THE CONSEQUENCES OF REVERSING TRUST

OR NOT REVERSING TRUST

by

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A THESIS

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ABSTRACT

Young children often rely on the testimony of others. However, children tend to be selective about which sources they trust. For example, some children will reverse trust when a trusted speaker proves unreliable, suggesting that 4-year-olds use a speaker's current testimony to help make decisions about the trustworthiness of that speaker's past testimony (Scofield & Behrend, 2008). The current study was designed to determine why some children are able to reverse trust and why some are not. The results indicated that trust reversers tended to believe that the unreliable speaker was no longer trustworthy. The results also indicated that trust non-reversers varied by age, with 3-year-olds tending to believe that the unreliable speaker was trustworthy and 4- and 5-year-olds tending to believe that the unreliable speaker was no longer trustworthy, though they did have difficulty correcting past misinformation. Overall, results suggested that most children believe that an unreliable speaker is no longer trustworthy for new information.

DEDICATION

This thesis is dedicated to the many individuals in my life who have supported and encouraged me from the very beginning of my graduate studies. Without their constant words of encouragement, prayers, and moral support, I would not have been successful in achieving this manuscript. Especially my parents, Elder Kenneth Leslie, Sr., and Missionary Sonya Leslie; siblings, Rokichia Haywood and Kenneth Leslie, Jr.; my niece, Tiffani Haywood; my sweet yorkie, Cocoa; other family members, who have always supported my endeavors, and have never given up on my dreams; I dedicate this to you. And finally, to my close friends who were there to encourage me and motivate me to see it through the end.

LIST OF ABBREVIATIONS AND SYMBOLS

n	Sample size
%	Percentage
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
χ^2	Chi-square statistic
<	Less than
=	Equal to

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CHAPTER 1

INTRODUCTION

People are often required to rely on the testimony of others to learn new things, in part, because they are unable to directly experience many aspects of the world themselves (Harris, 2007). Harris also states that children obtain knowledge through the exploration of their world, but because children cannot extensively explore their world, they have to trust that others can provide accurate information. For example, people learn about historical events (e.g., past presidents), microscopic events (e.g., germs), and interstellar events (e.g., galaxies), despite not experiencing or observing any of these events directly (Harris, Pasquini, Duke, Asscher, & Pons, 2006; Harris & Koenig, 2006). In order to learn about these events, people must trust the testimony of others. How trust in testimony is awarded and how it develops in young children, has been a recent focus of research (Clément, Koenig, & Harris, 2004; Harris, 2007).

Interestingly, this research has shown that children do not simply accept testimony from any source, but instead, are selective about who they trust. In fact, this research has shown that children can use a variety of strategies to determine whether or not a particular source is trustworthy, including the age, knowledge, consensus, past performance, and the reliability of the source (Birch, Vauthier, & Bloom, 2008; Birch & Bloom, 2002; Corriveau, Fusaro, & Harris, 2009; Harris, 2007; Pasquini, Corriveau, Koenig, & Harris, 2007; Jaswal & Neely, 2006; Robinson, Haigh, & Nurmsoo, 2008; Koenig, Clement, & Harris, 2004; Koeing & Harris, 2005; Sabbagh & Baldwin, 2001; Scofield & Behrend, 2008). In one example of selective trust, Jaswal and Neely showed preschool children both reliable (i.e., correctly named familiar objects) and

unreliable adults (i.e., incorrectly named familiar objects) and reliable and unreliable peers. Children were then asked to decide which source was the most trustworthy for novel information. Results indicated that children tended to trust the adult over the peer, except when the adult had been unreliable and the peer had been reliable. In another example of selective trust, Sabbagh and Baldwin (2001) showed preschool children both knowledgeable (i.e., a speaker who "knew" the name and location of an object) and ignorant sources (i.e., a speaker who did "not know" the name or location of an object). Results indicated that children showed better word learning from the knowledgeable source than the ignorant source.

In yet another example of selective trust, Koenig, Clément, and Harris (2004) conducted a study that investigated whether children used past accuracy of a speaker's testimony to help decide the trustworthiness of that speaker's future testimony. In this study, Koenig et al. presented 3- and 4-year-olds with three familiar objects and two unknown speakers. The speakers were asked to label each of the familiar objects; one speaker consistently labeled each object correctly (e.g., called a ball a "ball"), while the other consistently labeled each object incorrectly (e.g., called a ball a "shoe"). Children were then simply asked to identify which of the speakers was reliable, and results showed that children correctly identified the reliable speaker on 76% of trials. Koenig et al. then presented these 3- and 4-year-olds with three unfamiliar objects and the two previous speakers; one who was now reliable and one who was now unreliable. Both speakers used a different novel word to label the novel objects (e.g., the reliable speaker labeled Object 1 "a toma" and the unreliable speaker labeled Object 1 "a mido"). Children were then asked to decide which of the two speakers to trust when selecting the correct label for the novel object and results showed that many 4-year-olds (70%), and half of 3-year-olds (50%), chose the word that the reliable speaker had used to label the object.

