward a single recipient. We chose to focus on the agreeableness dimension of personality (i.e., niceness–meanness, as reflected in sharing and taking behaviors) because it has been established previously that preschoolers are able to generate global evaluations of other people (e.g., Alvarez, Ruble, & Bolger, 2001; Rosati, Knowles, Kalish, Gopnik, Ames, & Morris, 2001).

Importantly, the length of the low and high consensus scenarios was equated by including neutral events in the story. Children in the low consensus conditions heard about one positive or negative target event and five neutral behaviors, whereas those in the high consensus conditions heard about five positive or negative target behaviors and one neutral behavior. This lessened the likelihood that children would rely on the total number of behaviors viewed, rather than the consensus information *per se*, to make their attributions. Neutral events, rather than opposite-valence events (such as five negative behaviors and one positive behavior) were chosen to reduce

potential unevenness in prototypicality, which refers to the degree to which a given behavior represents a trait (Cantor & Mischel, 1977; Hampson, 1982; Mervis & Rosch, 1981). Because it is unclear whether sharing and taking are equally prototypical of the traits 'nice' and 'mean', respectively, biases in responding obtained in mixed-valence scenarios could be an artifact of differences in prototypicality.

After the story, participants were asked to make personality judgments about the actors and the recipient, and to predict how a novel actor would behave toward the recipient. The primary question of interest was whether children would differentiate their behavioral predictions about the novel actor and their personality judgments of both the actors and the recipient according to the level of consensus information presented (low vs. high), or whether they might disregard it and exhibit the positivity bias that has been reported previously (e.g., Schuster et al., 1998). The present work is unique in that it involved the use of an explicit demonstration task (see Boseovski & Lee, 2006). Specifically, unlike traditional tasks of children's attributional understanding in which generalized statements are made about a character's behavior and the number of times that an event occurs is unclear (e.g., 'Anne ... fails to get these right too', Schuster et al., 1998, p. 1583), *every* interaction was not only presented verbally, but demonstrated for the child via the use of age-appropriate toys to maximize their appreciation of the information and to make the information as explicit as possible.

If children can use consensus information appropriately to make personality judgments, then they should make different judgments about a recipient to whom only *one* person has acted positively than one to whom virtually *everyone* acts positively (see Kelley, 1973). For example, if five actors (rather than only one) are kind to the recipient, children should be more likely to conclude that this kindness is due in part to a property of the recipient, namely 'niceness'. If only one actor shares with the recipient, then children should be more likely to conclude that the niceness is a property of the actor. Similarly, if several actors behave negatively toward the recipient, then children may construe this characteristic as a property of the recipient and judge him or her as mean (although it is also possible that they would perceive the recipient as a victim, in which case they might judge the actors as mean). If only one actor is mean, then children may conclude that the meanness is a property of that particular actor. In contrast, if children fail to capitalize on the consensus information and are instead motivated by a general positivity bias, their judgments across the low and high consensus conditions should not differ, and they should further exhibit a reluctance to attribute a negative trait to both the actors and recipients, even in the face of sufficient behavioral evidence.

Method
Participants
Ninety-six children participated in the study. There were 24 participants at each of the following ages: three years ($M = 42.3$ months, $SD = 3.6$, range= 36–47 months, 12 males, preschoolers), four years ($M = 52.8$ months, $SD = 2.5$, range = 48–57 months, eight males, preschoolers), five years ($M = 66.6$ months, $SD = 3.2$, range= 61–71 months, 11 males, preschoolers) and six years ($M = 77.1$ months, $SD = 4.4$, range = 72–85 months, 10 males, first graders). Participants were recruited through the Child Development Laboratory or via local preschools and schools in a mid-sized North American city. Children were of mixed socioeconomic and ethnic backgrounds, although this information was not collected systematically. Testing took place at the child's day care or school.

Table 1. Design Features of the Experiment

Feature	Low consensus	High consensus
Number of actors	6	6
Number of target actions	1	5
Number of neutral actions	5	1
Number of recipients	1	1

Materials

Several toy figures were used as story characters. A larger figure of an adult female served as the 'teacher' and smaller figures served as the children. A variety of miniature toys was also used during storytelling, including a marble, a ball, a comb, blocks, dice, stickers, toy cars, Play-Doh, pencil crayons, candy, fruit, wagons, and a juice bottle. Sessions were audiotaped.

