Social Understanding and the Effect of Social Pressure on Children's Suggestibility

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SOCIAL UNDERSTANDING AND THE EFFECT OF SOCIAL PRESSURE ON CHILDREN’S SUGGESTIBILITY

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For my parents, Paul T. and Teresa Rieman Camilletti.
Thank you for all your love and support.
SOCIAL UNDERSTANDING AND THE EFFECT OF SOCIAL PRESSURE ON CHILDREN’S SUGGESTIBILITY

By

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DISSERTATION

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Abstract

The current study investigated the effect of varying levels of social pressure in a suggestive interview on children’s recall for a witnessed event as well as the relationship between children’s social understanding and their suggestibility. Children were randomly assigned to take part in one of four suggestive interviews about a confederate’s visit to their classroom. Children also completed several tasks to assess their knowledge and understanding of social situations. Children receiving high levels of social pressure in an interview had higher rates of suggestibility than children receiving lower levels of social pressure in an interview. Children’s overall comprehension of a social understanding measure, receptive vocabulary, and ability to pass a standard theory of mind task were negatively correlated with their suggestibility among children receiving low levels of social pressure in an interview. Among children receiving high levels of social pressure in an interview, their receptive vocabulary was negatively correlated with their suggestibility in an initial interview, but not related to suggestibility in a follow-up interview, and children’s ability to reason about another person’s intentions was positively correlated with their suggestibility. These findings suggest that individual differences in children’s suggestibility were masked by high levels of social pressure in a suggestive interview.
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Social Understanding and the Effect of Social Pressure on Children’s Suggestibility

Researchers have found that including social pressure during a suggestive interview led to high rates of suggestibility in children (Garven, Wood, & Malpass, 2000; Garven, Wood, Malpass, & Shaw, 1998). Specifically, when researchers included positive feedback (telling children “Good job!” for “yes” answers) and negative feedback (asking children to “Think hard!” or telling them that their “memory may not be very good today” for “no” answers) and mentioned co-witness information (informing the children of what other children said they saw), children were more likely to falsely accuse a visitor of some actions than children who did not receive this type of social pressure. Additionally, research by Scullin and Bonner (2006) used similar techniques, but with less social pressure than Garven et al. (2000), and still had high rates of suggestibility from their child-participants.

However, more recent research conducted by our lab did not replicate these findings (Camilletti, Uhl, Scullin, & Wood, 2009). In our research, children were suggestively interviewed about a confederate’s visit to their school and they received positive feedback to their answers throughout the interview, but negative feedback to their first few answers only. This manipulation did not lead to high rates of suggestibility. We may not have used enough social pressure to elicit false memories from children in our study because we only gave children negative feedback if they said “no” to the first few questions in the interview rather than giving them negative feedback for “no” answers throughout the interview. While giving children positive feedback for “yes” answers to non-misleading and misleading questions does increase their suggestibility somewhat, it is not as effective as the additional social pressure applied throughout the interview as seen in Garven et al. (2000). However, we did find an interesting individual difference variable that was related to children’s suggestibility (Camilletti et al.,
In that study, children with better social understanding were less suggestible than children with poor social understanding.

Other research has also found individual differences related to children’s suggestibility. Specifically, previous research has demonstrated that children’s suggestibility for a witnessed event was influenced by both cognitive and social factors (Bruck, Ceci, & Melnyk, 1997). Children’s inaccurate source monitoring, less developed theory of mind, and vocabulary are cognitive factors that have been shown to increase children’s rates of false recall (Brainerd & Reyna, 2002; Bruck & Melnyk, 2004). Additionally, social factors such as giving children negative information about the event or person with whom they interacted, repeating questions within an interview, giving children feedback about their answers, and giving children co-witness information increases their rates of false recall (Bruck et al., 1997; Garven et al., 2000; Leichtman & Ceci, 1995). The present study aims to determine which type of social pressure (repeating questions, positive and negative feedback, co-witness information, or a combination of these) is likely to increase children’s suggestibility during a suggestive interview of a witnessed event, and whether children’s suggestibility and vocabulary are related to their social understanding.

**False Reports of a Witnessed Event**

Research has demonstrated that even young children’s memory can be reliable when they are asked in a non-suggestive manner about an event that they personally experienced (Ornstein, Gordon, & Larus, 1992). But much research has demonstrated that children can and do generate false reports for witnessed and personally experienced events (Calicchia & Santostefano, 2004; Lee, 2004). Interviewing children about an event after they received misinformation and using misleading questions to interview children about an event increases the rates at which children
create false reports for the event (Calicchia & Santostefano, 2004; Lee, 2004; Schwarz & Roebers, 2006). There are cognitive developmental explanations as well as social factors that help explain why children may create false reports for an experienced event.

Cognitive Factors Related to False Reports of a Witnessed Event

Source Monitoring as a Cognitive Factor. Children’s memories for an event can be influenced by their schematic knowledge of how the event typically occurs as well as misleading information about the event after it occurs (Ornstein, Baker-Ward, Gordon, Pelphrey, Tyler, & Gramzow, 2006). Researchers have noted that repeatedly interviewing children about witnessed events while including misinformation may lead to source monitoring problems (Brainerd & Reyna, 2002; Brainerd, Reyna, & Ceci, 2008; Ceci, Huffman, Smith, & Loftus, 1994). Children in one study watched a video of children their own age at a birthday party (Scullin & Ceci, 2001). When researchers supplied child participants with misinformation that the children at the party had lemonade when in fact they had punch, children’s rates of false reports increased because they remembered the gist of the event rather than the event exactly as it happened. Once children hear information that is similar to the information that they are supposed to remember they have a difficult time discriminating the source of the memory and may think that the misinformation was what they actually experienced (Johnson, Hashtroudi, & Lindsay, 1993). Research by Poole and Lindsay (1995) demonstrated that children who received post-event information were likely to report this information as having actually happened when suggestively interviewed. They concluded that children who heard post-event information that was similar to the actual event had difficulty in determining whether their “memories” were actual memories of the event or memories from the post-event information.
More recent research demonstrated that training children to distinguish between different sources of information can decrease the rate at which they create false memories (Thierry & Spence, 2002). These researchers had children watch real life science experiments and some done on television. Some children also received brief training on the important distinction between experiments that happened in real life and those that happened on television. Children who received this source monitoring training produced fewer false memories than children who did not receive this training. These findings demonstrate that source monitoring can help explain why some children develop false reports for an event they personally experienced. Children who hear post-event information that sounds similar to the actual event they experienced may be more likely to confuse their sources and think the post-event information actually happened.

Theory of Mind as a Cognitive Factor. Another cognitive developmental explanation for why children may create false memories concerns differences in theory of mind, recognizing that others’ have different thoughts, feelings, and beliefs than your own. Wellman and Liu (2004) describe two basic types of theory of mind tasks that involve false beliefs. In the typical change-of-location task developed by Wimmer and Perner (1983) children hear about a little boy who puts a chocolate bar in a cupboard. While he is out of the room his mother moves the chocolate bar from the cupboard to a drawer. Children are then asked where the little boy will look for his chocolate when he comes back into the room. The second basic type of false beliefs task involves beliefs about the contents of a container (Wellman & Liu, 2004). In the typical contents false belief task children see a container that normally holds one object (like a band-aid box that would normally hold band-aids) and are shown that inside the box is something different (like a toy pig). Then children are asked what someone who has not seen inside that specific box will think is inside. Both of these false belief tasks also require children to have well-developed
inhibitory control (Wellman, Cross, & Watson, 2001). When asked what another individual’s action or response might be, children must be able to inhibit an accurate response as to where the object really is located (in a change-of-location task) or what a container really has inside (in a contents false belief task) and give a response of what another person falsely believes. When a false belief task is altered slightly so that the object in question disappears or gets destroyed, such as when the chocolate bar in the change-of-location task is eaten rather than moved, then children’s performance on the task improves. Under these circumstances children inhibitory-control ability is less important to their performance on the task because they do not have to inhibit the accurate response of where the chocolate really is when asked where someone will look for it (Wellman et al., 2001).

In terms of the relationship between children’s theory of mind and their suggestibility, researchers have debated whether children who possess theory of mind are more or less suggestible than those who do not (Bruck & Melnyk, 2004). Most recent research demonstrated that children who can pass theory of mind tasks are less suggestible than those who have not passed theory of mind tasks (Camillet et al., 2009; Scullin & Bonner, 2006; Thomsen & Bernsten, 2005).

Earlier research has also established a link between theory of mind and children’s suggestibility (Welch-Ross, 1999; Welch-Ross, Diecidue, & Miller, 1997). Welch-Ross and her colleagues (1997; 1999) established a relationship between children’s suggestibility and theory of mind. Children who had better theory of mind scores were less suggestible than children with poorer theory of mind scores. While theory of mind may be a good predictor of children’s suggestibility during preschool, it cannot be used to predict children’s suggestibility past this point. Most children learn theory of mind by the time they finish preschool, thus this construct
cannot be used to predict children’s suggestibility past their preschool years. There are individual differences in post-preschool age children’s knowledge of theory of mind, but traditional theory of mind may not capture all of these differences. There may be an overarching construct of social understanding of which theory of mind is only a first observance. Since theory of mind is a good predictor of children’s suggestibility during their preschool years, social understanding may be a good predictor of children’s suggestibility beyond their preschool years. However, social understanding has not been looked at as an individual difference variable in suggestibility. I will examine social understanding in greater detail below.

*Social Factors Related to False Reports of a Witnessed Event*

In addition to cognitive factors, researchers have looked at social factors that may explain why children develop false beliefs of an experienced event. Previous research demonstrated that children who receive post-event information about individuals will develop false reports for their interactions with them and accuse them of things they did not do (Ceci & Bruck, 1993; Leichtman & Ceci, 1995).

*Negative Information as a Social Factor.* Lepore and Sesco (1994) found that providing children with negative information about an adult confederate after they interacted with him increased the rates at which children made false negative statements about him in a later interview. In their study some children who interacted with a confederate were told that many of his actions were “bad.” When interviewed one week later, these children who heard about the confederate’s bad behavior made more negative comments about the confederate than did children who did not hear that his actions were bad.

Other researchers found that providing children with negative information before a confederate visited them also increased the rates of children’s false reports (Leichtman & Ceci,
1995). Children heard negative information about a confederate, Sam Stone, who was clumsy and awkward. Later, Sam Stone visited the children’s classroom, but did not do anything clumsy. Children who then took part in suggestive interview where the researcher asked leading questions about clumsy things Sam Stone did do were more likely to falsely accuse him of these things than children who took part in an interview without suggestive questioning. It is important to note that some children who received negative information about Sam Stone’s clumsiness but did not receive the suggestive interview still falsely accused him of doing some clumsy things, although not to the degree that children who heard negative information about Sam Stone and were given a suggestive interview about his visit. These findings demonstrated that social factors, such as negative information, can have an impact on children’s suggestibility.

Repeated Questioning as a Social Factor. Repeatedly interviewing children about an event they witnessed while including false information may lead to source monitoring problems in children’s memories (Brainerd et al., 2008). As described above, children may not be sure whether their memory is from the actual event or from the suggestions provided by the interviewer. While source monitoring problems arise from repeated interviews and can be thought of as a cognitive factor that explains children’s false reports, repeating questions within an interview may also be seen as a form of social pressure that influences children to make false accusations about an event they witnessed (Bruck et al., 1997). Research by Poole and White (1993) found that repeating questions within an interview reduced children’s accuracy when recalling what happened during an event and increased the number of false reports they produced for an event in which they participated. Other researchers established that repeating yes-no questions of an event increases children’s false reports because children believe they answered
the questions incorrectly and should change their answers to match the interviewer’s suggestions (Memon & Vartoukian, 1996).

In research following that by Poole and White (1993), researchers increased the amount of social pressure that accompanied repeating questions. Garven and her colleagues (1998) asked children several questions about a visitor to their classroom. When children correctly denied that the visitor had done some action (break a toy) they were asked to “think hard” and the question was repeated. Children who heard this feedback and the interview questions repeated within a single interview were more likely to falsely accuse the visitor of things he did not do (break a toy) than children who did not hear interview questions repeated within a single interview.

*Feedback as a Social Factor.* There are also other social factors that have been shown to impact children’s false reports of an event they witnessed or of a confederate who they met. Researchers established that providing children with feedback to their answers increased their suggestibility (Garven et al., 2000; Scullin & Bonner, 2006). Children may feel pressured to change their answer to a question when the interviewer thinks they are wrong, gives them non-specific feedback, and repeats the question. Scullin and Ceci (2001) had children watch a video depicting a little boy’s birthday party. After the video children were asked a number of non-misleading questions (things that actually happened) and misleading questions (things that did not happen) about the video they watched. After asking children several of the non-misleading and misleading questions, interviewers told them they had gotten many of them wrong and that they would go back through to see if they could do better after hearing the questions a second time. Giving children this negative feedback and repeating the questions a second time increased the number of false reports children had for the video they watched. Children in this study tended to shift their answers so that they matched the interviewer’s suggestions.
Similar research has used more salient feedback to increase children’s rates of suggestibility (Garven et al., 2000; Garven, Wood, Malpass, & Shaw, 1998; Scullin & Bonner, 2006). In studies by Garven and her colleagues (1998; 2000) children interacted with a confederate who read a story to their class, gave each child a sticker, and passed out treats to everyone. Researchers interviewed children suggestively by asking misleading questions about things the confederate did not do and providing children with negative feedback when they correctly denied that the confederate did not do some action and positive feedback when they incorrectly accused the confederate of doing some action, like tearing a book. Children who received the negative and positive feedback had higher rates of suggestibility and were more likely to accuse the confederate of actions suggested by the researcher than children who did not receive this feedback. More recent research by Scullin and Bonner (2006) used a similar design giving children positive feedback, but giving them less negative feedback than Garven and her colleagues (2000). In their study children watched a confederate perform a magic show for their class. Later, researchers suggestively interviewed children with misleading questions and provided them with positive feedback when they incorrectly accused the confederate of doing some action, like taking the children on a balloon ride; but when children correctly denied these actions they were told to think hard because “other children” had seen the confederate do that. These researchers established that children would falsely accuse the confederate of some actions after having received positive feedback for incorrect answers as well as co-witness information and some negative feedback for correct answers.