Together, these results suggest that preschool children are capable of identifying reliable speakers, and that some preschoolers are willing to use the speaker's past reliability to determine whether or not that speaker can be trusted for future testimony.

Koenig et al.'s (2004) results also suggested that young children were not reluctant to characterize speakers as consistent across time by showing that 3-year-olds were likely to believe that if a person was trustworthy in the past that person would be trustworthy in the future. This supports Harris' broader observation that children may be building a cognitive profile (Harris, 2007; Scofield & Behrend, 2008) about various sources in the environment. In addition, according to Harris, children not only use speaker's reliability to determine trustworthiness, but children sometimes also consider factors like confidence when deciding to either accept or ignore information provided by a source. That is, children are more likely to accept information provided by a confident speaker.

However, children may not always know the reliability of a speaker prior to experiencing that speaker's testimony. A fair question then is: a) do children trust a speaker whose reliability is unknown, and b) what do children do if a trusted speaker later proves unreliable? These questions were recently addressed in a series of studies by Scofield and Behrend (2008). In one study (Study 1), 3- and 4-year-olds were presented with a reliable speaker (i.e., a speaker who correctly labeled familiar objects) and unreliable speaker (i.e., a speaker who incorrectly labeled familiar objects), and found that children preferred to trust the reliable speaker over the unreliable speaker when later learning the name of an unfamiliar object. This work replicated the Koenig, Clément, & Harris (2004) work, and suggested that children were able to use a speaker's past reliability to determine that speaker's future accuracy.

The more interesting results; however, came from a follow-up study (Study 2), where children were asked to trust a speaker before learning about that speaker's reliability. In this study, 3- and 4-year-olds were presented with an unknown speaker labeling an unfamiliar object, and not surprisingly, both 3- and 4-year-olds overwhelmingly trusted the unknown speaker. Then 3- and 4-year-olds were presented with the same trusted speaker incorrectly labeling familiar objects, thus proving to be unreliable. When later asked to choose between the previously trusted but now unreliable speaker, and a new reliable speaker, Scofield and Behrend (2008) found that about ½ of 4-year-olds stopped trusting the previously trusted speaker, and instead preferred to trust the new, reliable speaker. In contrast, some 4-year-olds and nearly all of the 3-year-olds continued to trust the previously trusted but now unreliable speaker. Scofield and Behrend's results suggested that children were able to use a speaker's current reliability to determine that speaker's past accuracy. Surprisingly, Scofield and Behrend's study also shows that children are capable of using the current reliability of a speaker to determine if that speaker was trustworthy for past information. This is later described as children being "retrospectively" selective about whom to trust.

While the results of the Scofield and Behrend (2008) studies were interesting, there are at least two important and unanswered follow-up questions that remain from this work. First, why do some children (i.e., 3-year-olds and some 4-year-olds) not reverse trust when the previously trusted speaker proved unreliable? It could be because these children do not understand that the trusted speaker was unreliable, and so have no reason to reverse trust. If this is true, then when encountering the unreliable speaker in the future, these children should continue to trust the unreliable speaker. However, it could also be that these children understand that the trusted speaker was unreliable, but are simply unable to reverse trust. If so, then when encountering the

unreliable speaker in the future, these children should not continue trusting the unreliable speaker. Second, for those children who did reverse trust, how trustworthy is the unreliable speaker for new information? It could be that these children have determined that the unreliable speaker will be untrustworthy for all future information. If so, then children might decide not to trust the unreliable speaker for new information, even when contrasted with the testimony of a total stranger. It could also be that these children believe that the unreliable speaker is potentially trustworthy for future information—after all, most children initially trusted this speaker. If so, then children might decide to trust the unreliable speaker for new testimony, especially when contrasted with the testimony of a total stranger, and when not contrasted with the reliable speaker. The focus of the current study was to more closely examine these two questions.

CHAPTER 2

METHOD

The design of the study followed Scofield and Behrend's (2008) Study 2 and yielded two groups of participants: 1) those that initially trusted the unreliable speaker but ultimately reversed trust and decided to trust the reliable speaker, and 2) those that initially trusted the unreliable speaker but ultimately, did not reverse trust and decided not to trust the reliable speaker.

Participants: Three-, 4-, and 5-year-olds (*n*=100) participated in Study 1. Children were recruited from preschools at or near a large southeastern university campus. Children completed a 10-minute session and received a sticker for participation.