Design and Procedure

Two factors were crossed: valence (positive-nice or negative-mean) and consensus (low or high). A between-subjects design was employed such that participants in each age group were assigned randomly to one of four conditions: High consensus positive, low consensus positive, high consensus negative, and low consensus negative. This resulted in six participants per condition per age group. Table 1 displays the design features of the experiment.

Testing was conducted by a female experimenter. Children were seated at a table across from the experimenter in a quiet room or area of the school. The testing session lasted approximately 15 minutes. After they were comfortable with the experimenter, all participants listened to a story about characters in a preschool or school. The story was enacted by the experimenter via the use of toy characters and objects, both physically (i.e., movement and placement of characters) and verbally (narration of events). At the beginning of the story, children were told that the characters 'are young boys/girls and they go to preschool/school just like you do'. The experimenter made reference to the teacher and other toys that were arranged to simulate a classroom environment. Children heard about actors and recipients of their own gender, as maximal identification with the characters was desirable in this situation (see Heyman & Dweck, 1998). The procedure then differed according to the condition to which the participant was assigned.

High Positive. Participants viewed five positive interactions and one neutral interaction. Each interaction was initiated toward the *same* recipient by *six different actors* on six different days. For the positive interactions children were told, for example, 'Today at school, during play time, Alan is playing with his new animals. He sees Sam and goes over and asks Sam if he wants to play with the animals. Sam is happy about this because he doesn't have any animals to play with. Mrs. Smith says that Alan can share his toys with Sam if he wants to'. This type of positive action was presented five times, with a different actor and object each time. Participants also heard about one neutral action. For example, 'The next day at school, during play time, Alan is playing on his own with his new animals. He sees Sam playing with Play-Doh. Sam is playing with his toy on his own and Alan also plays with his toys on his own. Later, Mrs. Smith tells them to clean up because it's almost time to go home'. There were six possible positions in which the neutral interaction could occur and it was presented in each position an equal number of times across children. After the story, children were asked a novel actor prediction question, in which they decided whether a *novel* actor would behave in the same manner as the other actors toward the recipient: 'Let's pretend that it's the next day, and Sam comes to school. Sam sees Nathan playing in the classroom with his new Play-Doh and Sam thinks it's neat. What do you think will happen in the story?' Participants who did not answer spontaneously were given forced choice options from which to choose ('Will Nathan share his toy with Sam or take Sam's toy away?'). The order of the forced-choice options was randomized across children. Then, children were asked a recipient trait question: 'What do you think of Sam? What kind of boy is he?' Again, if children did not respond spontaneously, they were given forced-choice options from which to choose ('nice', 'mean', 'not nice or mean'). The order of the forced-choice options was randomized with the constraint that the 'not nice or mean' option was always presented last. Children were also asked an actor trait question about the actor(s) who performed the target action, 'What do you think of these boy(s)/girl(s)? What kinds of boys/girls are they?' Finally, children were asked friendship questions to determine their own attitude toward the recipient, 'Would you like to be Sam's friend?', and to determine children's perception of the recipient's status among their peers, 'Do you think that the other children in the class are Sam's friends?'

Low Positive. Participants viewed one positive interaction and five neutral interactions. Each interaction was initiated by a different actor toward the same recipient, but on different days. Thus, one actor shared with the

recipient and five other actors behaved neutrally toward the recipient. There were six possible positions in which the positive interaction could occur and it was presented in each position an equal number of times across children. Participants in this condition were asked the same questions as those in the high-positive condition.

High Negative. Participants viewed five negative interactions and one neutral interaction. Each interaction was initiated toward the *same* recipient by *six different actors* on six different days. For the negative actions, children were told, for example, 'Today at school, during play time, Fred is playing with Play-Doh. He sees Sam playing with his new Legos. Fred goes over to Sam and grabs his Legos and takes them away from him. Sam is upset because that was his toy and he was playing with it'. This type of negative action was presented five times, with a different actor and object (i.e., toy or food) each time. Participants also heard about one neutral action. For example, 'The next day at school, during play time, Bill is playing with Play-Doh. He sees Sam playing with his new Legos over here. Bill plays on his own with his toy and Sam also plays on his own with his toy. Later, Mrs. Smith tells them to clean up because it's almost time to go home'. There were six possible positions in which the neutral interaction could occur and it was presented in each position an equal number of times across children. Participants were then asked a novel actor prediction question, 'Let's pretend that it's the next day, and Sam comes to school. Nathan sees Sam playing in the classroom with his new Play-Doh and Nathan thinks it's neat. What do you think will happen in the story?' Participants who did not answer spontaneously were given a forced-choice option, ('Will Nathan share his toy with Sam or take Sam's toy away?'). The order of presentation of the forced choice options was randomized across children. Participants were asked the same recipient trait question, actor trait question, and friendship questions as those presented in the positive valence conditions.