Co-witness Information as a Social Factor. The findings from the studies described above verified that using social pressure like providing negative information about a confederate with whom children interacted, repeating questions, and providing feedback to children’s
answers during an interview increased the rates at which children conceded to an interviewer’s suggestive questioning and falsely accused a confederate of doing some action (Garven et al., 1998; 2000; Scullin & Bonner, 2006). Other types of social pressure also increased children’s suggestibility. Telling children that their peers said they had seen the confederate do some action increased the rates at which children falsely accused him of that action (Garven et al., 1998; 2000; Scullin & Bonner, 2006). When told that their peers had said they saw the visitor tear the book he was reading, children being interviewed were more likely to say that they too saw the visitor tear the book than children who were not told that their peers had said this (Garven et al., 1998; 2000). They also demonstrated that telling children their peers confirmed that the visitor had done some action and providing them with negative and positive feedback about their answers increased their rates of suggestibility over and above either form of social pressure presented by itself (Garven et al., 2000).

This research demonstrated that these forms of social pressure are particularly likely to increase children’s suggestibility and result in false accusations about a confederate with whom they interacted. Children who have better knowledge of social situations and social interactions may be better equipped to resists interviewer’s social pressures and suggestive interviewing. Preliminary research by Camilletti and her colleagues (2009) found that this might be the case. Their research established that children who had better social understanding were less suggestible than children with poorer social understanding. It is important to examine the relation between social understanding and children’s suggestibility in greater detail because it may help researchers and professionals predict individual children’s suggestibility.
Social Understanding

Social understanding has been defined as one’s ability to make accurate inferences regarding others’ thoughts and feelings in social situations (Dunn, Cutting, & Fisher, 2002). Individuals can make sense of other people’s actions and predict what they will do in the future because they can take another’s perspective, empathize with others, and think of ambiguous social situations in more than one way (Bosacki, 2000; Bosacki & Astington, 1999). Some researchers describe social understanding and theory of mind as synonymous terms (see Astington, 1998, for a review). In fact, social understanding can be thought of as an advanced form of theory of mind, which is most commonly assessed in preschoolers and autistic children (Bosacki & Astington, 1999). Theory of mind was first described as one’s ability to label one’s own and other people’s mental states (Premack & Woodruff, 1978), and one of the most widely recognized theory of mind tasks for children is the false belief task. In one version of this task a child is shown a band-aid box and asked what they think is in the box. They are often surprised to find that there are not band-aids, but ribbons in the box. The researcher then asks the child what their friend, who has not seen this particular band-aid box, will think is in the box. Children who have theory of mind say that their friend will think band-aids are in the box. Children who do not have theory of mind will incorrectly say that their friend will think that there are ribbons in the box.

By the age of 4 or 5 years most children realize that other people can have beliefs and perceptions of the world that are different from their own, that these can be false, and that others can and do act on these false beliefs and perceptions (Wimmer & Perner, 1983). In the false belief task described above, children who incorrectly said their friend would think there are ribbons in the band-aid box do not realize that other people can have beliefs that are different.
than their own. Most children finish preschool with the ability to pass standard theory of mind tasks, but there are still individual difference in older children’s social understanding. As an advanced measure of theory of mind, social understanding is the ability to understand, explain, and predict other people’s behavior and thinking (Barresi & Moore, 1996). Thus, it is easy to see why some researchers chose to assess social understanding in young children by combining theory of mind and empathizing tasks (Slomkowski & Dunn, 1996).

Previous research by Findlay, Girardi, and Coplan (2006) found that children in kindergarten and first grade who had better social understanding were also more empathetic. To be empathetic involves understanding the emotions of others and why they might be feeling or displaying these emotions. Children who have better social understanding must also have better knowledge of emotions. Denham et al. (1990) demonstrated that children who have better knowledge and understanding of the emotions elicited in social situations are rated as more likeable by their peers. While this was not a direct measure of social understanding, it is clear from other research that knowledge of emotions and affect is an important component of children’s social understanding (Bosacki & Astington, 1999; Findlay et al., 2006). Similar to Denham and his colleagues’ (1990) findings, Bosacki and Astington (1999) found that children in 5th and 6th grades who demonstrated better social understanding were rated as more likeable by their peers than those with poor social understanding. Additionally, children with better social understanding rated their friends as more likeable than children with poorer social understanding (Dunn et al., 2002). These findings demonstrate an interesting relationship between social understanding and likeability between friends and peers. Not only do children with better social understanding receive higher likeability ratings from their peers than children with poor social
understanding, but children with better social understanding tend to like their friends more than children with poorer social understanding.

In addition to being liked more by their friends and peers, researchers found that children with better social understanding were rated as more socially competent and confident by their friends and peers (Bosacki & Astington, 1999; Denham, McKinley, Couchoud, & Holt, 1990; Findlay, Girardi, & Coplan, 2006). For example, Bosacki and Astington (1999) had middle school students complete a task designed to measure their social understanding and vocabulary ability, and had the participants’ peers rate their social competence and likeability. The social understanding task included two ambiguous short stories that could be interpreted as having a positive or negative connotation. Researchers referred to the stories as the Nancy/Margie story or the Kenny/Mark story, depending on whether the characters children heard about were male or female. Children’s ability to explain individual characters’ thoughts and feelings provided an interesting method of assessing their social understanding. Being able to explain the stories involved the ability to understand that other people have differing beliefs than their own and understand different emotions that the characters might have felt or displayed, as well as the ability to empathize with different characters in the stories. Children who had more complete explanations of the characters’ thoughts and feelings demonstrated better social understanding than children who did not have complete explanations. The researchers found that children who had better social understanding were rated as more likeable and socially competent by their peers, and had better vocabulary scores than their peers with poorer social understanding.

Like Bosacki and Astington (1999), other researchers found that children’s social understanding is closely related to their vocabulary and language ability (Bosacki, 2000; Lohmann, Tomasello, & Meyer 2005; Turnbull & Carpendale, 1999). Carpendale and Lewis
(2004) argued that social understanding and language ability were too closely related to be able to discuss one without simultaneously discussing the other. Thus, it is not surprising that social understanding and language ability are correlated (Astington, 1998; Bosacki, 2000; Carpendale & Lewis, 2004; Cutting & Dunn, 1999; Dunn et al., 2002). Some researchers have argued that language ability helps develop children’s social understanding (Astington & Jenkins, 1999). In their study, Astington and Jenkins (1999) had children complete three theory of mind tasks and a language task at three times approximately 3.5 months apart. The researchers used regression analyses to demonstrate that children’s language ability predicted their ability to pass a theory of mind task (a false belief task) rather than simply be correlated with it. However, later research demonstrated that children need some understanding of social interactions in order to acquire and use the language skills necessary to pass a theory of mind task (Lohmann et al., 2005). Thus, language ability and social understanding are so closely related that children may not be able to have one without the other.

Examples of the close relationship between children’s social understanding, language ability, and social competence are findings demonstrating that children with better social understanding also show more connected communication with a friend (Dunn et al., 2002; Slomkowski & Dunn, 1996). Slomkowski and Dunn (1996) had children complete several false belief tasks and an affective perspective taking task as measures of their social understanding at 40 months. They found significant correlations with the children’s scores on these measures and their connected communication and cooperation during play between children and their friend at 47 months. Other researchers also found that children’s social understanding was related to their cooperation with a friend in a play setting (Astington & Jenkins, 1995; Dunn & Cutting, 1999;
Slomkowski & Dunn, 1996). These studies demonstrate that children’s social understanding is related to their language ability as well as their social interactions.

The findings from previous research demonstrate that children with better social understanding are rated as more likeable and socially competent, have better vocabulary and language ability, and have better quality interactions with peers and friends than children with poorer social understanding. Children with better social understanding may also differ in their reactions to a socially pressured suggestive interview. Children with better social understanding demonstrate more social competence and connected communications in interactions with others and are capable of recognizing that others may have differing beliefs than their own. Thus, children with better social understanding who take part in a socially pressured suggestive interview may realize that the suggestive interviewer has false beliefs of what took place during the event in question. They may be better able to resist this social pressure than children who have poorer social understanding. Alternatively, children who have better social understanding may be more suggestible than children with poorer social understanding. Children with better social understanding may realize that an interviewer has a false belief, but choose to go along with the interviewer and confirm the false belief.
The Present Study

The present study investigated children’s suggestibility for a witnessed event during a social pressured suggestive interview and the relation between children’s social understanding and their suggestibility. Children were visited at their school by a confederate, Paco Perez, who read their class a story and passed out stickers to the children. One week later children were suggestively interviewed about Paco’s visit. At this interview children were randomly assigned to one of four interview conditions varying in the amount of social pressure they received during the interview. The first group received a social pressured introduction to the interview, where children heard what other children said they saw and that it would be helpful to remember what Paco had done during his visit. Children in this first group also heard social pressured misleading questions, where children were asked questions about things that Paco had not done during his visit, were asked questions multiple times, received feedback to their answers, and were told what other children said they saw. A second group received a social pressured introduction, similar to that of the first group, and standard misleading questions that contained no social pressure. A third group received a standard introduction, where children were just asked to answer some questions about Paco’s visit, and social pressured misleading questions, similar to those in the first group. A fourth group received a standard introduction, similar to that of the third group, and some social pressured misleading questions, where children received minimal amounts of negative feedback, but large amounts of positive feedback to their answers. The questions in this interview were about actions that Paco did (Non-Misleading questions) and mundane actions, or relatively innocuous actions, he did not do (Mundane Misleading questions), as well as fantastic actions, or outrageous actions, he did not do (Fantastic Misleading questions). I hypothesized that children who received the most social pressure would have the
highest rates of suggestibility and provide the highest rate of false accusations of Paco’s behavior.

One week after the first interview (two weeks after Paco’s visit) children took part in a second suggestive interview about Paco’s visit. This second interview included the same questions that were included in the first interview, but also included new questions about mundane and fantastic actions Paco did not do. I hypothesized that compared to children who received less social pressure, children who received the most social pressure during the first interview about Paco’s visit would be more suggestible during the second interview about his visit. I also hypothesized that children who were more suggestible in the first Paco interview would also be more suggestible during the second Paco interview; and that children who were more suggestible in the first Paco interview would be more likely to falsely accuse Paco of the new mundane and fantastic actions that he did not do than children who were less suggestible at the first Paco interview.

The present study also investigated the relation between children’s social understanding and their suggestibility. During the interviews at week one and week two, children completed measures designed to assess their social understanding, receptive vocabulary, and theory of mind. Researchers suggested that children who have better social understanding may realize that a suggestive interviewer might have a false belief of how an event took place and thus be better able to resist their suggestions (Bruck & Melnyk, 2004). In the present study, I hypothesized that children with better social understanding would be less suggestible during a social pressured suggestive interview than children with poorer social understanding. Because previous research found a correlation between children’s receptive vocabulary and theory of mind as well as a correlation between their receptive vocabulary and social understanding (Bosacki, 2000; Bosacki
& Astington, 1999), I measured the relationship between these variables and children’s social understanding. I hypothesized that children with better social understanding would have better receptive vocabulary and better theory of mind than children with poor social understanding.

Method

Participants

Data were collected from 136 kindergarten and first-grade students recruited from local public elementary schools. Children ranged in age from 5 years 1 month to 7 years 10 months with the average age of 5 years 10 months. There were roughly equal numbers of boys and girls, and approximately 66% of the sample was Hispanic. A majority of children’s mothers and fathers had had some college education and most families reported that their annual income was less than $60,000.

Design

This study was a four group design where the conditions to which children were assigned varied in the amount of social pressure they received in an initial suggestive interview about a confederate’s visit to their classroom. Because one aim of the present study was to explain previous contradictory findings of children’s suggestibility from this lab, two interview conditions were based on experimental conditions from earlier research. A study by Garven and her colleagues (2000) found high rates of suggestibility using a suggestive interview like that of the Full Social Pressure condition here, when compared to a control interview. However, a recent study from this lab that attempted to replicate Garven’s findings using less social pressure was unsuccessful (Camilletti et al., 2009). In that study, researchers found relatively low rates of suggestibility using a suggestive interview like that of Low Negative Feedback condition in the present study. This interview condition, as well as the one used in Camilletti et al.’s study
(2009), began with a neutral introduction where the interviewer said she wanted to ask the child some questions about Paco Perez’s visit from the previous week. There were both Non-Misleading and Misleading questions in this interview condition, and children received positive feedback (‘‘Good job!’’) for ‘‘yes’’ answers. Thus, children received positive feedback when they answered Non-Misleading questions correctly and when they answered Misleading questions incorrectly (with a ‘‘yes’’ answer). Additionally, children received negative feedback if they said ‘‘no’’ to the first few questions in the interview rather than giving them negative feedback for ‘‘no’’ answers throughout the interview as in Garven’s study. This difference may have accounted for the relatively low rates of suggestibility from children. Therefore, one aim of the present study was to address which component of the suggestive interview in Garven and her colleagues’ (2000) study lead to high rates of suggestibility from children. For this reason the Full Social Pressure condition in the current study was similar to the experimental condition in Garven et al.’s studies (1998; 2000) and the Low Negative Feedback condition in the current study was similar to the experimental condition in Camilletti et al.’s study (2009).