Procedure: Children sat next to the experimenter at a small table near their preschool classroom and completed two phases of the study: a warm-up and a testing phase. During the warm-up phase, children conducted various tasks on a set of small wooden blocks (e.g., stacking, arranging, etc.). The warm-up phase was designed to familiarize children with the experimenter and the experimental setting, and lasted only a few minutes.

During the testing phase, children watched a 2-minute animated video. The video depicted two animated speakers, a blue-haired boy and an orange-haired girl, shown sequentially. To begin, children saw a table displaying three familiar objects (e.g., a ball, a key, and a cup) and two unfamiliar objects (e.g., a shelving bracket and a t-joint), spaced evenly around the table. Each object was depicted as a two-dimensional image and was shaped and colored differently from the other objects to maximize dissimilarity. Speaker 1 appeared on the

video, pointed to, and labeled one of the two unfamiliar objects (e.g., the shelving bracket) with an unfamiliar word (e.g., "This is a blurg."). Speaker 1 then disappeared from the video and children were shown both unfamiliar objects (e.g., the shelving bracket and a t-joint), and were asked to select the one that matched the unfamiliar word (e.g., "Look at these things. Can you help me find the blurg? Which one is the blurg?"). Speaker 1 then reappeared on the video and pointed to and labeled each individual familiar object unreliably (e.g., labeling the ball a "key"). Speaker 1 disappeared again. Next, Speaker 2 appeared on the video and pointed to and labeled the remaining unfamiliar object (e.g., the t-joint) with the same unfamiliar word (e.g., "This is a blurg."). Speaker 2 then pointed to and reliably labeled each individual familiar object. Speaker 2 then disappeared. Finally, the table of objects disappeared and the two unfamiliar objects reappeared in its place. Children were again asked to select the object that matched the unfamiliar word (e.g., "Look at these things. Can you help me find the blurg? Which one is the blurg?").

Condition 1 (i.e., trust reversers) consisted only of those children who reversed trust (i.e., those who endorsed the unreliable speaker but ultimately reversed trust, and endorsed the reliable speaker). Trust reversers watched a 2-minute animated video depicting the unreliable speaker (i.e., Speaker 1), and a new, unknown speaker (i.e., Speaker 3). Children saw a table displaying two unfamiliar objects. Speaker 1 appeared on the video, pointed to, and labeled one of the two unfamiliar objects with an unfamiliar word (e.g., "This is a pax"), and then disappeared. The unknown speaker then appeared on the video, pointed to, and labeled the remaining unfamiliar object with the same unfamiliar word (e.g., "This is a pax"), and then disappeared. Finally, the two unfamiliar objects appeared on the screen and children were asked to select the object that matched the unfamiliar word (e.g., "Which one is a pax?"). Of interest was whether children

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preferred to trust the unreliable speaker (whom they have previously trusted) or the unknown speaker when learning new information.

Condition 2 (i.e., trust non-reversers) consisted only of those children who did not reverse trust (i.e., those who initially endorsed the unreliable speaker, but ultimately, did not reverse trust and did not endorse the reliable speaker). Trust non-reversers watched a 2-minute animated video depicting the unreliable speaker (i.e., Speaker 1) and the reliable speaker (i.e., Speaker 2). Children saw a table displaying two unfamiliar objects. Speaker 1 appeared on the video, pointed to and labeled one of the two unfamiliar objects with an unfamiliar word (e.g., "This is a nem"), and then disappeared. Speaker 2 then appeared on the video, pointed to and labeled the remaining unfamiliar object with the same unfamiliar word (e.g., "This is a nem"), and then disappeared. Finally, the two unfamiliar objects appeared on the screen and children were asked to select the object that matched the unfamiliar word (e.g., "Which one is a nem?").

Of interest was whether children preferred to trust the unreliable speaker (whom they have previously trusted) or the reliable speaker when learning new information.

CHAPTER 3

RESULTS

The current study investigated the decision to reverse trust or not reverse trust when a previously trusted speaker mislabeled familiar objects (i.e., proved unreliable) (Scofield & Behrend, 2008). Of interest for reversers, was whether they now believed that the unreliable speaker was sometimes trustworthy or not trustworthy at all. Of interest for non-reversers, was whether they believed that the unreliable speaker was trustworthy (even after proving unreliable), or whether they simply trusted the misinformation.