Low Negative. Participants viewed one negative interaction and five neutral interactions. Each interaction was initiated by a different actor toward the same recipient, but on different days. In this case, one actor took an item from the recipient and five actors behaved neutrally toward the recipient. There were six possible positions in which the negative interaction could occur and it was presented in each position an equal number of times to the children. Participants in this condition were asked the same questions as those in the high negative condition.

Results
Performance on the Prediction and Trait Questions
Logistic regression was conducted to assess the influence of the independent variables (age, valence, and consensus) on performance on the three main dependent variables (actor prediction, recipient trait, and actor trait questions). All quantitative variables were standardized (i.e., converted to z-scores). Age (in months, continuous variable), consensus (number of target actions, continuous variable) and valence (positive or negative, categorical variable) were entered first as predictors because they were chosen for theoretical reasons (see Menard, 2002). Additional predictors (i.e., interactions) were added individually to determine whether they would contribute significantly to the model. Significance was assessed by a Block χ^2 test. In this test, the retention of each predictor in a model must lower the variability significantly to justify adding it to the model.

Finally, potential gender effects were also examined for each model. Because there were no significant effects or interactions involving this variable for any of the dependent measures, it was excluded from the final models.

Novel Actor Prediction Question. Participants received one point for a target-consistent response (i.e., prediction of taking in the negative valence stories; prediction of sharing in the positive valence stories). Other responses were given a score of zero. The best fitting model included age, consensus, valence, and age ¥ consensus as significant predictors of performance. Table 2 presents the characteristics of the model.

The overall regression model was significant, χ^2(4, N = 96) =12.81, p = .012. The likelihood ratio R^2 ($R_L{}^2$; Menard, 2002) is the proportion of variance explained by the model and it is interpreted in the same way as the ordinary least squares (OLS) R^2. As with the OLS R^2, $R_L{}^2$ can be used as an index of effect size. The value of $R_L{}^2$ for the best-fit model was .104 (small effect; Cohen, 1988). There was a significant age effect such that

older children were more likely to make the target prediction than younger children, (β =.557, Wald = 4.9 1, p = .027). The valence effect was marginally significant, revealing that participants were more likely to make the target prediction after hearing about positive than negative behaviors, (β = .841, Wald = 3.20, p = .074). There was no significant effect of level of consensus, indicating that children were no more likely to make the target prediction after hearing about five target behaviors rather than one target behavior, (β = .057, Wald = .055, p = .815). However, there was a significant age by consensus interaction (β = .568, Wald = 5.0 1, p = .025), as shown in Figure 1.

Table 2. Characteristics of Best Fit Model for the Novel Actor Prediction Question

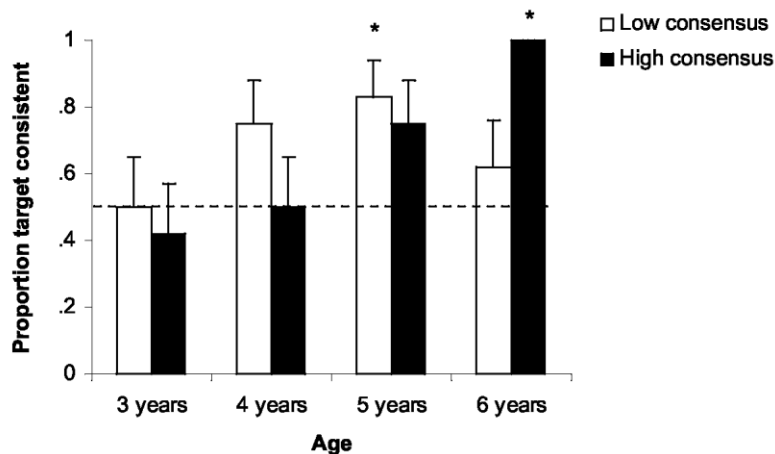| Predictor	β	SE β	Wald's χ^2	df	p	Odds ratio
Age	.557	.251	4.911	1	.027	1.745
Valence (0 = negative; 1 = positive)	.841	.470	3.201	1	.074	2.319
Consensus	.057	.243	.055	1	.815	1.059
Age × consensus	.568	.254	5.014	1	.025	1.764
Constant	.398	.315	1.599	1	.206	1.490

SE = standard error.