An additional aim of the current study was to determine the particular point in an interview in which social pressure is most likely to produce high rates of false reporting. For this reason there were two additional conditions to which children were assigned that varied in the amount and placement of social pressure during a suggestive interview. The Social Pressure Intro condition began with a social pressured introduction to the interview, but contained misleading questions that did not include any social pressure. The Social Pressure Questions condition began with a neutral introduction to the interview, but contained misleading questions that had high levels of social pressure. These two additional conditions allowed us to determine where in a suggestive interview social pressure would lead to high rates of false reporting.
Procedure

Children’s classrooms were visited by a confederate, Paco Perez. This visit was similar to the type of visit described by Garven et al. (2000). Paco wore a giant, brightly colored hat and was introduced by the children’s teacher. Paco started by saying:

Hi kids! My name is Paco Perez and I’m here to read you a story. The name of the story is *Cars* and I want you all to sit quietly and listen. How many of you saw the movie? Did you like it? After the story I brought some stickers to share with you. But first I have to take off my hat. Isn’t it a silly hat?

After taking off his silly hat, Paco put on funny glasses so that he could read the story to the children. After reading the story, Paco put a *Cars* sticker on each child’s hand. Then Paco said goodbye to the children and left. The entire presentation took approximately 20 minutes and was videotaped.

*Week One.* Approximately one week after Paco’s visit to their school, children with parental permission took part in the first interview. Children were interviewed individually in a room away from their classroom. The interviewer first suggestively interviewed each child about Paco’s visit to their class. Children were interviewed in one of four types of suggestive interviews that included varying amounts of social pressure (see Appendix A). Children in the Low Negative Feedback and Social Pressure Intro conditions received minimal amounts of social pressure; children in the Social Pressure Questions Only received mild amounts of social pressure; and children in the Full Social Pressure condition received the most social pressure. Interviews using social pressure followed an interview script similar to that of Garven and her colleagues (1998). Children’s interview about Paco Perez’s visit was videotaped to capture children’s non-verbal statements during this interview.
Children in the Low Negative Feedback interview were introduced to the interview with a non-suggestive introduction to the interview similar to that used in the control condition in Garven et al. (1998):

I want to ask you some questions about the other day when Paco Perez came and read you the *Cars* story. He had on a silly hat didn’t he?

The interviewer then asked children 16 suggestive interview questions about what Paco had done. The majority of questions were misleading suggestive questions about things Paco did not do. Eight of these misleading questions were about mundane actions (e.g., Did Paco throw a crayon at a kid who was talking?) and four of these misleading questions were about fantastic actions (e.g., Did Paco take you on a helicopter ride?). The remaining four questions were not misleading and were questions about things that Paco really did do (e.g., Did Paco take off his funny hat?).

In the Social Pressure Intro Only interview researchers introduced the interview by mentioning what other children said they saw and then telling each child that they could be helpful by remembering what Paco had done:

I want to ask you some questions about the other day when Paco Perez came and read you the *Cars* story. He had on a silly hat didn’t he? Well, I already talked to some other kids and they say that Paco did some bad things. I want to see if you have a good memory like they did. Are you smart enough to remember? Good, because I really need your help.

Children then heard the 16 suggestive interview questions used in the Low Negative Feedback condition. As in the Low Negative Feedback condition did not hear what “everyone else” said, and they did not hear the questions repeated or have a chance to change their answers. They did receive some positive and negative feedback to their answers. Children received negative feedback if they said “no” to the first two questions in the interview in the form of mild criticism.
(“I was hoping you could help.”), but received positive feedback in the form of verbal praise (“Good job!”) when they answered “yes” to any questions in the interview.

In the Social Pressure Questions Only interview children heard the non-suggestive introduction used in the Low Negative Feedback condition. The interviewer then asked the 16 suggestive questions about Paco’s actions. If children answered “yes” to any question, agreeing that Paco had done some action, the interviewer gave them positive feedback in the form of verbal praise (“Good job!”). If children answered “no” to any question the interviewer gave them negative feedback saying that she was “hoping [they] could help” and then told them what “everyone else” had said and asked if they were sure of their answer. If children still answered “no” the interviewer gave them negative feedback by mildly criticizing their memory (“Maybe your memory isn’t very good today.”).

Finally, children in the Full Social Pressure interview heard the suggestive introduction used in the Social Pressure Intro condition and the 16 suggestive interview questions from the Social Pressure Questions condition.

In summary, the groups differed in the presence or absence of a social pressure introduction to the interview, and in the amount of social pressure contained in the questions. Two groups included a social pressure introduction (Full Social Pressure and Social Pressure Intro), while the other two groups did not include a social pressure introduction (Social Pressure Questions and Low Negative Feedback). Additionally, three groups included some level of social pressure in the interview questions (Full Social Pressure, Social Pressure Questions Only, and Low Negative Feedback), while the other group did not include any social pressure in the interview questions (Social Pressure Intro).
Following the Paco Perez interview children took part in the first measure of their social understanding by completing the Nancy/Margie Task (Bosacki & Astington, 1999). Children then completed the Contents False Belief Task (Wellman & Liu, 2004) as a measure of their theory of mind. Finally, they completed the Peabody Picture Vocabulary Test (PPVT; Dunn & Dunn, 2007) to assess their receptive vocabulary. This first session took between 20 and 30 minutes for each child to complete. Once children finished all parts of this interview, the researcher escorted them back to their classroom.

**Week Two.** Approximately two weeks after Paco Perez’s visit to their school, children were interviewed a second time. Again, children completed this interview individually and away from their classroom in another quiet room. Children first took part in a follow-up interview about Paco’s visit to their class (see Appendix B). All children were interviewed using the same format. This follow-up interview also was videotaped to capture children’s non-verbal statements.

In this follow-up interview children were not told what other children said they saw, nor did children receive positive or negative feedback. This interview was introduced so that children had an opportunity to recant any false allegations they may have made in the first interview:

Remember the day Paco Perez came and read you the *Cars* story? He had on a silly hat didn’t he? Well, I know someone already asked you some questions, but some of the things they said may not have really happened. I wasn’t there that day and I’d like you to answer some question about what happened when Paco visited, okay?

The interviewer then asked children 26 questions. Sixteen of these questions were the same as those from the interview from first Paco interview, two questions were new non-misleading questions about things Paco did do, and eight questions were new misleading questions about things that Paco did not do. Of these eight new misleading questions four were mundane misleading and four were fantastic misleading. In this second interview then, children heard six
non-misleading questions, twelve mundane misleading questions, and eight fantastic misleading questions.

After completing the follow-up interview of Paco’s visit, children were administered the Children’s Social Understanding Task (CSUT). This was the second measure of children’s social understanding. Children also took part in the Appearance Reality Emotions Task (Wellman & Liu, 2004) to measure their advanced understanding of theory of mind. This second session took approximately 20 minutes for each child to complete. Once children completed all parts of this interview, the researcher escorted them back to their classroom.

**Materials**

*First Paco Interview.* One week after a confederate, Paco Perez, visited their class, children took part in the first suggestive interview. This interview was designed to assess children’s suggestibility by tracking the number of times they falsely accused Paco of a behavior or action he did not do. Throughout this study, when I refer to suggestibility I am referring to children’s rate of false reports or false accusations in response to misleading questions. Children heard 16 questions. Four of these asked about actions that Paco did do (Non-Misleading), eight asked about mundane actions that he did not do (Mundane Misleading), and four asked about fantastic actions that he did not do (Fantastic Misleading). Thus, children’s suggestibility was determined by the number of misleading questions (mundane and fantastic) of which children falsely accused Paco. Scores on this measure were examined as proportions of the misleading questions to which children acquiesced. This was done so that I could compare children’s rates of false reports across interview conditions.

*Second Paco Interview.* Two weeks after a confederate, Paco Perez, visited their class, children took part in the second suggestive interview. This interview was also designed to assess
children’s suggestibility by tracking the number of times they falsely accused Paco of a behavior or actions he did not do. In this interview children heard 26 questions. Sixteen of these questions were the same as in the first Paco interview (Repeated Non-Misleading, Repeated Mundane Misleading, and Repeated Fantastic Misleading) and the remaining ten questions were New Non-Misleading, New Mundane Misleading, and New Fantastic Misleading questions about Paco’s behavior during his visit. These new questions included two questions of things Paco did do (New Non-Misleading) and eight misleading questions of things that Paco did not do (New Mundane Misleading and Fantastic Misleading). Of these eight new misleading questions, four were New Mundane Misleading and four were New Fantastic Misleading. In this second interview then, children heard six Non-Misleading questions (four repeated and two new), twelve Mundane Misleading questions (eight repeated and four new), and eight Fantastic Misleading questions (four repeated and four new). Again, children’s suggestibility scores for this second interview was determined by the number of repeated and new misleading questions (Repeated and New Mundane Misleading and Repeated and New Fantastic Misleading) of which they falsely accused Paco. Their suggestibility scores on repeated and new misleading questions were examined as proportions of the misleading questions to which children acquiesced. This was done so that I could compare children’s rates of false reports across question type and interview condition.

*Nancy/Margie Task.* The Nancy/Margie Task is an interview designed by Bosacki and Astington (1999; see Appendix C) to measure social understanding in 5th and 6th grade students. The interview describes a brief, ambiguous social interaction among three girls. In the interaction two girls, Nancy and Margie, see a new girl in their class swinging on the swings and they decide to go over to her. This brief description of the interaction is followed by several questions
designed to measure children’s social understanding. Specifically the questions measure children’s understanding of what other people may think and feel, why others may think or feel what they do, and empathy.

Most of the responses in this interview are open-ended and were coded by research assistants. Each open-ended item received a score from zero to three. When children did not give an answer or said “I don’t know” in response to a question they received a score of zero for that item. Responses that described behaviors received a score of one; those that described a mental state or an emotion received a score of two; and those that described two mental states that were coherently related received a score of three. There were also four forced-choice answers where children’s responses were coded as either correct or incorrect. Children’s scores on this measure could range from zero to 37 with higher scores indicating better social understanding.

Previous research with this measure found good reliability. Bosacki and Astington (1999) had a Cronbach’s alpha of .67 and found inter-rater reliabilities to be good with Cohen’s kappa at .98. Camilletti and her colleagues (2009) also had a significant Cronbach’s alpha of .74 and had good inter-rater reliability with an ICC of .96.

Bosacki and Astington (1999) had five subscales in this measure that examined children’s comprehension of the story, their conceptual role taking, empathetic sensitivity, person perception, and alternative explanations of the story. However, preliminary analyses in this study found that the Nancy/Margie interview was best explained through different factors. Exploratory factor analysis revealed that data from the Nancy/Margie Interview loaded on three factors, Ability to Reason about Another Person’s Intentions ($\alpha = .79$), Ability to Offer Alternate Explanations of a situation ($\alpha = .66$), and Overall Comprehension ($\alpha = .36$) of the interview (Table 1). These three factors explained nearly 50% of the total variance. The first factor, Ability
to Reason about Another’s Intentions, included questions that asked about children’s understanding of why certain characters behaved certain ways. For example, one of the questions that loaded on this factor asked children to explain why Nancy and Margie moved off together in the direction of the new girl. The second factor, Ability to Offer Alternate Explanations, asked children to think about the story in a way that was different from their current interpretation. If children thought Nancy and Margie were going to befriend the new girl then an appropriate new interpretation would be that Nancy and Margie were going to bully the new girl. An example of a question that loaded on this second factor was one that specifically asked children to think about the story in “another way.” The third factor, Overall Comprehension, asked about children’s overall understanding of the story and the characters. These questions asked about things that did or did not happen in the brief story. For example, one of the questions that loaded on this factor asked children whether the new girl had any idea why Nancy and Margie were walking toward her. Children’s scores on each of these factors were calculated by adding together the items that loaded strongly on each factor.

*Children’s Social Understanding Task (CSUT).* The CSUT (Camilletti et al., 2009; see Appendix D) is an interview designed to measure social understanding in kindergarten and 1st grade students. The interview is similar to that of the Nancy/Margie Task in that it involves brief, ambiguous social interactions that are followed by questions designed to measure children’s social understanding. It differs from the Nancy/Margie Task in that the CSUT is aimed at kindergarten and 1st grade students’ abilities. There are five brief vignettes that are each shorter than the one in the Nancy/Margie Task. Each vignette is told as a story and is accompanied by illustrations to help children follow along while the interviewer reads each story to the child. Each story is followed by two or three questions, rather than seven, that measure children’s
social understanding. As in the Nancy/Margie Task, these questions measure children’s understanding of what others may think and feel, why other may think and feel the way they do, and empathy. Pilot testing of this measure showed that it is positively correlated with the Nancy/Margie Task, and thus measures a construct similar to that of the Nancy/Margie Task.

Most of the responses in this interview are open-ended and were coded by research assistants. Scoring for this measure is the same as in the Nancy/Margie Task described above where each of 16 open-ended response could receive a score ranging from zero to three. There are also five forced-choice questions in this measure that were coded as correct or incorrect. Children’s scores on this measure could range from zero to 49 with higher scores indicating better social understanding. This measure has also demonstrated reliability similar to that of the Nancy/Margie Task. Camilletti and her colleagues (2009) found Cronbach’s alpha to be .70 and had an inter-rater reliability ICC of .95 with the CSUT.

