UNIVERSITY OF CALGARY

Children's Impressions of Verbal Irony:

Investigating Identification and Utterance Topic

by

Melanie Glenwright

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE

DEGREE OF DOCTOR OF PHILOSOPHY
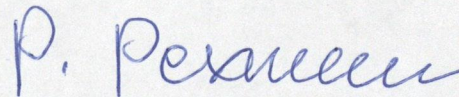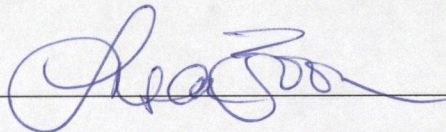
DEPARTMENT OF PSYCHOLOGY

CALGARY, ALBERTA

MAY, 2006
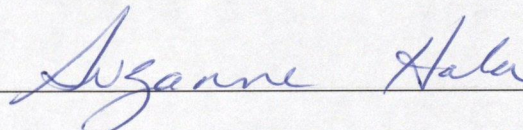
UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Children's Impressions of Verbal Irony: Investigating Identification and Utterance Topic" submitted by Melanie Glenwright in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

_____

Supervisor, Dr. Penny M. Pexman, Department of Psychology
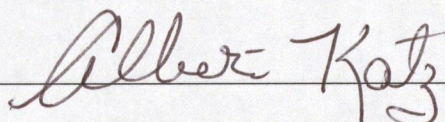
_____

Dr. Susan D. Boon, Department of Psychology
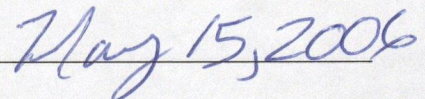
_____

Dr. Suzanne Hala, Department of Psychology

_____

Dr. Anne McKeough, Division of Applied Psychology

_____

External Examiner, Dr. Albert Katz, University of Western Ontario

_____

Date

ABSTRACT

Middle-school aged children understand the ironic speaker's intent to temper his/her message, but they do not typically appreciate the speaker's intent to be humorous (Dews et al., 1996; Harris & Pexman, 2003; Pexman, Glenwright, Krol, & James, 2005). Two possible explanations were offered for why children don't find ironic remarks funny: 1) children tend to identify with the targets of ironic remarks, and 2) the topics of the ironic remarks presented to children in previous studies violate a politeness norm. These conceptually distinct claims were tested with separate experiments using different participants. Experiment 1 was aimed at investigating children's hypothesized target identification and Experiment 2 was aimed at investigating children's perceptions of ironic remarks that differed according to topic. For both experiments, 9- to 10-year-old children were presented with ironic criticisms, literal criticisms, and literal compliments and then rated the speaker's attitude and humorous intent. In Experiment 1, children made these ratings from the perspective of the target and the bystander in conditions that differed according to the parties present. Children did not modulate their ratings according to the manipulation and they were just as likely to identify with targets and bystanders. In Experiment 2, children perceived speaker attitude more negatively for ironic criticisms and for literal criticisms for topics that were more personal and they identified with the targets of personal criticisms more than targets of less personal criticisms. In both experiments, children perceived ironic criticisms as being less serious than literal criticisms regardless of condition and they expressed disapproval of ironic criticisms and literal criticisms. I suggest that children's impressions of ironic criticisms and literal criticisms are related to their concerns for politeness.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GENERAL INTRODUCTION

Sarcastic irony is a common form of ironic language by which the speaker intends a meaning opposite to the literal sense of an utterance. Following convention in the irony literature, in the present work I will refer to this speech form simply as verbal irony. Verbal irony surfaces in various situations that children encounter. For instance, children may hear adults use ironic expressions with each other or parents may use verbal irony when communicating with their children. Moreover, many current movies and television shows intended for child audiences (e.g., *Ice Age, The Chronicles of Narnia*) contain multiple instances of verbal irony. Although this speech act is pervasive in children's environments and it can be potentially ambiguous, there is very little research concerning children's impressions of verbal irony. Understanding verbal irony is an important aspect of social competence; failing to do so can negatively impact social relationships by creating misunderstandings between the speaker and listener. For example, a child who misunderstands a parent's ironic remark may interpret that remark as hurtful, rather than playful, as it was intended. On the playground, a child who fails to detect a teaser's use of ironic criticisms (i.e., misinterpreting ironic criticisms as literal compliments) could inadvertently encourage further teasing. Thus it is critical to study children's impressions of ironic remarks and this issue is the focus of the present research.