Figure 1. Proportion of Target-consistent Responses on the Actor Prediction Question by Age and Consensus Level.
Note: For all figures, dashed lines represent chance-level performance. Asterisks indicate greater-than-chance performance (.05 level of significance).

To assess the nature of the interaction, additional regression analyses were conducted at each level of consensus. These analyses revealed a significant age effect in the high consensus conditions (β = 1.101, Wald = 7.5 8, p = .006), but not the low consensus conditions (β = −.009, Wald = .001, p = .977). Thus, with increasing age, children were more likely to predict that a new actor would behave in a target consistent way after hearing about target behaviors performed by five other actors. Tests against chance (using the binomial distribution with alpha set at .05) were conducted for each age group. Only the six-year-olds performed above chance levels in the high consensus conditions, indicating that they were sensitive to different levels of consensus when making predictions about a new actor. In contrast, five-year-olds performed above chance in the low consensus conditions and the three- and four-year-olds responded randomly.

Table 3. Characteristics of Best Fit Model for the Recipient Trait Question

Predictor	β	SE β	Wald's χ^2	df	p	Odds ratio
Age	.238	.311	.587	1	.444	1.269
Valence (0 = negative; 1 = positive)	3.918	.654	35.834	1	.000	50.275
Consensus	.506	.324	2.446	1	.118	1.659
Constant	−1.868	.433	18.602	1	.000	.154

SE = standard error.

Recipient Trait Question. Participants received one point for a target-consistent response (i.e., attributing niceness in the positive valence conditions; attributing meanness in the negative valence conditions). Other responses were given a score of zero. Age, valence and consensus comprised the best model. Table 3 presents the characteristics of the model.

The overall model was significant, χ^2 (3, N = 96) = 60.13, $p < .0001$. The value of R_L^2 for the best-fit model was .451 (large effect; Cohen, 1988). There was no significant age effect, (β = .238, Wald = .587, $p = .444$). Children's trait attributions did not differ with age. Also, there was no significant effect of consensus, (β = .506, Wald = 2.45, $p =. 118$), indicating that participants' impressions of the recipient did not differ as a function of how many actors had exhibited the target behavior (kindness or meanness) toward that recipient. The valence effect was significant such that participants were more likely to make the target consistent trait attribution after hearing about positive than negative behavior, (β = 3.918, Wald = 35.83, $p <.0001$). Figure 2 shows the recipient trait score as a function of valence and consensus level. Overall, participants exhibited greater-than-chance performance in both the low- and high-positive conditions, and lower-than-chance performance in the low-negative condition.

Actor Trait Question. This question was scored in the same manner as the recipient trait question. Age, valence, and consensus comprised the best model. Table 4 presents the characteristics of the model.

The overall model was significant, χ^2 (3, N = 96) = 35.63, $p < .0001$. The value of R_L^2 for the best-fit model was .280 (large effect; Cohen, 1988). There was a significant age effect, (β = .681, Wald = 6.16, $p = .0$ 13), indicating that participants were more likely to make the target attribution about the actors with age. The consensus effect was not significant, (β = .219, Wald = .676, $p = .411$). Specifically, participants' ratings of the actors did not differ as a function of the number of target behaviors. There was a significant effect of valence such that children were more likely to make the target trait attribution after hearing about positive than negative behaviors, (β = 2.816, Wald = 21.93, $p < .0001$). All age groups exhibited greater-than-chance performance in the positive, but not the negative, conditions. Figure 3 shows children's performance on this question as a function of age and valence.