Preliminary analyses in this study demonstrated that the CSUT was best explained through different factors. The CSUT was examined using two factors, Ability to Reason about Another Person’s Intentions ($\alpha = .78$), and Ability to Explain Another Person’s Emotions ($\alpha = .57$; Table 2). These two factors explained nearly 27% of the total variance. The first factor, Ability to Reason about Another’s Intentions, asked about children’s understanding of why certain characters behaved the way they did. For example, one question asked whether one character in the story would be able to predict another character’s actions. The second factor, Ability to Explain Another’s Emotions, asked children about what emotions the characters in the story would be feeling and why. For example, one question asked children to explain why one character was angry with another character. Children’s scores on each of these factors were calculated by adding together the items that loaded strongly on each factor.
Contents False Belief Task. The Contents False Belief Task (Wellman & Liu, 2004; see Appendix E) is a theory of mind task that investigates children’s understanding of how others' beliefs are different from their own. Children were shown a band-aid box and asked what they thought was in the box. Children were surprised to see that a pig, not band-aids, was inside. Then children were asked to predict what another child, who had not seen inside the box, would think was in the band-aid box. Children’s answer to this question was scored as correct or incorrect.

Appearance Reality Emotion Task. The Appearance Reality Emotions Task (Wellman & Liu, 2004; see Appendix F) is a theory of mind task that investigates children’s knowledge of others’ emotions. Children heard a story about a boy whose aunt promised to buy him a toy car, but bought him a book instead. Children were asked to say how the boy really felt (sad) and how he would try to look (happy) when his aunt gave him the gift. Children’s answers to these questions were scored as correct or incorrect.

Peabody Picture Vocabulary Task (PPVT). The PPVT (Dunn & Dunn, 2007) was used to measure children’s verbal intelligence. Children were shown a card with four images. The interviewer said a word and the child was asked to point to the picture that best matched that word. Children’s responses were scored as either correct or incorrect.

Results

Preliminary Analyses

There were no significant differences between boys and girls on any of the measures except on the more advanced measure of children’s theory of mind, the Appearance-Reality Emotion Task. On this measure, girls had higher theory of mind scores ($M = .69, SD = .47$) than boys ($M = .49, SD = .50$). However, there was no relationship between this variable and
children’s suggestibility so it was not investigated further. Because there were no significant
gender differences on any other measure, data were collapsed across gender.

Preliminary analyses investigated the relationship among social understanding, receptive
vocabulary, and theory of mind. It was hypothesized that children with better social
understanding would also have better receptive vocabulary, and better theory of mind. This
hypothesis was partially supported (Table 3). As described above, the social understanding
measures were best understood through factor analysis. The Nancy/Margie factor of Overall
Comprehension and the CSUT factor of Ability to Explain Another Person’s Emotions were the
only social understanding measures that marginally significantly to significantly correlated with
vocabulary and theory of mind. Specifically, Overall Comprehension was significantly positively
correlated with receptive vocabulary ($r = .33, p < .001$), the Contents False Belief task ($r = .21, p
= .02$), and the Appearance-Reality Emotion task ($r = .17, p = .05$). Ability to Explain Another
Person’s Emotions was also significantly positively correlated with receptive vocabulary ($r =
.24, p = .05$). Children with better vocabulary and theory of mind had better overall
comprehension of social understanding and were better able explain the emotions another person
was feeling.

Preliminary analyses demonstrated that there was no significant relationship between
either factor of the CSUT and children’s suggestibility, nor was there a significant relationship
between the second factor of the Nancy/Margie Interview, Ability to Offer Alternate
Explanation, and children’s suggestibility so these measures were excluded from subsequent
analyses concerning children’s suggestibility. Additionally, analyses revealed that the
Appearance-Reality Emotion task was not significantly related to any measure of children’s
suggestibility and was also excluded from subsequent analyses.
Suggestibility during First Paco Interview

As seen in Table 4, there were differences in children’s true recollections and false reports in response to Misleading questions during the first Paco interview across conditions. Tests of between-subjects effects demonstrated that there were significant differences in children’s true recollections in response to Non-Misleading questions, and their false reports in response to Mundane Misleading, Fantastic Misleading, and Total Misleading questions across conditions. As seen in Table 4 and Figures 1 and 2, children in the Full Social Pressure condition and Social Pressure Questions conditions gave significantly more correct answers in response to Non-Misleading questions than children in the Social Pressure Intro condition, but not more than children in the Low Negative Feedback condition. Children in the Low Negative Feedback interview condition did not give significantly different correct answers in response to Non-Misleading questions than children in any of the other interview conditions. This finding is not surprising because children should have high rates of correct answers in response to Non-Misleading questions across interview conditions. The social pressure in the interview conditions would not be expected to have a strong effect on children’s rates of true recollections in response to Non-Misleading questions. Children in the Full Social Pressure and Social Pressure Questions conditions gave significantly more false reports in response to the Mundane Misleading, Fantastic Misleading, and Total Misleading questions than children in the Social Pressure Intro and Low Negative Feedback conditions. These findings demonstrate that children who were interviewed with more social pressure were more suggestible than children interviewed with less social pressure. Children in the Social Pressure Intro and Low Negative Feedback conditions did not have high rates of suggestibility demonstrating that the social pressure contained in the
interview was important for leading children to falsely assent to witnessing an individual engage in some actions he did not do.

**Suggestibility During Second Paco Interview**

Results from the second Paco Interview were similar to those from the first Paco Interview discussed above. While children’s rates of suggestibility were not as high in this second interview, children in the Full Social Pressure and Social Pressure Questions conditions gave more false reports in response to Misleading questions than did children in the Social Pressure Intro or Low Negative Feedback conditions. Tests of between-subjects effects demonstrated that there were significant differences in children’s true recollections in response to Repeated Non-Misleading questions across interview conditions. There were also significant differences in children’s false reports in response to all varieties of Repeated and New Misleading questions across interview conditions. As seen in Table 5 and Figure 3, children in the Full Social Pressure condition gave more correct answers in response to Repeated Non-Misleading questions (those questions that were asked during the first Paco Interview and Repeated in the second Paco Interview) than children in the Social Pressure Intro condition. Children in the Social Pressure Questions and Low Negative Feedback conditions did not have significantly different rates of correct answers in response to Repeated Non-Misleading questions from each other or the other two interview conditions. Additionally, children’s rates of correct answers in response to New Non-Misleading questions were not different across conditions. Again, the lack of differences among conditions on Non-Misleading questions is not surprising. There should be few differences between level of social pressure groups and children’s rates of correct answers in response to Non-Misleading questions because children with a good memory for the event should assent to these questions without social pressure.
There were also significant differences in children’s false reports in response to misleading questions on the second Paco interview. It was hypothesized that children who received more social pressure in the first Paco interview would be more suggestible in the second Paco interview. As seen in Table 5 and Figure 4 this hypothesis was supported. Children in the Full Social Pressure and Social Pressure Questions conditions gave more false reports to the Repeated and New Total Misleading questions than children in the Social Pressure Intro and Low Negative Feedback conditions. While this finding is robust, the patterns of significant results are somewhat different when looking at children’s rates of false reports in response to Mundane Misleading and Fantastic Misleading questions. As with the Total Misleading questions, children in the Full Social Pressure and Social Pressure Questions conditions gave more false reports in the Repeated and New Mundane Misleading questions than children in the Social Pressure Intro and Low Negative Feedback conditions (Table 5 and Figure 5). However, this pattern of results was different when looking at the Fantastic Misleading questions. As seen in Table 5 and Figure 6, children in the Full Social Pressure condition gave more false reports in response to Repeated and New Fantastic Misleading questions than children in the Social Pressure Intro and Low Negative Feedback conditions. Children in the Social Pressure Questions condition gave more false reports in response to Repeated and New Fantastic Misleading questions than children in the Social Pressure Intro condition, but not children in the Low Negative Feedback condition. Overall, children who had received an initial interview that contained high levels of social pressure were more suggestible in a second, less socially pressured interview about Paco’s visit than were children who received an initial interview that contained relatively low levels of social pressure. These findings demonstrate that negative
effects from a suggestive interview with high rates of social pressure are still present in a second interview that has very minimal amounts of social pressure.

It was also hypothesized that children who were more suggestible in the first Paco interview would be more suggestible in the second Paco interview across interview conditions. This hypothesis was also supported. While children receiving high rates of social pressure within a suggestive interview were more suggestible in both the first and second Paco interview than children receiving relatively low levels of social pressure, across interview conditions children who gave high rates of false reports in the first Paco interview also gave high rates of false reports in the second Paco interview. The correlations in Table 6 demonstrate that in both High and Low Social Pressure interview conditions, children who were more suggestible at the first interview were also more suggestible at the second interview. Similarly, the hypothesis that children who were more suggestible in the first Paco interview would be more likely than children who were less suggestible in the first interview to falsely accuse Paco of the new mundane and fantastic actions in the second interview was also supported. As seen in Table 6, across interview conditions, children who had high rates of false reports in the first Paco interview were more likely to falsely accuse Paco of the new mundane and new fantastic actions in the second Paco interview.

An examination of the means in Tables 4 and 5 shows that there were minimal mean differences between the Full Social Pressure and Social Pressure Questions conditions, as well as minimal differences between the Social Pressure Intro and Low Negative Feedback conditions. Therefore I collapsed the data into High Social Pressure and Low Social Pressure groups. Further, within these groups, there were no significant differences in the proportions of children responding affirmatively to the different types of Non-Misleading questions in the second Paco
interview (Repeated and New Non-Misleading questions) and the different types of misleading questions in the first and second Paco interview (Mundane Misleading and Fantastic Misleading in the first Paco interview, and their Repeated and New counterparts in the second Paco interview). Therefore, further analyses will focus only on the Non-Misleading and Total Misleading variables. Repeated measures ANOVAs found significant differences between the High and Low Social Pressure interview conditions across the first and second Paco interviews on children’s true recollections in response to Non-Misleading questions, $F(1, 134) = 6.45, p = .01$, and on their false reports in response to Total Misleading questions, $F(1, 134) = 8.90, p = .003$ (see Table 7 for $M$ and $SD$). Children in the High Social Pressure interview condition gave more correct answers in response to Non-Misleading questions and more false reports in response to misleading questions in the first and second Paco interviews than did children in the Low Social Pressure interview conditions. A repeated measure ANOVA also revealed a significant interaction between the High and Low Social Pressure interview conditions across the first and second Paco interviews on children’s false reports in response to Total Misleading questions, $F(1, 134) = 4.90, p = .03$. Paired samples $t$-tests revealed that this interaction was driven by a significant decrease in children’s false reports between the first and second Paco interviews in the High Social Pressure interview condition, $t(66) = 2.83, p = .006$, that was not seen in the Low Social Pressure condition, $t(68) = .92, p > .05$. As seen in Table 7, children in the High Social Pressure interview condition made significantly fewer false reports in the second Paco interview than they did in the first Paco interview, but children in the Low Social Pressure interview condition had similar rates of false reports across both Paco interviews. While children in the High Social Pressure interview condition made significantly fewer false reports in the second Paco interview than in the first Paco interview, it is important to remember that children
in this condition were giving false reports in response to 57% of the Total Misleading questions in the second Paco interview. Additionally, it also important to keep in mind that children in the High Social Pressure interview condition made significantly more false reports in the second Paco interview than children in the Low Social Pressure interview condition. This difference in rates of false reporting demonstrates that the High Social Pressure interview condition had a significant impact on children’s suggestibility that was still evident in a second interview with minimal levels of social pressure.

**Individual Differences and Children’s Suggestibility**

After recoding the data into High and Low Social Pressure interview conditions I looked at relationships between suggestibility and children’s Ability to Reason about Another’s Intention, Overall Comprehension, theory of mind, and receptive vocabulary. The data were also analyzed using the Nancy/Margie subscales created by Bosacki and Astington (1999). While the findings from these analyses were similar to the findings discussed below, it made more conceptual sense to talk about the findings in terms of the relationship between children’s suggestibility and their social understanding using the factors from the Nancy/Margie Task. Independent samples t-tests did not reveal any significant differences between the High and Low Social Pressure interview conditions on these individual difference variables (all p-values > .05; see Table 8 for Ms and SDs). Focusing first on children in the Low Social Pressure interview condition in Table 8, there was a significant negative correlation between children’s suggestibility in the first and second Paco interviews and children’s Overall Comprehension on the social understanding measure. This finding is consistent with the hypothesis that children who demonstrate better understanding of questions will provide fewer false reports during a suggestive interview.
I hypothesized that children’s vocabulary would be positively correlated with their social understanding, such that children with better vocabulary would have better social understanding. Because the social understanding measure was broken into several factors, Ability to Reason about Another’s Intentions and Overall Comprehension, I expected the latter factor would be positively correlated with children’s vocabulary. This is exactly what I found among children across interview conditions. Children with better vocabulary had better Overall Comprehension (Low Social Pressure \(r = .38, p = .001\); High Social Pressure, \(r = .30, p = .02\)). Thus, it was hypothesized that children with better vocabulary ability would be less suggestible than children with poorer vocabulary ability. As can be seen in Table 8 this hypothesis was supported. Among children in the Low Social Pressure condition, there was a significant negative correlation between children’s receptive vocabulary and their suggestibility in the first and second Paco interviews, while in the High Social Pressure this correlation was significant in only the first Paco interview. Among children in the Low Social Pressure condition, those with poorer vocabulary were more suggestible in both interviews than those with better vocabulary, while this was true for children in the High Social Pressure condition only in the first Paco interview. Also as hypothesized, there was a significant negative correlation between children’s theory of mind using the Contents False Belief task and their suggestibility at the first and second Paco interviews in the Low Social Pressure condition.