To address these issues, the current study first replicated Scofield and Behrend's (2008, Study 2). In their study, 23/24 3- and 4-year-olds initially trusted an unknown speaker, but only 12/24 continued to trust that speaker after observing the speaker to be unreliable. This means that 43% of children (i.e., 11/24) reversed trust from the unreliable speaker to the reliable speaker. Similarly, in the current study 100/100 3- 4- and 5-year-olds initially trusted an unknown speaker, but only 53/100 continued to trust that speaker after observing the speaker to be unreliable, $\chi^2(1, n=100) = 45.02$, $p<.01$ (McNemar). This means that 47% of children (i.e., 47/100) reversed trust (see Figure 1). However, when comparing reversers and non-reversers by age, 3-year olds were less likely to reverse trust than either 4- or 5-year olds, $\chi^2(1, n=100) = 6.52$, $p<.05$ (see Figure 2). In fact, a majority of 3-year-olds (i.e., 15/19) were unwilling to reverse trust at all, $p>.05$ (McNemar) (see Table 1). This was in contrast to 4-year-olds (i.e., 23/51) ($p<.01$) and 5-year-olds (i.e., 15/30) ($p<.01$) willingness to reverse trust.

Reversers

For reversers (i.e., who switched from trusting the unreliable speaker to the reliable speaker), it was possible that they now considered the unreliable speaker to be trustworthy only sometimes (after all, they had originally trusted that speaker). However, it was also possible that they now considered the unreliable speaker to be untrustworthy (after all, they had seen that speaker mislabel familiar objects). To address these possibilities, reversers (*n*=47) saw the original unreliable speaker, and a new unknown speaker, label 2 different objects with the same word. Endorsing the unreliable speaker would suggest that children still considered the unreliable speaker trustworthy, at least sometimes. However, endorsing the new speaker would suggest that children now considered the unreliable speaker to be untrustworthy. Results showed that children were more likely to endorse the new speaker (i.e., 31 out of 47), $\chi^2(1, n=47) = 4.79$, *p*<.05 (see Table 2). These results suggested that reversers now consider the unreliable speaker to be untrustworthy.

Non-Reversers

For non-reversers (i.e., who continued trusting the unreliable speaker), it was possible that they still considered the unreliable speaker to be trustworthy (after all, they were not dissuaded by the unreliable speaker proving unreliable). However, it was also possible that they now considered the unreliable speaker to be untrustworthy, but still trusted the information that the unreliable speaker had originally provided. To address these possibilities, non-reversers (*n*=53) saw the original unreliable speaker and the original reliable speaker label 2 different objects with the same word. Endorsing the unreliable speaker would suggest that children still considered the unreliable speaker to be trustworthy. However, endorsing the reliable speaker would suggest that children now considered the unreliable speaker to be untrustworthy and must

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simply have trusted the misinformation. First, results showed that children were suddenly, much less likely, to endorse the unreliable speaker now, than they were just moments earlier (i.e., from 53/53 endorsing the unreliable speaker for the original word, to 24/53 endorsing the unreliable speaker for the new word), $p<.01$ (McNemar) (see Figure 3). However, results also showed that children were unsure about which of the two speakers to now endorse (i.e., with 24/53 endorsing the unreliable speaker, and 29/53 endorsing the reliable speaker), $\chi^2(1, n = 53) = .472, p>.05$.

These results suggest that non-reversers do not simply believe that the unreliable speaker is still trustworthy for new information. However, the results also suggest that non-reversers may be uncertain about which of the two speakers is trustworthy. To examine this issue more closely, non-reverser's tendency to endorse the reliable or unreliable speaker for new information was compared across age. It was possible that non-reversers at each age were uncertain about which speaker to endorse, but it was also possible that their endorsements changed with age. Results showed that endorsement of the unreliable speaker varied with age, $(\chi^2(2, n=53) = 6.65, p<.05)$. Follow-up comparisons showed that 3-year-olds were more likely to endorse the unreliable speaker than either 4- $(\chi^2(1, n = 38) = 5.40, p<.05)$ or 5-year-olds $(\chi^2(1, n = 30) = 4.82, p<.05)$ and that 4- and 5-year-olds did not differ (see Figure 4).

CHAPTER 4

GENERAL DISCUSSION

Children often have to trust others for new information (Harris, 2007). However, instead of trusting all sources, past research shows that children are selective about who they trust (Birch, Vauthier, & Bloom, 2008; Corriveau, Fusaro, & Harris, 2009; Jaswal & Neely, 2006), and tend to favor those sources that have proven to be reliable in the past (Koeing & Harris, 2005; Sabbagh & Baldwin, 2001; Scofield & Behrend, 2008). In fact, some children are even willing to reverse trust when a previously trusted speaker proves unreliable (Scofield & Behrend, 2008). Of interest for the current study, was whether a previously trusted, but now unreliable speaker remains at all trustworthy for future information. To examine this more closely, the current study replicated and followed-up Scofield and Behrend (Study 2).