Performance on the Friendship Questions
Children's performance on the friendship questions was analyzed using goodness of fit tests against chance. The first question assessed children's own perception of the recipient. Across all conditions, children overwhelmingly reported that they would like to befriend the recipient (87 children responded 'yes' and 8 children responded 'no'). Chi-squared analyses revealed that this difference was significant, χ^2 (1, 95) = 65.69, $p < .0001$. The second question assessed children's perception of the recipient's status with peers in the classroom. The majority of children reported that the other children in the class were friends with the recipient (72 children responded 'yes' and 19 responded 'no'). Chi-squared analyses revealed that this difference was significant, χ^2 (1, 91) = 30.86, $p < .0001$.
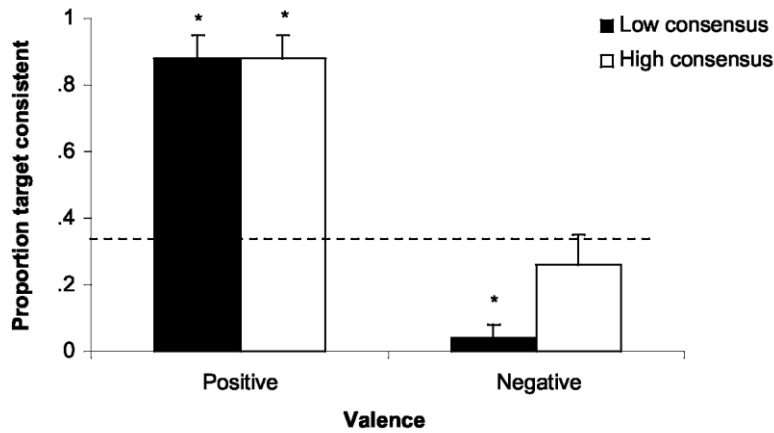
Figure 2. Proportion of Target-consistent Responses on the Recipient Trait Question by Valence and Consensus Level.

Table 4. Characteristics of Best Fit Model for the Actor Trait Question

Predictor	β	SE β	Wald's χ^2	df	p	Odds ratio
Age	.681	.274	6.166	1	.013	1.976
Valence (0 = negative; 1 = positive)	2.816	.601	21.931	1	.000	16.712
Consensus	.219	.266	.676	1	.411	1.244
Constant	−.487	.317	2.366	1	.124	.614

SE = standard error.

Discussion

We examined whether young children would differentiate their personality judgments about actors and recipients based on the amount of consensus information presented. Overall, participants did not use consensus information in the pattern expected by Kelley (1973) and instead were influenced to a greater extent by the valence of the information when making personality judgments.
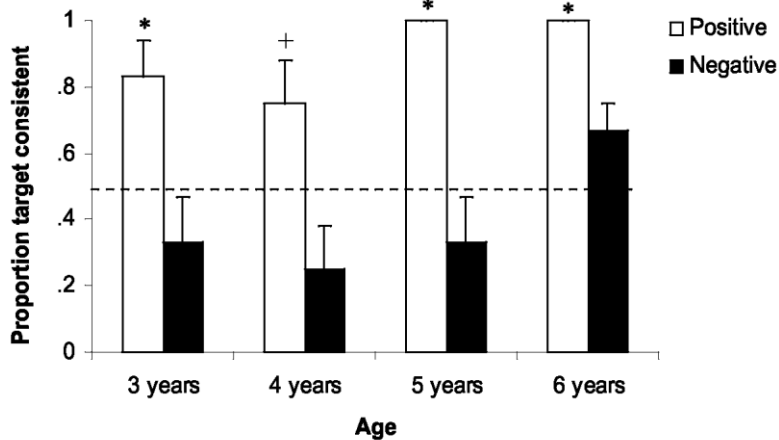

Figure 3. Proportion of Target-consistent Responses on the Actor Trait Question by Age and Valence.
+ = p < .10.

These results are the first to demonstrate that young children tend to exhibit a positivity bias in their trait attributions despite contradictory behavioral evidence (i.e., high-negative condition) or a lack of behavioral evidence (i.e., low-positive condition) for such judgments. Children rated the recipient very favorably in the positive conditions regardless of hearing about the positive behavior of one or five actors toward that recipient, but apparently refused to make a neutral or unfavorable attribution in the negative conditions even after hearing about five negative behaviors toward the recipient. Thus, these findings suggest that consensus information is less potent than valence information in children's attributions in this context. If children used consensus in the expected way, they should have perceived the recipient positively and negatively in the high-positive and high-negative consensus conditions, respectively.

Notably, it is possible that children saw the recipient as a victim in the negative conditions and did not consider the possibility that he/she provoked the actors' behavior. However, if this were the case, one would expect them to 'blame' the actor(s) for their negative behaviors toward the recipient. In fact, this did not happen. Actors in the negative conditions were given the benefit of the doubt, as children were reluctant to attribute meanness to them. Children also exhibited a tendency to rate the actors as nice in the positive conditions, regardless of whether they acted uniquely (low consensus) or similarly to the other actors (high consensus).