Among the High Social Pressure condition, the vocabulary variable was not related to children’s suggestibility in the second Paco interview, and the theory of mind variable was not related to children’s suggestibility in either Paco interview. This lack of findings indicates that many of the expected relations between individual difference variables and suggestibility were mostly overridden by the high rates of social pressure in the first Paco interview.
However, in the High Social Pressure interview condition in Table 8, there was a significant positive correlation between children’s suggestibility in the first and second Paco interviews and their Ability to Reason about Another’s Intentions. This finding was surprising and at first glance appears to go against our hypotheses. However, a possible explanation for this finding is that children who understand another person’s intentions may realize that a suggestive interviewer, using high levels of social pressure, wants them to falsely accuse an individual of doing some action he did not. Thus, going along with the interviewer and agreeing with the interviewer that this individual did something that he really did not reflects an accurate understanding of the interviewer’s intentions. There was also a significant positive correlation between children’s true recollections in the first and second Paco interview and their Ability to Reason about Another’s Intentions in the High Social Pressure condition, but not in the Low Social Pressure condition. Again, children may be more likely to acquiesce to an interviewer’s pressured questioning about true events, even when they have a poor memory for the event, if they better social understanding in their ability to reason about another person’s intentions. Table 8 also shows that, among children in the High Social Pressure condition, there was a significant positive correlation between children’s true recollections and false reports in the first Paco interview, as well as a significant positive correlation between true recollections and false reports in the second Paco interview. These findings provide further evidence that children in the High Social Pressure interview condition were succumbing to the social pressure from the first interview and going along with the interviewer’s suggestions to Non-Misleading questions even when they were unsure of the correct answer as well as going along with the interviewer’s suggestive questioning. These findings also demonstrate a consistency in children’s rates of true recollections and false reports across interviews, suggesting that the social pressure children
received in the first Paco interview held over and affected their answers in the second Paco interview.

To summarize the theory of mind variables, among children in the Low Social Pressure condition, individual differences in understanding social understanding questions and individual differences on the Contents False Belief task were related to children’s suggestibility; but among children in the High Social Pressure condition, individual differences in understanding the interviewer’s intentions were related to children’s suggestibility.

Differences Between High and Low Social Pressure Conditions

In Table 8 the individual difference variables that were significantly correlated with children’s rate of false reports (their suggestibility) differed between children in the Low Social Pressure interview condition and children in the High Social Pressure interview condition. To further examine this pattern of results I conducted a number of Fisher r-to-z transformations to determine whether the correlations between individual difference variables and children’s rates of false reports and true recollections were significantly different between the Low and High Social Pressure interview conditions. These analyses revealed several significant differences.

The correlation between children’s Ability to Reason about Another’s Intentions and children’s suggestibility at the second Paco interview in the Low Social Pressure interview condition were marginally significantly different from this correlation in the High Social Pressure interview condition ($Z = -1.26, p = .10$). There were also marginally significant to significant differences in the correlations between children’s Ability to Reason about Another’s Intentions and their correct answers at the first and second Paco interview between the Low Social Pressure interview condition and the High Social Pressure interview condition (first Paco interview, $Z = -1.47, p = .07$; second Paco interview, $Z = -2.31, p = .01$). Children in the High
Social Pressure interview condition were more suggestible when they had better Ability to Reason about Another’s Intentions, while there was no relation between children’s suggestibility and their Ability to Reason about Another’s Intentions among children in the Low Social Pressure condition; and children in the High Social Pressure interview condition had more true recollections of Paco’s actions when they had better Ability to Reason about Another’s Intentions, while there was no relation between children’s true recollection and their Ability to Reason about Another’s Intentions among children in the Low Social Pressure condition.

The correlations between children’s Overall Comprehension and their suggestibility at the first and second Paco interview in the Low Social Pressure interview condition were significantly to marginally significantly different from these correlations in the High Social Pressure interview condition (first Paco interview, \( Z = -1.98, p = .02 \); second Paco interview, \( Z = -1.09, p = .10 \)). Children in the Low Social Pressure interview condition were significantly more suggestible when they had poor Overall Comprehension, while there was no relation between suggestibility and Overall Comprehension in the High Social Pressure interview condition.

The correlations between children’s vocabulary and their suggestibility at the second Paco interview in the Low Social Pressure interview condition were marginally significantly different from these correlations in the High Social Pressure interview condition (\( Z = -1.14, p = .10 \)). Children in the Low Social Pressure Interview condition were more suggestible in the second Paco interview when they had poor vocabulary, while there was no relation between suggestibility in the second Paco interview and vocabulary among children in the High Social Pressure Interview condition. Similarly, the correlation between children’s theory of mind and their suggestibility at the first Paco interview in the Low Social Pressure interview condition were significantly different from this correlation in the High Social Pressure interview condition.
(Z = -1.46, p = .07). Children in the Low Social Pressure interview condition were more suggestible when they had poor theory of mind as measured by the Contents False Belief task, while there was no relation between children’s suggestibility and their theory of mind in the High Social Pressure interview condition.

The correlations between children’s correct answers at the first Paco interview and their suggestibility at the first and second Paco interviews in the Low Social Pressure conditions were significantly different from these correlations in the High Social Pressure interview condition (first Paco interview, Z = -1.60, p = .05, second Paco interview, Z = -1.15, p = .10). Children in the High Social Pressure interview condition were more suggestible in the first and second Paco interview if they had more true recollections during the first Paco interview. This relationship was not seen among children in the Low Social Pressure interview condition.
Discussion

Several findings from the current study seem particularly important. First, there seems to be support for both hypotheses concerning the relationship between children’s suggestibility and social understanding. Of the two social understanding factors that were related to suggestibility in the current study, Overall Comprehension was positively correlated with theory of mind and, like theory of mind, negatively correlated with suggestibility among children receiving low levels of social pressure in an interview. In contrast, Ability to Reason about Another’s Intentions was not correlated with theory of mind, but was positively correlated with suggestibility among children receiving high levels of social pressure. Using a measure of social understanding that was similar to theory of mind supports the hypothesis that social understanding and suggestibility are inversely related, while using a measure of social understanding that investigates ability to reason about someone else’s intentions supports the hypothesis that social understanding and suggestibility are positively related.

A second important finding was that high levels of social pressure in an interview led to relatively high rates of suggestibility in that interview; these high rates of suggestibility were still seen in a subsequent interview which removed the social pressure. Children who received more social pressure in an initial interview were more suggestible in that interview and a follow-up interview with minimal amounts of social pressure than children who received relatively low levels of social pressure in the initial interview. Also important was that despite these high rates of suggestibility in the groups that received high levels of social pressure, there was also evidence of individual differences in suggestibility across conditions. Children in both the High and Low Social Pressure conditions who were suggestible in the first interview were also more suggestible in the second interview. Additionally, there was evidence of individual differences in
the Low Social Pressure condition between children’s suggestibility and children’s vocabulary, theory of mind, and overall comprehension of social understanding that were not seen in the High Social Pressure condition. It is likely that evidence of individual differences in children’s suggestibility in the High Social Pressure condition were masked by the high rates of suggestibility elicited by this interviewing technique.

**Social Understanding**

As described above, both measures of children’s social understanding were best understood through factor analysis. The data from the Nancy/Margie measure loaded strongly on three factors, Ability to Reason about Another’s Intentions, Ability to Offer Alternate Explanations of a situation, and Overall Comprehension; the data from the CSUT measure loaded strongly on two factors, Ability to Reason about Another’s Intentions and Ability to Explain Another’s Emotions. There was partial support for the hypothesis that social understanding would be positively correlated with children’s vocabulary and theory of mind. Researchers have described similarities between social understanding and theory of mind ability (Astington, 1998) and have found positive correlations between theory of mind and social understanding (Bosacki & Astington, 1999) and between vocabulary and social understanding (Bosacki, 2000). Both a standard measure of theory of mind, the Contents False Belief task, and a more advanced measure of theory of mind, the Appearance-Reality Emotion task, as well as children’s vocabulary were positively correlated with the Nancy/Margie measure of Overall Comprehension. The Contents False Belief task was positively correlated with the CSUT measure of Ability to Explain Another’s Emotions.

Previous research has found that children who were able to pass a theory of mind task were less suggestible (Scullin & Bonner, 2006; Thomsen & Bernsten, 2005), but others have
argued that children who can pass a theory of mind task may be more suggestible because they realize an interviewer has a false belief but they choose to go along with the interviewer and confirm their false belief (Bruck & Melnyk, 2004). It is interesting, then, that in the present study, a traditional theory of mind task was positively correlated with Overall Comprehension, and that both of these variables were negatively correlated with suggestibility among children in the Low Social Pressure condition. Another factor from the social understanding measure, the Nancy/Margie measure of Ability to Reason about Another’s Intentions, was not related to theory of mind, but was positively correlated with suggestibility among children in the High Social Pressure condition. Thus, there is support for both hypotheses concerning theory of mind and social understanding and their relation to children’s suggestibility depending on which aspect of social understanding taken into consideration.

**Suggestibility during First Paco Interview**

The first hypothesis that children receiving more social pressure in a suggestive interview would have higher rates of false reports than children receiving less social pressure in a suggestive interview was supported. Children in the Full Social Pressure and Social Pressure Questions conditions had higher rates of suggestibility in the first Paco interview than children in the Social Pressure Intro and Low Negative Feedback conditions. I was surprised to find minimal mean differences between the Full Social Pressure and Social Pressure Questions conditions on children’s true recollections and suggestibility. Children in both of these interview conditions had high rates of suggestibility. I was also surprised to find minimal mean differences between the Social Pressure Intro and Low Negative Feedback conditions on children’s true recollections and suggestibility. Children in both of these interview conditions had relatively low rates of suggestibility.
By having four interview conditions in the present study I was able to address that question. The results from the Social Pressure Questions condition demonstrate that the driving force behind children’s suggestibility was the repeated negative social pressure children received in response to their answers. Giving children positive feedback (“Good job!”) when they answered Non-Misleading and Misleading questions affirmatively, as well as giving children mild negative feedback (“I was hoping you could help,” or “Maybe your memory’s not so good today.”), telling children what “other children” had already said, and repeating the question when they answered Non-Misleading and misleading questions negatively produced high rates of suggestibility. Children’s rates of suggestibility in this condition were not different from the rates produced in the Full Social Pressure condition. The Full Social Pressure condition also contained a suggestive introduction where children heard that other children had already told the interviewer that Paco had done some bad things on his visit, but this did little to increase children’s rates of suggestibility beyond the effect seen from the repeated social pressure children received throughout the interview. The results here also demonstrate that, although giving children positive feedback for the affirmative answers to Non-Misleading and Misleading questions does increase their suggestibility (Camilletti et al., 2009), it is not as effective as the additional social pressure applied throughout the interview seen here and in Garven et al. (2000).

*Suggestibility during Second Paco Interview*

The hypothesis that children receiving more social pressure in a suggestive interview would have higher rates of false reports than children receiving less social pressure in a suggestive interview was supported even when looking at the results from the second Paco Interview, which removed the social pressure. This second interview was introduced to children as a way to recant any false reports from the previous interview. The interviewer told children
that the previous interviewer may have gotten some things wrong and now she was there to hear what really happened when Paco visited. Despite minimal levels of social pressure and the opportunity to recant their previous allegations, children who received high levels of social pressure in the first interview were more suggestible in the second interview than children who received low levels of social pressure during the first interview. Thus, children in the Full Social Pressure and Social Pressure Questions conditions continued to have higher rates of total suggestibility in the second Paco Interview than children in the Social Pressure Intro and Low Negative Feedback conditions.

Further support for the conclusion that children in the High Social Pressure interview conditions were more suggestible than those in the Low Social Pressure interview conditions can be found by examining children’s responses to New Non-Misleading and New Misleading questions. The second Paco interview used the same Non-Misleading and Misleading questions as in the first interview, but also included several New Non-Misleading and Misleading questions. While children had similar rates of true recollections in response to New Non-Misleading, children who received high levels of social pressure in the first Paco interview were more suggestible to the New Misleading questions than children who received low levels of social pressure during the first interview. This finding demonstrates that children who received high levels of social pressure adopted a strategy of acquiescing to the interviewer’s suggestive questions, while children who received low levels of social pressure answered the Non-Misleading questions affirmatively, but were unlikely to go along with the interviewer’s suggestive questions.

It is interesting to note that there were a few differences by interview condition between the first and second Paco interview on the different types of Misleading questions. The results
from the Mundane Misleading questions were similar to those of the Total Misleading questions. Children who received high levels of social pressure in the first interview were more suggestible in response to Mundane Misleading questions in the second Paco interview than children who received low levels of social pressure in the first interview. However, the results from the Fantastic Misleading questions were different from those of the Total Misleading questions. Children who received high levels of social pressure in the first interview were more suggestive in response to Fantastic Misleading questions than children in the Social Pressure Intro condition, and children who received low levels of social pressure in the first interview were less suggestible in response to Fantastic Misleading question than children in the Full Social Pressure condition, but children in the Social Pressure Questions condition and children in the Low Negative Feedback condition had similar rates of suggestibility in response to Fantastic Misleading questions. This finding lends further support to the conclusion that it is the repeated social pressure throughout an interview that leads to high rates of suggestibility from children.