Like Scofield and Behrend (2008), the current study found that children were willing to trust an unknown speaker, and in some cases, reverse trust when that speaker proved unreliable. For children who reversed trust, findings indicated that the unreliable speaker was deemed no longer trustworthy for new information. For children who did not reverse trust, findings indicated that the 3-year-olds tended to continue trusting the unreliable speaker for new information, whereas 4- and 5-year-olds did not. Overall, these findings suggest that most children (61% in the current study), ultimately, believe that a previously trusted speaker who proves unreliable is no longer trustworthy for new information.

These findings have important implications for the study of children's trust. They suggest that trust reversers use a speaker's reliability "retrospectively" (Scofield & Behrend, 2008,

pg. 289) to correct misinformation. In addition, they suggest that children who reverse trust were likely to condemn the unreliable speaker, and no longer considered that speaker trustworthy for new information. This is similar to the cognitive profile that Harris (2007) describes, suggesting that children conclude that if a speaker is unreliable (or reliable) in the past, it is likely that the speaker will be unreliable (or reliable) in the future (Scofield & Behrend, 2008). In the current study, reversers were given the choice to trust the unreliable speaker, or a new, unknown speaker for new information, and overwhelmingly, chose to trust the new speaker (i.e., roughly 2:1). Perhaps this is not surprising, but it is noteworthy. Children were familiar with the unreliable speaker and had no history with the new speaker. Children were given no assurance that the new speaker was reliable, and had just mistakenly trusted an unknown speaker who did prove unreliable. Yet, these factors were not enough to compel most reversers to trust the unreliable speaker, suggesting that they believed that the unreliable speaker would continue to be unreliable in the future (Harris, 2007; Scofield & Behrend, 2008) and thus, untrustworthy for new information.

However, it may be fair to question whether or not building a cognitive profile of the speaker is to children's advantage. That is, is it fair for children to characterize speakers based on one situation? In the current study, children observed the trusted speaker incorrectly label 3 familiar objects and, based only on this observation, most children (i.e., reversers and some non-reversers) proceeded to characterize the speaker as being no longer trustworthy. These children appear to be making trait-like assumptions (i.e., rather than state-like assumptions) about the speaker despite having only a limited interaction with that speaker. If children were indeed making trait-like assumptions about the speaker then they should believe that the speaker would continue to be untrustworthy in new situations and when providing other types of information

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(e.g., the location of an object rather than an object's name). This could ultimately prove to be a risky assumption considering that some speakers may be knowledgeable for some types of information but not for others. By making global assumptions about a speaker's credibility based on only limited observations children may hurt their chances of learning in the future. Future studies may consider allowing children to observe a speaker across multiple settings before examining their trustworthiness in a single (unreliable) setting or to examine the trustworthiness of an unreliable speaker in a new setting or with different types of information.

The current findings also suggest that some children do not use a speaker's reliability retrospectively to correct misinformation. For these non-reversers, beliefs about the unreliable speaker's trustworthiness appear to vary with age. In the current study, non-reversers were given a second chance to choose to trust the unreliable speaker, or the reliable speaker for new information. Three-year-olds chose to continue trusting the unreliable speaker, suggesting that they did not understand that the speaker was now unreliable, therefore, they continued to believed that the unreliable speaker would be reliable in the future, and therefore, trustworthy for new information. In contrast, 4- and 5-year-olds chose to trust the reliable speaker suggesting that they, like reversers, believed that the unreliable speaker would continue to be unreliable in the future, and therefore, not trustworthy for new information.

Interestingly, every single 4- and 5-year-old non-reverser (i.e., 38 /38) initially chose to trust the unreliable speaker, but very few (i.e., 13/38) chose to continue trusting the unreliable speaker for the new information just moments later. This suggests that they may have correctly characterized the unreliable speaker as being untrustworthy. A fair question then is why, if they knew that the unreliable speaker was not trustworthy, did 4- and 5-year-olds fail to reverse trust? A likely possibility is that the misinformation, and not beliefs about the speaker, prevented

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children from reversing trust. In the current study, evidence of reversing trust occurred when a child switched from selecting one object as the "blurg" to selecting the other object as the "blurg". Four- and 5-year-old non-reversers could have known that the unreliable speaker was not trustworthy all along, but simply failed to correct the previous mapping. This may have been due to source monitoring errors (e.g., Gopnik & Graf, 1988; Wimmer, Hogrefe, & Perner, 1988). Source monitoring errors occur when the source and the information provided by that source are not well-linked. In this study, children may have known that the speaker was not trustworthy, but failed to sufficiently link the speaker to the misinformation. To further examine the role of source-monitoring, future studies might consider having children complete a source-monitoring or theory of mind task (Wimmer & Perner, 1983) in addition to completing the "reversal" procedure used in the current study. If source-monitoring is an obstacle for some non-reversers then those children ought to perform poorly on the source-monitoring or theory of mind task and display a pattern similar to the older non-reversers in the current study.