Finally, the responses to the friendship questions provide further support for young children's propensity to view others positively. Participants indiscriminately stated that they would befriend the recipient, even in the high-negative consensus conditions, although this may have been due to a tendency to see him or her as a victim rather than as an unlikable child. This latter possibility seems unlikely given that the majority of children also felt that the recipient actually had friends. In sum, participants in this study appeared to perceive *everyone* positively, regardless of whether they were actors or recipients and irrespective of the amount of behavioral evidence presented.

Developmental Differences in the Use of Consensus Information
Despite its apparent lack of influence on trait attribution, children *were* influenced by consensus when making behavioral predictions about a novel actor. With increasing age, participants were more likely to make the target prediction about a novel actor after hearing about the target behavior of five actors than only one actor. Thus, there may be developmental differences in the type of information used to make personality judgments, with younger children relying on valence to a greater extent than older children. In particular, only the six-year-olds exhibited adult-like performance of greater-than-chance levels in the high, but not low, consensus conditions for this question. In contrast, the other age groups either exhibited random responding (three-and four-year-olds) or used the information inappropriately (five-year-olds). This finding suggests that sensitivity to the amount of behavioral information may begin to override any pre-existing positivity bias starting in middle childhood, at least for behavioral predictions. This result is consistent with previous research indicating that children six years of age or older use attributional cues appropriately to make personality judgments (e.g., Boseovski & Lee, 2006, Exp. 2; Higgins & Bryant, 1982; Rholes & Ruble, 1984).

Despite their use of consensus to make behavioral predictions, even the six-year-olds failed to use it appropriately for trait attribution. This asymmetry in performance suggests that these older children are not necessarily impervious to frequency information, but perhaps are unwilling to use it for trait attribution because they are reluctant to label an individual negatively (i.e., as opposed to their behavior). However, it is also possible that trait attributions are simply more difficult for children to make than behavioral predictions (see Rholes & Ruble, 1984). Clearly, additional research is needed to determine the cause of this dissociation in performance.

The Nature of Children's 'Theory of Personality'
These results provide insight about children's every day, commonsense ideas about people. In contrast to the noted negativity bias in personality judgments in adulthood (e.g., Ito et al., 1998; Rozin & Royzman, 2001), early personality attributions are characterized by a default tendency to assume that people are kind (see Dozier, 1991). This is consistent with previous research indicating that children tend to see themselves positively

(Schuster et al., 1998), just as they do other people (e.g., Drozda-Senkowska, 1990; Heyman & Giles, 2004). For example, Heyman and Giles (2004) found that in middle and late childhood, participants were more likely to believe that traits can change in a positive than negative direction, that positive traits are more stable than negative traits, and that positive behavior is more likely to be consistent across situations. We extend these findings by demonstrating that this positivity bias is evident in children as young as three years of age in the context of attributional reasoning.

In addition to uncovering a positivity bias in very young children, these results move beyond previous research in demonstrating that frequency information may play a more limited role in early learning in the social domain (i.e., personality understanding), in contrast to its noted influence in the cognitive domain (e.g., Naigles & Hoff-Ginsberg, 1998; Saffran et al., 1999). Thus, these results raise questions about the degree to which the processing of frequency information is domain-general or domain-specific in nature. Indeed, some researchers have suggested that folk psychological constructs such as information about intentions, desires, and beliefs, play an especially prominent role in young children's reasoning about the social world (see Rosati et al., 2001; Wellman & Gelman, 1992).

Advantages and Disadvantages of a Rose-colored View of the World
Children's positive view of others may benefit their social-cognitive development in many ways. Firstly, the early tendency to see oneself and others positively fosters the development of high self-efficacy, which may encourage high achievement motivation and other positive adjustment outcomes (e.g., see Harter, 1999). For example, children who believe in themselves may be more likely to accept challenges in the academic domain. Secondly, a positive attitude toward peers fosters the formation of peer relationships and social competence (e.g., Coie, Dodge, & Kupersmidt, 1990; Ladd & Price, 1987). Children who are co-operative and who interact with their peers in a positive way are more likely to experience an easy transition from preschool to kindergarten (Ladd & Price, 1987). For those who experience difficulty with peer relations, intervention programs may be particularly appropriate, given that children are especially optimistic in their impressions of others during this time. This notion is consistent with successful outcomes in social skills training programs for low-status preschoolers (see Mize & Ladd, 1990).[2] Finally, a pleasant disposition, or good-naturedness, is related to resilience in childhood (Werner, 1995). Thus, a positivity bias may have protective value, particularly for those children who live in high-risk environments.