There were also interesting findings in children’s suggestibility in the second Paco interview across interview conditions. Across interview conditions, children who were suggestible during the first Paco interview were more suggestible during the second Paco interview. This finding replicates research by Garven and her colleagues (2000), who also found that children who were suggestible in an initial interview about an individual’s visit to their school continued to be suggestible in a later interview about the same individual’s visit. This finding also demonstrates that while high levels of social pressure in a suggestive interview can lead to high rates of suggestibility, there are still a good deal of individual differences in children’s suggestibility. However, once social pressure elicits an elevated level of suggestibility, children remain suggestible even when the social pressure is removed.
Individual Differences in Suggestibility

I found that there were significant differences between the High and Low Social Pressure interview conditions in children’s suggestibility. Children in the Low Social Pressure interview condition were more suggestible in the first and second Paco interview when they had poor Overall Comprehension, when they had poor receptive vocabulary, or when they had poor theory of mind. Most of these relationships were not seen among children in the High Social Pressure Interview condition. The only relationship that was significant in the High Social Pressure condition was between vocabulary and children’s suggestibility in the first Paco interview. Like children in the Low Social Pressure condition, children in the High Social Pressure condition who had poor vocabulary also had higher rates of suggestibility in the first Paco interview. However, unlike the Low Social Pressure condition, the relationship between vocabulary and suggestibility in the second Paco interview as well as the relationship between Overall Comprehension and suggestibility and between theory of mind and suggestibility was not present in the High Social Pressure condition. Thus, I saw stronger evidence of individual differences in children’s suggestibility among children in the Low Social Pressure Interview condition than in the High Social Pressure Interview condition. Previous research has found results similar to those found in the Low Social Pressure condition here concerning individual differences in suggestibility (Bruck et al., 1997). Previous research has demonstrated that poor source monitoring ability and less developed theory of mind in children are likely to increase their rates of false reports (Brainerd & Reyna, 2002; Bruck & Melnyk, 2004). What is interesting about the findings here is that the individual differences in children’s suggestibility were evident mainly in the Low Social Pressure interview condition. It is likely that any evidence of individual differences in children’s suggestibility among children in the High Social Pressure Interview
condition was masked by their high rates of suggestibility elicited by the interviewing techniques. This is especially likely considering children in the High Social Pressure condition were more suggestible in the first and second Paco interview than children in the Low Social Pressure interview. An individual’s behavior is the result of an interaction between personality differences and the situation in which he or she is behaving. Thus, in a situation with high levels of social pressure, as in the present study, individual difference variables become less important in determining an individual’s behavior and the situation becomes more important.

Children in the High Social Pressure interview condition were more suggestible when they had better Ability to Reason about Another's Intentions. This relationship was not seen among children in the Low Social Pressure interview. Children in the High Social Pressure interview condition who had better Ability to Reason about Another’s Intentions were more likely to understand that an interviewer was using social pressure to get them to falsely accuse someone of doing some action he did not do. These children realized that the interviewer wanted them to go along with their suggestive questioning. The relationship between children’s true recollections and their suggestibility further supports this point. Children in the High Social Pressure interview condition who had high rates of true recollections were more likely to also have high rates of suggestibility. Children in the High Social Pressure interview condition may have realized that the interviewer wanted them to answer the misleading questions in the affirmative and falsely accuse an individual of actions he did not do. There was no relationship between children’s true recollections and suggestibility among children in the Low Social Pressure interview condition because without the relatively high level of social pressure, children may not have realized the suggestive interviewer wanted them to falsely accuse some individual.
Conclusions and Implications

The current study seems to shed some light on the debate between the hypothesis that better theory of mind and social understanding should be related to less suggestibility in children and the competing hypothesis that better theory of mind and social understanding should be related to more suggestibility in children. If we focus on the aspect of social understanding that is closely related to theory of mind, then we would expect children who have better social understanding to be less suggestible. However, if we focus on the aspect of social understanding that is related to children’s ability to reason about another person’s intentions, then we would expect children who have better social understanding to be more suggestible.

Another important finding from this study was that high levels of social pressure during a suggestive interview led to high rates of suggestibility in that interview, and that these high rates of suggestibility were still seen in a subsequent interview that removed this social pressure. Despite these high rates of suggestibility among children receiving high levels of social pressure, I still saw evidence of individual differences in children’s suggestibility across conditions. Children receiving low or high levels of social pressure who had high rates of suggestibility in an initial interview continued to have high rates of suggestibility in a follow-up interview. There was additional evidence of individual differences between suggestibility and children’s vocabulary, theory of mind, and overall comprehension of social understanding among children who had received low levels of social pressure that were not seen among children who had received high levels of social pressure. As behavior is a function of both an individual’s personality and their current situation, this finding suggests that individual differences in children’s suggestibility among those receiving high levels of social pressure were masked by the high rates of suggestibility brought about by the techniques used in that interview.
This research has important implications for the legal system. The findings here demonstrate the necessity of neutral interviewing techniques when children are witnesses or victims of crimes. Misleading questions and social pressure within an interview can lead to high rates of false reports from children who may think they are doing the right thing by making these false reports. This research further demonstrates that misleading questions and social pressure within an interview can even be damaging in follow-up interviews that include minimal levels of social pressure and offer children the chance to recant any false allegation because children will continue to have high rates of false reports and allegations. The findings here also demonstrate that misleading questions and high levels of social pressure within an interview may lead to especially high rates of false reporting from children who are better able to reason about another person’s intentions. These children may be even more suggestible in this type of interview because they may be better able to pick up on the interviewer’s desire for children to falsely report an action that may not have happened and make even more false allegations that children without this ability. Future research should continue to examine the intricate relationship between children’s suggestibility, social pressure within an interview, and children social understanding.
References


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Thierry, K. L., & Spence, M. J. (2002). Source-monitoring training facilitates preschoolers’


Table 1.
*Factor loadings for Nancy/Margie Task on Rotated Component Matrix*

<table>
<thead>
<tr>
<th>Questions</th>
<th>Intentions</th>
<th>Alternate Explanations</th>
<th>Overall Comprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the new girl see Nancy and Margie nudging and smiling at each other?</td>
<td>.32</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Has the new girl ever spoken to Nancy and Margie before?</td>
<td>-</td>
<td>-</td>
<td>.75</td>
</tr>
<tr>
<td>3. Why did Nancy smile at Margie?</td>
<td>.68</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Why did Margie nod?</td>
<td>.68</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5a. Why did Nancy and Margie move off together in the direction of the new girl?</td>
<td>.63</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5b. Why do you think this/How do you know this?</td>
<td>.71</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6a. Does the new girl have any idea why Nancy and Margie are walking towards her?</td>
<td>-</td>
<td>-</td>
<td>.47</td>
</tr>
<tr>
<td>6b. How do you know this?</td>
<td>.53</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7a. How do you think the new girl feels?</td>
<td>.55</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7b. Why?</td>
<td>.64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7c. Does she feel anything else?</td>
<td>-</td>
<td>.48</td>
<td>-</td>
</tr>
<tr>
<td>7d. Why?</td>
<td>.50</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8. Choose a character in the story and describe her.</td>
<td>-</td>
<td>-</td>
<td>.55</td>
</tr>
<tr>
<td>Question</td>
<td>Mean</td>
<td>(\text{SD})</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>9a. Is there another way that you can think about the story?</td>
<td>-</td>
<td>.90</td>
<td>-</td>
</tr>
<tr>
<td>9b. If so, how?</td>
<td>-</td>
<td>.89</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.* Intentions = Ability to Reason about Another’s Intentions; Alternate Explanations = Ability to Offer Alternate Explanations.
Table 2.  
*Factor loadings for Children’s Social Understanding Task on Rotated Component Matrix*

<table>
<thead>
<tr>
<th>Questions</th>
<th>Intentions</th>
<th>Emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Will Caroline think Sally broke the toy on purpose or on accident?*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1b. Why?</td>
<td>.48</td>
<td>-</td>
</tr>
<tr>
<td>2a. Will Jane think Sally broke the toy on purpose or on accident?*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2b. Why?</td>
<td>.56</td>
<td>-</td>
</tr>
<tr>
<td>3. How do Caroline and Jane feel when Kevin and Tommy are walking toward them?</td>
<td>-</td>
<td>.48</td>
</tr>
<tr>
<td>4. What do Caroline and Jane think that Kevin and Tommy are going to do?</td>
<td>.42</td>
<td>-</td>
</tr>
<tr>
<td>5. How would Caroline and Jane describe Kevin and Tommy?</td>
<td>.59</td>
<td>-</td>
</tr>
<tr>
<td>6a. What do you think Kevin and Tommy are going to do?*</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6b. Why</td>
<td>.36</td>
<td>-</td>
</tr>
<tr>
<td>7. How would Sally feel?</td>
<td>-</td>
<td>.48</td>
</tr>
<tr>
<td>8a. Why was Kevin angry?</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8b. Did he think Sally did it on purpose or on accident?*</td>
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<td>9a. Why might Kevin think it was on purpose?</td>
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<td>9b. Did his being a bully have anything to do with it?*</td>
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<td>9c. Why?</td>
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<tr>
<td>10a</td>
<td>Why did Caroline and Jane think Sally tore the picture?</td>
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| 10b | Did they think it was on purpose or on accident?                        | -     | .43  
| 10c | Why?                                                                    | .69   | -    
| 11  | Why does Alex think his friends are walking toward him?                 | .59   | -    
| 12a | How would this make him feel?                                          | -     | .57  
| 12b | Why?                                                                    | .55   | -    

_Note._ Intentions = Ability to Reason about Another’s Intentions; Emotions = Ability to Explain Another’s Emotions. *questions that did not load reliably on either factor._
Table 3.
Correlation Between Children’s Individual Difference Variables

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* M = 2.52, SD = 1.18, Skewness = -0.15, Kurtosis = -0.51
* SD = 10.55, 3.82, 1.65, 3.89, 1.16, 0.71, 0.50, 12.83
* Skewness = -0.58, -0.88, -0.31, -0.51, -0.32, -0.93, -0.16
* Kurtosis = 96.46

Note. CFB = Contents False Belief Task, ARE = Appearance-Reality Emotion Task, PPVT = Peabody Picture Vocabulary Task.
* p = .05, ** p = .01.
Table 4.  
*Rate of “Yes” Answers in First Paco Interview in Response to Non-misleading and Misleading Questions by Interview Condition*

<table>
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<th>Interview Condition</th>
<th>Full SP (n = 35)</th>
<th>SP Questions (n = 32)</th>
<th>SP Intro (n = 34)</th>
<th>Low Neg Feedback (n = 35)</th>
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<th>SD</th>
<th>M</th>
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<td>SD</td>
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<td>SD</td>
<td>M</td>
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<td>SD</td>
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<td>M</td>
<td>SD</td>
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*Note. SP = Social Pressure; Misleading questions combine Mundane Misleading and Fantastic Misleading questions. In each row, means with different superscripts are significantly different (p = .05).  
*p = .001. **p < .001.*
Table 5.  
Rate of “Yes” Answers in Second Paco Interview in Response to Non-misleading and Misleading Questions by Interview Condition

<table>
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<tr>
<th>Question Type</th>
<th>Full SP (n = 35)</th>
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<th>SP Intro (n = 34)</th>
<th>Low Neg Feedback (n = 35)</th>
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**Note.** SP = Social Pressure; Misleading questions combine Mundane Misleading and Fantastic Misleading questions. In each row, means with different subscripts are significantly different (p = .05). In each row, means with different superscripts are significantly different.

*p = .02. **p < .001.
Table 6. Correlation Between Children’s Correct and False Reports in Low and High Social Pressure Interview Conditions

Low Social Pressure
(n=69)

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Table 6.
Correlation Between Children’s Correct and False Reports in Low and High Social Pressure Interview Conditions

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Note. * correlations significant at $p = .05$. ** correlations significant at $p = .01$. 66
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*Note.* Paco1 = First Paco Interview; Paco2 = Second Paco Interview
Table 8.
Correlation Between Children’s Correct and False Reports and Individual Difference Variables

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Note. Intent = Social understanding in ability to reason about another person’s intentions; Comp = overall comprehension of social understanding; CFB = content false beliefs task; N-M = correct answers to non-misleading questions at first Paco interview; N-M2 = correct answers to non-misleading questions at second Paco interview; Suggest = false reports to suggestive questions at first Paco interview; Suggest2 = false reports to suggestive questions at second Paco interview. Within each row, correlations with the same superscript are significantly different ($p < .05$). *correlations significant at $p = .05$. **correlations significant at $p = .01$. 
Figure 1. Rate of true recollections in response to non-misleading questions in the first Paco interview.
Figure 2. Rate of false reports in response to Mundane Misleading, Fantastic Misleading, and Total Misleading questions in the first Paco Interview.
Figure 3. Rate of true recollection in response to Non-Misleading questions in the second Paco interview.
Figure 4. Rate of false reports in response to Mundane Misleading question in the second Paco interview.
Figure 5. Rate of false reports in response to Fantastic Misleading questions in the second Paco interview.
Figure 6. Rate of false reports in response to Total Misleading questions in the second Paco interview.
Appendix A

Paco Perez Interview Questions
Low Negative Feedback Interview time 1

I want to ask you some questions about the other day when Paco Perez came and read you the “Cars” story. He had on a silly hat didn’t he?

1. Did Paco tare the book while he was here?
   If yes, praise child (Good job.) and go to #2.
   If no, act disappointed (I was hoping you could help.) and go to #2.

2. Did Paco tell the children to sit quietly and listen?
   If yes, praise child (Good job.) and go to #3.
   If no, act disappointed (I was hoping you could help.) and go to #3.