In addition, some types of information may be more or less difficult to change than others. For example, children often learn a new word quickly, after only minimal exposure (Carey & Bartlett, 1978). This "fast mapping" is seen as a rough hypothesis for the meaning of that new word. For some children, it is possible this initial mapping is less flexible than for others. This would explain why some 4- and 5-year-olds (i.e., the non-reversers) had difficulty unmapping the word whereas others (i.e., the reversers) did not. To further examine this possibility, future studies could consider using a non-word "reversal" procedure. For example, a study could use the location of an object instead of the name of an object. If some children's inflexibility or unwillingness to reverse is unique to word learning examples then children might

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be expected to be more flexible, and therefore more likely to reverse trust initially, when the to-be-learned information is not a word.

This may parallel the description of the cognitive profile in which children might conclude that once a speaker has been reliable (or unreliable) in the past, they are more likely to be reliable (or unreliable) in the future (Harris, 2007; Scofield & Behrend, 2008). Interestingly, this "fast" profile formation may share similar features with the "fast" mappings (Carey & Bartlett, 1978) previously discussed. That is, children may make a quick, rough guess as to whether a speaker is or is not trustworthy, and that guess may be more or less rigid, depending on the child, making them less likely to correct misinformation given by an unreliable speaker (i.e., mismapped words), and less likely to change the profile of that speaker.

Three-year-old non-reversers did not perform like their older counterparts. Instead, they continued trusting the unreliable speaker for new information. The simplest explanation for the 3-year-old's performance is that they did not realize that the speaker had been unreliable. However, this explanation would conflict with previous studies where 3-year-olds have reliably identified both the reliable and unreliable speaker, and favored the reliable speaker when learning a word (Koeing & Harris, 2005; Koenig, Clément, & Harris, 2004). A more interesting explanation is that 3-year-olds are strongly influenced by first impressions. According to past research, first impressions can bias how information is interpreted (Tetlock, 1983). In the current study, 3-year-olds may have exhibited something like this "first impression bias" (Asch, 1946; Kraljic, Samuel & Brennan, 2008; Lim, Benbasat, & Ward, 2000). While this research has primarily focused on adults, the 3-year-old's decision to continue trusting the unreliable speaker introduces the intriguing possibility, that there may be a similar bias operating in young children, and that the bias may cloud the link between the child's first impression (e.g., trusting an

unknown speaker), and subsequent (mis)information (i.e., observing that speaker mislabel familiar objects). As a result, 3-year-olds may find it more difficult to be selective about whom they trust after initially committing their trust to a speaker. To address the possibility of younger children being highly influenced by a "first impression bias", future trust reversal studies could add events to the current animated videos to weaken the first impression children make of the unknown speaker who later proves unreliable. Currently, children observe the unknown speaker label an unfamiliar object and then almost immediately incorrectly label familiar objects. In the current study, children are only given one event to build an impression of the speaker (i.e., speaker labels unfamiliar/familiar objects), however, if several events are added, children might not be so heavily influenced by their first impression of the speaker. Added events could include observing the unknown speaker climbing a rope, tying his/her shoe, flying a kite, and reading a book. After children observe the unknown speaker interact in these additional events, children would then observe the unknown speaker label the unfamiliar objects, then prove unreliable. Observing the unknown speaker in these additional events, may weaken the "first impression bias" and cause children to view the speaker differently.

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Table 1: Results for the Trust of the Unreliable and Reliable Speaker by Age

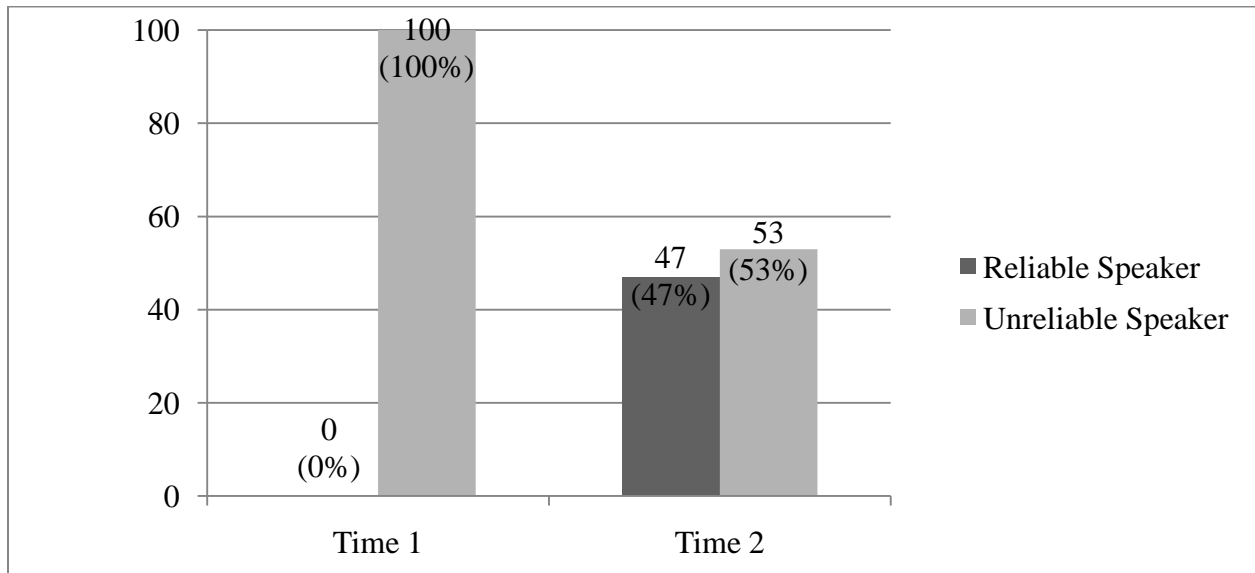|	3-year-olds		4-year-olds		5-year-olds	
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2
Unreliable	19	15	51	23*	30	15*
Reliable	0	4	0	28	0	15