It has been established that children begin to understand the non-literal meaning of ironic utterances between 5 and 6 years of age (Dews et al., 1996; Hancock, Dunham, & Purdy, 2000; Harris & Pexman, 2003). This body of research has focused on children's comprehension of ironic criticisms, which are thought to be the simplest forms of verbal irony because they are counterfactual to the speaker's belief (Creusere, 2000). That is,

when speakers use ironic criticisms they typically mean something opposite to what they literally say. More specifically, ironic criticisms are positive statements uttered to convey a negative meaning such as "What a tidy office" said to a colleague when his office is dusty and his desk is buried in papers.

Why would a speaker choose to use ironic language over literal language in the first place? Research on adults' perceptions suggests that verbal irony can serve particular social functions. It is widely held that speakers choose to use ironic language rather than literal language when they wish to alter the perception of a criticism (Colston, 1997; Dews, Kaplan & Winner, 1995; Dews & Winner, 1995; Jorgensen, 1996; Pexman & Olineck, 2002) and when they want to bring humor to a conversation (Dews & Winner, 1995; Jorgensen, 1996; Kreuz, Long, & Church, 1991; Pexman & Olineck, 2002; Roberts & Kreuz, 1994). There are a number of theoretical explanations for how verbal irony modifies the implied meaning of critical messages. These competing theories are divided by conflicting results concerning whether ironic remarks are perceived as being less negative or more negative than literal remarks.

Politeness Theory posits that ironic criticisms are viewed as more polite than literal criticisms due to their indirectness; indirect language allows the speaker to save the target's face by simultaneously criticizing the target while showing respect and consideration for the target's feelings (Brown & Levinson, 1987). People show a general politeness norm by speaking positively in daily discourse (Brown & Levinson, 1987) and this tendency to use positive language is thought to be a universal human feature because it occurs across a multitude of languages and cultures (Boucher & Osgood, 1969). Irony

affords the speaker the ability to satisfy this politeness norm by using positive language to express a critical or negative attitude.

The Tinge Hypothesis (Dews & Winner, 1995) also suggests that ironic remarks are less aggressive than literal remarks. According to this account, verbal irony tinges the tone of criticism because the positive literal meaning of the message (e.g., "What a tidy office") mutes the negative implied meaning (e.g., the office is messy). Indeed, Dews and Winner (1995) have shown that adults perceive ironic criticisms as less critical than literal criticisms and that they perceive ironic speakers as less annoyed than literal speakers. Alternatively, Contrast and Assimilation Theory proposes that irony has the opposite effect on the perception of ironic criticisms (Colston, 1997). By creating a contrast between the actual state of affairs (e.g., a messy office) and the expected state of affairs (e.g., a tidy office), the ironist enhances the criticism that would be conveyed by a literal comment. In support of this claim, there is evidence that adults view ironic remarks as less polite (Jorgensen, 1996), more condemning (Colston, 1997) and more mocking (Pexman & Olineck, 2002) than direct remarks. Needless to say, the adult literature remains mixed on exactly how people interpret ironic remarks relative to literal remarks.

So far, the limited amount of literature on children's impressions of ironic remarks suggests that children who can comprehend ironic remarks also perceive the ironic speaker's intent to temper his/her message. That is, 5- to 8-year old children perceive ironic criticisms as being less mean than literal criticisms (Dews et al., 1996; Harris & Pexman, 2003). While the Politeness Theory and the Tinge Hypothesis do not address the humor function of verbal irony, the Contrast and Assimilation Theory asserts that perceived humor is enhanced by the magnitude of the contrast between the ironic

statement and the actual state of affairs (Colston, 2002). Fittingly, there is evidence that adults perceive ironic messages with meanings that are more discrepant from the context in which they are made to be funnier than ironic messages that are less discrepant from the context (Colston, 2002; Colston & Keller, 1998; Colston & O'Brien, 2000). However, there is evidence that children and adults have different interpretations of ironic speakers' humorous intent. While adults find ironic remarks humorous (e.g., Dews, Kaplan & Winner, 1995; Dews & Winner, 1995), 5- to 8-year-old children tend to view ironic remarks as quite serious (Dews et al., 1996; Harris & Pexman, 2003; Pexman et al., 2006) and 9- to 10-year-olds are just beginning to view ironic remarks as less serious than literal remarks (Pexman, et al., 2005; Pexman et al., in review). Thus, middle school age children do understand the ironic speaker's non-literal belief and the speaker's intent to temper his/her message, but they do not typically appreciate the speaker's intent to bring humor into the conversation.

In our most recent research, two possible explanations were offered for why children do not find ironic remarks funny: 1) children tend to identify with the targets of ironic remarks (Harris & Pexman, 2003; Pexman et al., 2005), and 2) the topics of the ironic remarks presented to children in previous studies violate an important social norm of politeness (Pexman et al., 2005). The present research was conducted to test these two conceptually unrelated claims with separate experiments and separate participant groups: Experiment 1 was aimed at investigating children's hypothesized target identification and Experiment 2 was aimed at investigating children's perceptions of ironic remarks that differed according to topic.