3. Did Paco steal a pen from the teacher’s desk?
   If yes, praise child (Good job.) and go to #4.

4. Did Paco break a toy while he was here?
   If yes, praise child (Good job.) and go to #5.

5. Did Paco tickle your tummy?
   If yes, praise child (Good job.) and go to #6.

6. Did Paco take off his funny hat?
   If yes, praise child (Good job.) and go to #7.

7. Did Paco tell you a secret and say not to tell anyone?
   If yes, praise child (Good job.) and go to #8.

8. Did Paco throw a crayon at a kid who was talking?
   If yes, praise child (Good job.) and go to #9.

9. Did Paco put on goofy glasses?
   If yes, praise child (Good job.) and go to #10.

10. Did Paco say a bad word?
    If yes, praise child (Good job.) and go to #11.

11. Did Paco kiss you on the nose?
    If yes, praise child (Good job.) and go to #12.

12. Did Paco put a sticker on your hand?
    If yes, praise child (Good job.) and go to #13.
13. Did Paco take you on a helicopter ride?
   If yes, praise child (Good job.) and go to #14.

14. Did Paco take you to a farm?
   If yes, praise child (Good job.) and go to #15.

15. Did you see animals on the farm?
   If yes, praise child (Good job.) and go to #16.

16. Did Paco take you on a horse ride?
   If yes, praise child (Good job.) and thank the child for his/her help.
   If no, thank the child for his/her help and go on to the next task.
I want to ask you some questions about the other day when Paco Perez came and read you the “Cars” story. He had on a silly hat didn’t he?

1. The other kids say that Paco tore the book while he was here. Did he tear the book?
   If yes, praise child (Good job.) and go to #2.
   If no, act disappointed (I was hoping you could help.) and go to #1b.
1b. Everyone else said he did. Are you sure? Did Paco tear the book?
   If yes, praise child (Now your memory is better.) and go to #2.
   If no, act disappointed (I thought you would remember.) and go to #2.

2. The other kids say that Paco told the children to sit quietly and listen. Did he tell the children to sit quietly and listen?
   If yes, praise child (Good job.) and go to #3.
   If no, act disappointed (I was hoping you could help.) and go to #2b.
2b. Everyone else said he did. Are you sure? Did Paco tell the children to sit quietly and listen?
   If yes, praise child (Now your memory is better.) and go to #3.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #3.

3. The other kids say that Paco stole a pen from the teacher’s desk. Did he steal a pen from the teacher’s desk?
   If yes, praise child (Good job.) and go to #4.
   If no, act disappointed (I was hoping you could help.) and go to #3b.
3b. Everyone else said that he did. Are you sure? Did Paco steal a pen from the teacher’s desk?
   If yes, praise child (Now your memory is better.) and go to #4.
   If no, act disappointed (I thought you would remember.) and go to #4.

4. The other kids say that they saw Paco break a toy while he was here. Did Paco break a toy?
   If yes, praise child (Good job.) and go to #5.
   If no, act disappointed (I was hoping you could help.) and go to #4b.
4b. Everyone else said he did. Are you sure? Did Paco break a toy?
   If yes, praise child (Now your memory is better.) and go to #5.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #5.

5. The other kids say that Paco tickled their tummy. Did he tickle your tummy?
   If yes, praise child (Good job.) and go to #6.
   If no, act disappointed (I was hoping you could help.) and go to #5b.
5b. Everyone else said he did. Are you sure? Did Paco tickle your tummy?
   If yes, praise child (Now your memory is better.) and go to #6.
   If no, act disappointed (I thought you would remember.) and go to #6.
6. The other kids say that Paco took off his funny hat. Did Paco take off his funny hat?
   If yes, praise child (Good job.) and go to #7.
   If no, act disappointed (I was hoping you could help.) and go to #6b.

6b. Everyone else said he did. Are you sure? Did Paco take off his funny hat?
    If yes, praise child (Now your memory is better.) and go to #7.
    If no, act disappointed (Maybe your memory isn’t very good today.) and go to #7.

7. The other kids say that Paco told them a secret and said not to tell anyone. Did he tell you a secret?
   If yes, praise child (Good job.) and go to #8.
   If no, act disappointed (I was hoping you could help.) and go to #7b.

7b. Everyone else said he did. Are you sure? Did Paco tell you a secret and say not to tell?
    If yes, praise child (Now your memory is better.) and go to #8.
    If no, act disappointed (I thought you would remember.) and go to #8.

8. The other kids say that Paco threw a crayon at a kid who was talking. Did he throw a crayon?
   If yes, praise child (Good job.) and go to #9.
   If no, act disappointed (I was hoping you could help.) and go to #8b.

8b. Everyone else said he did. Are you sure? Did Paco throw a crayon?
    If yes, praise child (Now your memory is better.) and go to #9.
    If no, act disappointed (Maybe your memory isn’t very good today.) and go to #9.

9. The other kids say that Paco put on goofy glasses. Did he put on goofy glasses?
   If yes, praise child (Good job.) and go to #10.
   If no, act disappointed (I was hoping you could help.) and go to #9b.

9b. Everyone else said he did. Are you sure? Did Paco put on goofy glasses?
    If yes, praise child (Now your memory is better.) and go to #10.
    If no, act disappointed (I thought you would remember.) and go to #10.

10. The other kids say that Paco said a bad word. Did he say a bad word?
    If yes, praise child (Good job.) and go to #11.
    If no, act disappointed (I was hoping you could help.) and go to #10b.

10b. Everyone else said he did. Are you sure? Did Paco say a bad word?
    If yes, praise child (Now your memory is better.) and go to #11.
    If no, act disappointed (Maybe your memory isn’t very good today.) and go to #11.

11. The other kids say that Paco kissed them on the nose. Did he kiss you on the nose?
    If yes, praise child (Good job.) and go to #12.
    If no, act disappointed (I was hoping you could help.) and go to #11b.

11b. Everyone else said he did. Are you sure? Did Paco kiss you on the nose?
    If yes, praise child (Now your memory is better.) and go to #12.
    If no, act disappointed (I thought you would remember.) and go to #12.

12. The other kids say that Paco put a sticker on their hand. Did he put a sticker on your hand?
If yes, praise child (Good job.) and go to #13.
If no, act disappointed (I was hoping you could help.) and go to #12b.
12b. Everyone else said he did. Are you sure? Did Paco put a sticker on your hand?
   If yes, praise child (Now your memory is better.) and go to #13.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #13.

13. The other kids say that Paco took them on a helicopter ride. Did he take you on a helicopter ride?
   If yes, praise child (Good job.) and go to #14.
   If no, act disappointed (I was hoping you could help.) and go to #13b.
13b. Everyone else said he did. Are you sure? Did Paco take you on a helicopter ride?
   If yes, praise child (Now your memory is better.) and go to #14.
   If no, act disappointed (I thought you would remember.) and go to #14.

14. The other kids say that Paco took them to a farm. Did he take you to a farm?
   If yes, praise child (Good job.) and go to #15.
   If no, act disappointed (I was hoping you could help.) and go to #14b.
14b. Everyone else said he did. Are you sure? Did Paco take you to a farm?
   If yes, praise child (Now your memory is better.) and go to #15.
   If no, act disappointed (I thought you would remember.) and go to #14.

15. The other kids say that they saw animals on the farm. Did you see animals on the farm?
   If yes, praise child (Good job.) and go to #16.
   If no, act disappointed (I was hoping you could help.) and go to #15b.
15b. Everyone else said they did. Are you sure? Did you see animals on the farm?
   If yes, praise child (Now your memory is better.) and go to #16.
   If no, act disappointed (I thought you would remember.) and go to #16.

16. The other kids say that Paco took them on a horse ride. Did he take you on a horse ride?
   If yes, praise child (Good job.) and thank the child for his/her help.
   If no, act disappointed (I was hoping you could help.) and go to #16b.
16b. Everyone else said he did. Are you sure? Did Paco take you on a horse ride?
   If yes, praise child (Now your memory is better.) and thank the child for his/her help.
   If no, act disappointed (Maybe your memory isn’t very good today.) and thank the child for his/her help.
Paco Perez Interview Questions
Social Pressure Intro Only Interview time 1

I want to ask you some questions about the other day when Paco Perez came and read you the “Cars” story. He had on a silly hat didn’t he? Well, I already talked to some other kids and they say that Paco did some bad things. I want to see if you have a good memory like they did. Are you smart enough to remember? Good, because I really need your help.

1. Did Paco tear the book while he was here?

2. Did Paco tell the children to sit quietly and listen.

3. Did Paco steal a pen from the teacher’s desk.

4. Did Paco break a toy while he was here?

5. Did Paco tickle your tummy?

6. Did Paco take off his funny hat?

7. Did Paco tell you a secret and say not to tell anyone?

8. Did Paco throw a crayon at a kid who was talking?

9. Did Paco put on goofy glasses?

10. Did Paco say a bad word?

11. Did Paco kiss you on the nose?

12. Did Paco put a sticker on your hand?

13. Did Paco take you on a helicopter ride?

14. Did Paco take you to a farm?

15. Did you see animals on the farm?

16. Did Paco take you on a horse ride?
Paco Perez Interview Questions
Full Social Pressure Interview Time 1

I want to ask you some questions about the other day when Paco Perez came and read you the “Cars” story. He had on a silly hat didn’t he? Well, I already talked to some other kids and they say that Paco did some bad things. I want to see if you have a good memory like they did. Are you smart enough to remember? Good, because I really need your help.

1. The other kids say that Paco tore the book while he was here. Did he tear the book?
   If yes, praise child (Good job.) and go to #2.
   If no, act disappointed (I was hoping you could help.) and go to #1b.
1b. Everyone else said he did. Are you sure? Did Paco tear the book?
   If yes, praise child (Now your memory is better.) and go to #2.
   If no, act disappointed (I thought you would remember.) and go to #2.

2. The other kids say that Paco told the children to sit quietly and listen. Did he tell the children to sit quietly and listen?
   If yes, praise child (Good job.) and go to #3.
   If no, act disappointed (I was hoping you could help.) and go to #2b.
2b. Everyone else said he did. Are you sure? Did Paco tell the children to sit quietly and listen?
   If yes, praise child (Now your memory is better.) and go to #3.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #3.

3. The other kids say that Paco stole a pen from the teacher’s desk. Did he steal a pen from the teacher’s desk?
   If yes, praise child (Good job.) and go to #4.
   If no, act disappointed (I was hoping you could help.) and go to #3b.
3b. Everyone else said that he did. Are you sure? Did Paco steal a pen from the teacher’s desk?
   If yes, praise child (Now your memory is better.) and go to #4.
   If no, act disappointed (I thought you would remember.) and go to #4.

4. The other kids say that they saw Paco break a toy while he was here. Did Paco break a toy?
   If yes, praise child (Good job.) and go to #5.
   If no, act disappointed (I was hoping you could help.) and go to #4b.
4b. Everyone else said he did. Are you sure? Did Paco break a toy?
   If yes, praise child (Now your memory is better.) and go to #5.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #5.

5. The other kids say that Paco tickled their tummy. Did he tickle your tummy?
   If yes, praise child (Good job.) and go to #6.
   If no, act disappointed (I was hoping you could help.) and go to #5b.
5b. Everyone else said he did. Are you sure? Did Paco tickle your tummy?
   If yes, praise child (Now your memory is better.) and go to #6.
If no, act disappointed (I thought you would remember.) and go to #6.

6. The other kids say that Paco took off his funny hat. Did Paco take off his funny hat?
   If yes, praise child (Good job.) and go to #7.
   If no, act disappointed (I was hoping you could help.) and go to #6b.
6b. Everyone else said he did. Are you sure? Did Paco take off his funny hat?
   If yes, praise child (Now your memory is better.) and go to #7.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #7.

7. The other kids say that Paco told them a secret and said not to tell anyone. Did he tell you a secret?
   If yes, praise child (Good job.) and go to #8.
   If no, act disappointed (I was hoping you could help.) and go to #7b.
7b. Everyone else said he did. Are you sure? Did Paco tell you a secret and say not to tell?
   If yes, praise child (Now your memory is better.) and go to #8.
   If no, act disappointed (I thought you would remember.) and go to #8.

8. The other kids say that Paco threw a crayon at a kid who was talking. Did he throw a crayon?
   If yes, praise child (Good job.) and go to #9.
   If no, act disappointed (I was hoping you could help.) and go to #8b.
8b. Everyone else said he did. Are you sure? Did Paco throw a crayon?
   If yes, praise child (Now your memory is better.) and go to #9.
   If no, act disappointed (I thought you would remember.) and go to #9.

9. The other kids say that Paco put on goofy glasses. Did he put on goofy glasses?
   If yes, praise child (Good job.) and go to #10.
   If no, act disappointed (I was hoping you could help.) and go to #9b.
9b. Everyone else said he did. Are you sure? Did Paco put on goofy glasses?
   If yes, praise child (Now your memory is better.) and go to #10.
   If no, act disappointed (I thought you would remember.) and go to #10.

10. The other kids say that Paco said a bad word. Did he say a bad word?
    If yes, praise child (Good job.) and go to #11.
    If no, act disappointed (I was hoping you could help.) and go to #10b.
10b. Everyone else said he did. Are you sure? Did Paco say a bad word?
    If yes, praise child (Now your memory is better.) and go to #11.
    If no, act disappointed (Maybe your memory isn’t very good today.) and go to #11.

11. The other kids say that Paco kissed them on the nose. Did he kiss you on the nose?
    If yes, praise child (Good job.) and go to #12.
    If no, act disappointed (I was hoping you could help.) and go to #11b.
11b. Everyone else said he did. Are you sure? Did Paco kiss you on the nose?
    If yes, praise child (Now your memory is better.) and go to #12.
    If no, act disappointed (I thought you would remember.) and go to #12.
12. The other kids say that Paco put a sticker on their hand. Did he put a sticker on your hand?
   If yes, praise child (Good job.) and go to #13.
   If no, act disappointed (I was hoping you could help.) and go to #12b.
12b. Everyone else said he did. Are you sure? Did Paco put a sticker on your hand?
   If yes, praise child (Now your memory is better.) and go to #13.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #13.