*p<.01

Table 2: Reversers (*n=47*) who endorse the unreliable speaker or the new speaker when learning new information

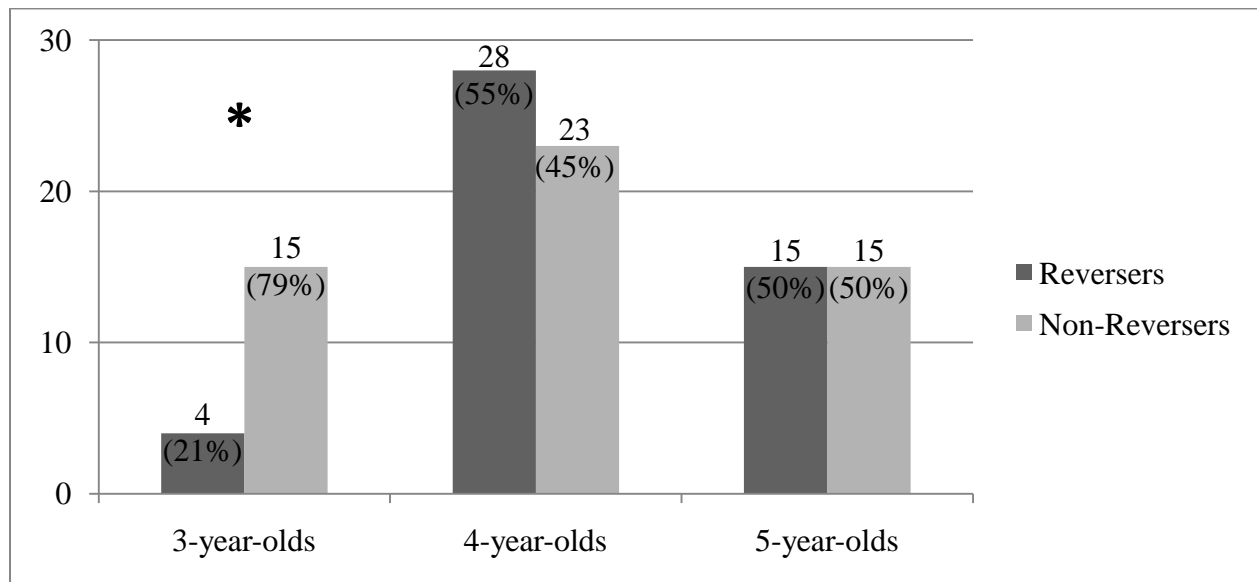| Unreliable Speaker	16/47 (34%)
New Speaker	31/47 (66%)*