On the other hand, seeing the world positively may pose a threat to children's well-being. If children believe that people are 'good' when there is little evidence for what they are truly like, they may unwittingly put themselves in a precarious position of personal safety. For example, if a stranger or acquaintance performs a single kind act toward a child, the child may deem him or her as trustworthy. Children have a poor grasp of the concept of a stranger (e.g., Briggs, 1991) and there is a need for behavioral skills training programs to prevent victimization (e.g., Bromberg & Johnson, 1997).

Limitations, Future Directions, and Conclusion
One particular challenge in this study was to make the consensus information as explicit and developmentally appropriate as possible. Each interaction was demonstrated directly, and we followed the lead of researchers who focused only on one cue (e.g., Rholes & Ruble, 1984; Ruble et al., 1979) rather than all three attributional cues at once. The latter design feature eliminated the possibility of the other cues overshadowing consensus (see Ruble & Feldman, 1976). Yet, participants largely disregarded the cue.

There are several possible methodological reasons why children did not use consensus information appropriately. First, verbal information (i.e., an actor's expression of like/dislike for the recipient) may be more effective than the behavioral information provided here, as young children may not be able to map the relation between behaviors and feelings. If this is the case, children should use consensus to a greater extent when provided with verbal statements. Second, our dependent measures may not have been sensitive enough to capture children's understanding of consensus. For example, instead of judging only whether a character is nice or mean, participants could also rate *how* nice or mean, or indicate their certainty levels for each response (see

Fritzley & Lee, 2003, for a discussion of limitations in developmental questioning techniques). Third, the impact of the neutral information presented here is unclear, and it may have enhanced the postivity bias or reduced the impact of the consensus information provided. For example, in our low consensus positive condition, children may have interpreted the five neutral behaviors as positive, thus resulting in the strong positivity effect. Although this seems unlikely given that participants still exhibited the positivity bias in the low consensus negative condition, it is important to determine precisely how children interpret putatively neutral information in the context of consensus and other attributional cues. Fourth, it is possible that participants simply did not receive enough consensus information in order to use it properly. Indeed, children require more information than adults to make appropriate personality judgments about other people (Aloise, 1993), and it is important to distinguish between children's ability to use frequency information (i.e., number of exemplars in total) vs. consensus *per se* (extent of agreement among actors). Previous research by Boseovski and Lee (2006) has indicated that children's use of frequency information is highly dependent upon the context in which it is presented.

Finally, additional research is needed to determine the extent to which this positivity bias may vary as a function of individual differences. For example, it is possible that their family context (e.g., impoverished vs. privileged) influences children's views about people. In addition, children's ability to judge others appropriately may be mediated by advances in cognition, including their developing theory of mind. For example, if participants viewed the actors as simply pursuing their own goals ('happy victimizer'; Arsenio & Kramer, 1992), then they may not have appreciated the nature of the negative acts and their impact on the recipient. Arsenio and Kramer (1992) reported that older children's attributions of a victimizer as happy were attenuated somewhat when the salience of the victim's loss was emphasized. Thus, it is possible that those children who exhibit advanced perspective taking or theory-of-mind abilities would be able to use consensus information appropriately.

To summarize, the results of the present study indicate that early impression formation appears to be driven by a tendency to view others positively. Even in the face of multiple, explicit behavioral exemplars, young children were influenced to a limited extent by consensus information, although there were developmental differences in its use. The finding that the six-year-olds exhibited a sensitivity to consensus, at least for behavioral predictions, is consistent with previous research indicating that the use of attributional cues improves with age (e.g., Rholes & Ruble, 1984). The challenge for future research will be to discover the mechanisms that drive children's early positivity bias, to clarify the contexts in which it operates, and to determine how it evolves over the course of development.

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Notes

1. These authors reported that children as young as four years of age used consensus information when it was presented on its own. Notably, both studies assessed children's ability to assign a causal locus to a behavior (i.e., whether it was due to a *person* or an *object*) rather than their ability to make personality judgments *per se*.

2. We thank an anonymous reviewer for this suggestion.