13. The other kids say that Paco took them on a helicopter ride. Did he take you on a helicopter ride?
   If yes, praise child (Good job.) and go to #14.
   If no, act disappointed (I was hoping you could help.) and go to #13b.
13b. Everyone else said he did. Are you sure? Did Paco take you on a helicopter ride?
   If yes, praise child (Now your memory is better.) and go to #14.
   If no, act disappointed (I thought you would remember.) and go to #14.

14. The other kids say that Paco took them to a farm. Did he take you to a farm?
   If yes, praise child (Good job.) and go to #15.
   If no, act disappointed (I was hoping you could help.) and go to #14b.
14b. Everyone else said he did. Are you sure? Did Paco take you to a farm?
   If yes, praise child (Now your memory is better.) and go to #15.
   If no, act disappointed (Maybe your memory isn’t very good today.) and go to #15.

15. The other kids say that they saw animals on the farm. Did you see animals on the farm?
   If yes, praise child (Good job.) and go to #16.
   If no, act disappointed (I was hoping you could help.) and go to #15b.
15b. Everyone else said they did. Are you sure? Did you see animals on the farm?
   If yes, praise child (Now your memory is better.) and go to #16.
   If no, act disappointed (I thought you would remember.) and go to #16.

16. The other kids say that Paco took them on a horse ride. Did he take you on a horse ride?
   If yes, praise child (Good job.) and thank the child for his/her help.
   If no, act disappointed (I was hoping you could help.) and go to #16b.
16b. Everyone else said he did. Are you sure? Did Paco take you on a horse ride?
   If yes, praise child (Now your memory is better.) and thank the child for his/her help.
   If no, act disappointed (Maybe your memory isn’t very good today.) and thank the child for his/her help.
Appendix B
Paco Perez Interview Questions Time 2

Remember the day Paco Perez came and read you the “Cars” story? He had on a silly hat didn’t he? Well, I know someone already asked you some questions, but some of the things they said may not have really happened. I wasn’t there that day and I’d like you to answer some questions about what happened when Paco visited, okay?

1. Did Paco say “Hi” to everyone?
2. Did Paco tear the book while he was reading it?
3. Did Paco tell the children to sit quietly and listen?
4. Did Paco steal a pen from the teacher’s desk?
5. Did Paco break a toy while he was visiting?
6. Did Paco tickle your tummy?
7. Did Paco take off his funny hat?
8. Did Paco tell you a secret and tell you not to tell anyone?
9. Did Paco throw a crayon at a kid who was talking?
10. Did Paco put on goofy glasses?
11. Did Paco say a bad word?
12. Did Paco kiss you on the nose?
13. Did Paco put a sticker on your hand?
14. Did Paco take you on a helicopter ride?
15. Did Paco take you to a farm?
16. Did you see animals on the farm?
17. Did Paco take you on a horse ride?
18. Did Paco stick his tongue out at the teacher?
19. Did Paco do something the teacher told him not to?
20. Did Paco take you in a tunnel underground?
21. Did you see people in witch costumes in the tunnel?
22. Did Paco touch another kid’s leg?
23. Did Paco make a kid cry?
24. Did Paco make you put on a costume?
25. Did Paco make you dance on stage in front of everyone?
26. Did Paco say “Goodbye” to everyone?
Appendix C

Nancy/Margie Task (Bosacki & Astington, 1999)

Nancy/Margie Story
Nancy and Margie are watching the children in the playground. Without saying a work, Nancy nudges Margie and looks across the playground at the new girl swinging on the swingset. Then Nancy looks back at Margie and smiles. Margie nods, and the two of them start off toward the girl at the swingset. The new girl sees the strange girls walk towards her. She’d seen them nudging and smiling at each other. Although they are in her class, she has never spoken to them before. The new girl wonders what they could want.

Interview Questions
Comprehension
1. Does the new girl see Nancy and Margie nudging and smiling at each other?
   Yes  No
2. Has the new girl ever spoken to Nancy and Margie before?
   Yes  No

Conceptual Role-Taking
3. Why did Nancy smile at Margie?
____________________________________________________________________________________

4. Why did Margie nod?
____________________________________________________________________________________

5. a. Why did Nancy and Margie move off together in the direction of the new girl?
____________________________________________________________________________________
   b. Why do you think this/How do you know this?
____________________________________________________________________________________

6. a. Does the new girl have any idea of why Nancy and Margie are walking towards her?  Yes  No
   b. How do you know the new girl has [or doesn’t have] any idea of why Nancy and Margie are walking towards her?
____________________________________________________________________________________

Empathetic Sensitivity
7. a. How do you think the new girl feels?
____________________________________________________________________________________
b. Why?

_____________________________________________________________________

_____________________________________________________________________

c. Does she feel anything else?

_____________________________________________________________________

_____________________________________________________________________

d. Why?

_____________________________________________________________________

_____________________________________________________________________

Person Perception
8. Choose a character in the story and describe her. What kind of things can you think of to describe her? What kind of person do you think she is?

_____________________________________________________________________

_____________________________________________________________________

Alternative Explanation
9. a. Is there another way that you can think about the story?
   Yes   No

b. If so, how?

_____________________________________________________________________

_____________________________________________________________________

Appendix D

Children’s Social Understanding Task (CSUT)

Story 1

Yesterday at recess Caroline and Jane were talking together and Sally was playing by herself.

“Look Jane, there’s Sally,” said Caroline. “She’s one of my best friends! She’s so nice. She is always careful when she borrows my toys. I really like her!”

“I don’t like Sally very much,” said Jane. “She is mean to me sometimes, and she broke my toy once. I think she’s playing with some of Alex’s toys now.”

When Caroline and Jane walked by Sally, they saw her break one of the toys she was playing with.

1. a. Will Caroline think Sally broke Alex’s toy on purpose or on accident?
   Purpose   Accident
   b. Why? __________________________________________________________

2. a. Will Jane think Sally broke Alex’s toy on purpose or on accident?
   Purpose   Accident
   b. Why? __________________________________________________________

Story 2

Later at recess Caroline and Jane saw two of their classmates, Kevin and Tommy.

“Look! There are Kevin and Tommy!” said Caroline. “They are so mean to us!”

“I know,” said Jane. “They always take things from me, and tease me. I don’t like them very much either. I think they’re bullies!”

“I think they are talking about us because they keep looking over here,” said Caroline.

“I think they’re coming over,” said Jane.

Kevin and Tommy were laughing and pointing at Caroline and Jane when they started walking towards them.

3. How do Caroline and Jane feel when Kevin and Tommy are walking toward them?
   _________________________________________________________________
   _________________________________________________________________
4. What do Caroline and Jane think that Kevin and Tommy are going to do? 
_______________________________________________________________

5. How would Caroline and Jane describe Kevin and Tommy? 
_______________________________________________________________

Story 3

Later at recess Sally was playing with a basketball that Kevin and Tommy wanted to play with. 

“Look, Tommy,” said Kevin. “Sally is playing by herself with the only basketball.”

“I know,” said Tommy. “I really wanted to play with it today too.”

“Yeah, me too,” said Kevin. “It’s not fair that she gets to play with it and we don’t!”

“C’mon,” said Tommy. “We’ll fix this!”

Then Sally noticed Kevin and Tommy walking towards her.

6. a. What do you think Kevin and Tommy are going to do? ________________

   b. Why? __________________________________________________________

   _______________________________________________________________

7. How would Sally feel if they did this? ________________________________

   _______________________________________________________________

Story 4

When everyone came in from recess yesterday they started getting their books from their lockers for class. Caroline, Jane, and Sally’s lockers are all near each other. Sally was trying to carry a big pile of books back to her classroom.

“Look at Sally,” said Caroline. “She’s pretty clumsy.”

“Yeah, carrying all those books she looks like she’s going to trip and fall,” said Jane.

Then Sally tripped and fell. As she fell down she ripped a picture hanging on Kevin’s locker. Kevin was upset with Sally for tearing his picture.

“Uh-oh,” said Caroline. “Sally tore the picture on the bully’s locker!”

8. a. Why was Kevin angry at Sally? _________________________________

   _______________________________________________________________
b. Did he think Sally did it on purpose or on accident?

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Accident</th>
</tr>
</thead>
</table>

9. a. Why might Kevin have thought it was on purpose? ____________________________

b. Did his being a bully have anything to do with it?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

c. Why? ____________________________

10. a. Why did Caroline and Jane think Sally tore the picture? _______________

b. Did they think it was on purpose or an accident?

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Accident</th>
</tr>
</thead>
</table>

c. Why did they think this? ____________________________

Story 5

At the end of the school day, Caroline and Jane were getting their books out of their locker when they saw their friend Alex.

“I think Alex is upset,” said Caroline.

“Yeah,” said Jane. “He’s crying. I wonder if he’s ok.”

“I don’t like to see him upset because he is our friend,” said Caroline.

Caroline and Jane walked over to where Alex was crying.

11. Why does Alex think that her friends are walking toward him?

_________________________________________________________________

_________________________________________________________________

12. a. How would this make her feel? ____________________________

_________________________________________________________________

b. Why? ____________________________

_________________________________________________________________
Appendix E

Contents False-Belief

Props: standard Band-aid box with picture of band-aid prominently on front. Toy pig to fit in box. Small figure of a boy.

Experimenter: Here is a Band-Aid box.

Question to child: What do you think is inside the Band-Aid box? ____________

(Prompt child to say Band-Aids if necessary: for example, first prompt, “Does it look like there would be Band-Aids inside?” second prompt, “What kind of box is this? What should be in here?” third prompt, “Should there be Band-Aids in here or books in here?”)

Experimenter: (With drama) Let’s see…it’s really a PIG inside! (Pour pig out)

(Close the lid to restrict view again after a pause)

Post-view Question: Okay…what is in the box? ____________

(If child makes an error here, show contents inside again until child gets this question correct)

Experimenter: Peter has never ever seen inside this Band-Aid box. (Take Peter out) Now here comes Peter.

Question: So…what does Peter THINK is in the box? Band-Aids or a Pig?

(Reiterate choice again if child still does not answer)

___ Band-Aids ___ Pig

Did Peter see inside this box?

___ yes ___ no

SCORING: To be scored correct the child must answer the target question “Band-Aids” and answer the memory question (the last question about seeing) “no.”
Appendix F

Appearance Reality Emotion Task

Props: Picture (about 3x3) showing drawing of back of a boy’s head (not face or expression). Emotion scale: a strip (about 3x10) of three simple “faces” (bare-bones “smiley”-type black-and-white faces of just circular outline plus simple eyes and line-like mouths): one happy, one sad, and (in middle of strip) one neutral.

*Experimenter:* Now, I’m going to tell you a story about a boy. *(Take out emotion scale)* In this story, the boy might feel happy *(point).* He might feel sad *(point).* Or He might be not feel happy or sad, just OK *(point).*

*Can you point to the face that is:*
  ___ Sad?
  ___ OK?
  ___ Happy?
*(Train child again if child makes a mistake)*

*Experimenter:* Okay, now about the story: After I’ve finished the story, I’m going to ask you about how the boy really feels, inside *(pat own chest)*, AND how he looks on his face *(pat own cheek).* How he **really feels inside** *(pat own chest)* may be the same as how he **looks on his face** *(pat own cheek)*, or they may be different.

*(At this point the emotion scale is pushed to one side. The child does not have to answer the target questions by pointing at the scale. The scale remains in sight but out of the way just to provide a visual reminder of the warm up, unless child is unusually nonverbal.)*

*Experimenter:* This story is about Matt *(show picture).* Matt’s aunt just got back from a trip. She promised that she would buy Matt a toy car. **But,** she got Matt a book instead. Matt **doesn’t like books** *(slow pace).* What Matt really wants is a toy car. **But...** Matt has to **hide how he feels,** because if his aunt knows his real feelings, she’ll never buy him anything again.

**Memory Check:** What did Matt’s aunt buy for him?

*(Correct answer: a book...if the child gets the answer wrong, tell the story again)*

What will Matt’s aunt do, if she knows how Matt really feels?

*(Correct answer: she will never buy anything for Matt anymore...if the child gets the answer wrong, tell the story again)*

**Question:** So...how did Matt **really feel** *(pat own chest)*, when his aunt gave him the book—Happy, Sad, or Okay? *(Note: the examiner should not show any feelings)* *(Reiterate choice again if child still does not answer)*

___ Happy ___ Sad ___ Okay
How did Matt **try to look** on his face (pat own face), when his aunt gave him the book—Happy, Sad, or Okay? (Note: the examiner should not show any feelings) (Reiterate choice again if child still does not answer)

___ Happy    ___ Sad    ___ Okay

SCORING: Scoring rests on answers to the last two questions. To be scored correct the child’s answer to the *really-feel* question must be *more negative* than his/her answer to the *look* question (i.e., sad for really-feel and happy or OK for look, or OK for really-feel and happy for look).
Curriculum Vita

Catherine Rieman Camilletti was born in Glen Dale, WV. The only daughter of Paul Thomas Camilletti and Teresa Rieman Camilletti, she graduated from Mount de Chantal Academy, Wheeling, WV in the spring of 2002 and entered Washington and Lee University, Lexington, VA with the J. Edward Lewis Scholarship. She received her bachelor’s of art degree in psychology and art history from Washington and Lee in the spring of 2006. While she was an undergraduate, she published *The effect of temporal focus on affective forecasts regarding the outcome of the 2004 Presidential Election* in 2006 in the *Psi Chi Journal of Undergraduate Research*. In the fall of 2006 she entered the Graduate School at the University of Texas at El Paso.

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