*χ^2(1, *n=47*) = 4.79, *p<.05*

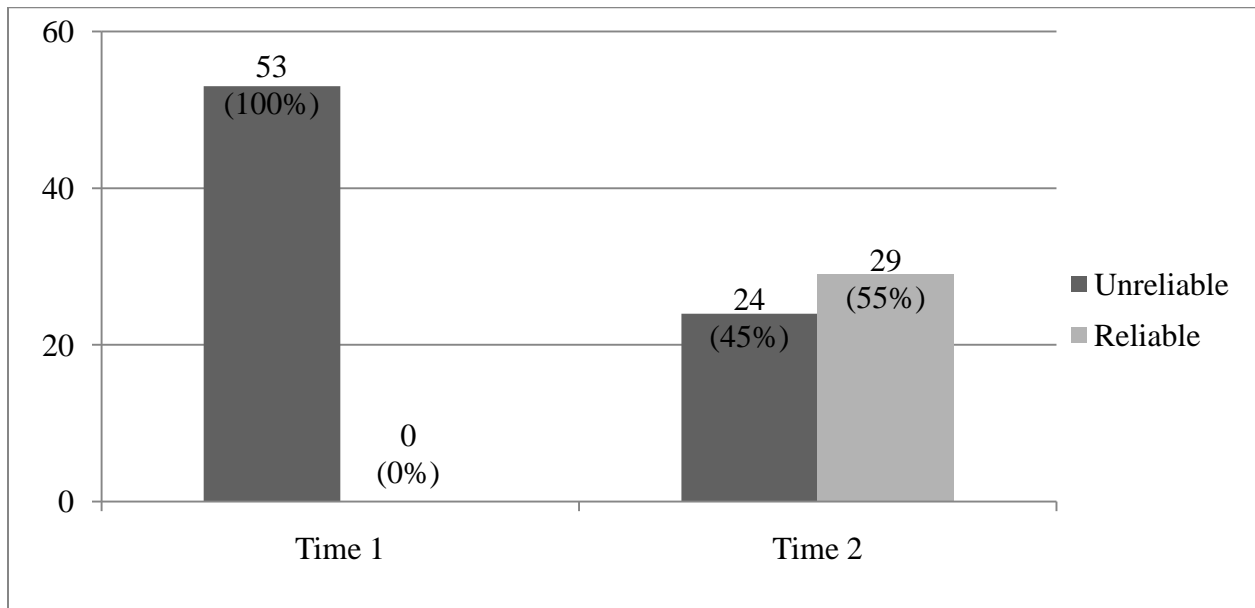Figure 1: Results for the Number of Reversers and Non-reversers (n=100)

$\chi^2(1, n=100) = 45.02, p<.01$

Figure 2: Results for the Reversers and Non-reversers by Age
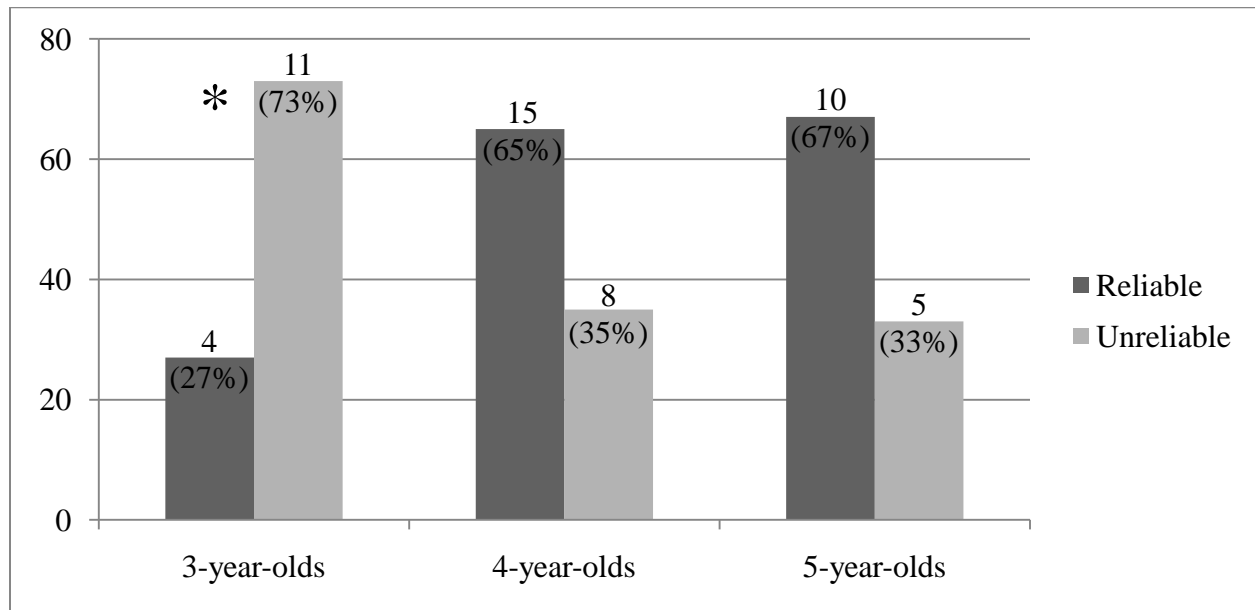

$*\chi^2(1, n=100) = 6.52, p<.05$

Figure 3: Non-Reversers (*n*=53) who endorse the unreliable speaker or the reliable speaker when learning new information

*χ²(1, *n*=53) = 27.03, *p*<.01

Figure 4: Non-reversers (*n*=53) who endorse the unreliable speaker or the reliable speaker when learning new information by age

*χ²(2, *n*=53) = 6.65, *p*<.05