"That's Mean": Children's Impressions of Critical Speakers

Melanie Glenwright and Penny M. Pexman

University of Calgary

Abstract

Prior developmental tests of irony appreciation have shown that children do not find ironic remarks funny (Dews et al., 1996; Harris & Pexman, 2003) and children tend to identify with the targets of ironic remarks (Pexman et al., 2005). The present study was an investigation of whether children's perceptions vary according to 1) the parties present when the remark is made, and 2) perspective. Here, 9- to 10-year-old children were presented with ironic criticisms and literal criticisms directed at present and absent targets with and without a bystander. Children rated speaker attitude and humorous intent from the perspectives of the target and also the bystander. The results demonstrate that a) children's perceptions of speaker attitude did not differ as a function of the parties present or perspective taken, b) children perceived ironic criticisms as being less serious than literal criticisms but this perception did not vary according parties present or perspective, c) children were just as likely to identify with targets and bystanders but were less likely to identify with speakers, and d) when children identified with the target, they related to the target's failure and when children identified with the bystander, they were disapproving of the critical speaker. It is suggested that children's impressions of ironic criticisms and literal criticisms are rooted in their concerns for politeness.

In previous research, it has been proposed that children may perceive ironic remarks as being hurtful because they identify with the targets of the remarks (Harris & Pexman, 2003). The issue of whether children would identify with speakers or targets was subsequently explored by asking them "Which of these puppets acts most like you?" and "Why?" (Pexman et al., 2005). Children tended to identify with the speaker when the speaker made a literal compliment, giving explanations such as "I like to tell people when they do good work". In contrast, children tended to identify with the targets when speakers made ironic criticisms and literal criticisms giving elaborations such as "Because sometimes I make mistakes and I don't like it when people make fun of me". These kinds of explanations suggest that children were interpreting criticisms from the target's perspective. I suggest that children's tendency to interpret ironic criticisms from this perspective contributes to their overall impressions of ironic criticisms as being hurtful and serious. This is because targets and speakers perceive criticisms very differently according to which perspective they assume.

In order to successfully engage in conversations with others, we need to recognize that others do not share the same beliefs, knowledge and interpretations that we do. The ability to consider the perspective of another is a fundamental component of language use and this ability is particularly important when the speaker's message is ambiguous. Speaker meaning can be ambiguous when the listener does not share the speaker's knowledge so the speaker must reduce the ambiguity of his/her messages by tailoring the content according to what the listener knows. For example, when the speaker has privileged information that the listener does not have, the speaker reliably accommodates his/her message according to the listener's limited information (e.g., Hanna, Tannenhaus,

& Trueswell, 2003; Keysar, Barr, Balin, & Brauner, 2000). Speaker meaning can also be ambiguous when the message form is ironic or indirect. In order for a listener to correctly infer an ironic speaker's meaning, the listener must have belief-desire reasoning to infer what the speaker believes and how the speaker intends their message to be interpreted (Colston & Gibbs, 2002; Sperber & Wilson, 1981; Winner & Leekam, 1991). Therefore the listener must have access to information conveyed in the ironic remark to make an inference about the speaker's belief about the information. For instance, a listener must know that the office is messy and decide that the speaker believes the office is messy to correctly attribute the ironic speaker's meaning of "What a tidy office". Adults tend to overestimate a listener's ability to correctly infer an ironic speaker's meaning when they have access to the information conveyed in the ironic remark that the listener does not have (Keysar, 1994). That is, when we can infer an ironic speaker's meaning, we tend to assume that other listeners can also make this inference without considering that other listeners may lack the requisite background knowledge. It is suggested that this egocentric tendency to overestimate the listener's knowledge is rooted in difficulty with considering the listener's perspective (Keysar, 1994). This kind of perspective taking requires the speaker to possess an interpretative theory of mind (Carpendale & Chandler, 1996; Lalonde & Chandler, 2002), or consideration of the fact that two people (in the case of verbal irony, speaker and listener) can arrive at very different interpretations of the same event. Unfortunately a speaker's lack of perspective taking can be even more problematic for the listener when the message is ambiguous and potentially face-threatening.

Adult perceptions of speaker intent for ironic criticisms and indirect remarks differ according to whether they take the speaker's perspective or the target's perspective. Adult ratings of ironic criticisms made from the speaker's perspective tend to be more positive than ratings from the target's perspective (Toplak & Katz, 2000). Likewise, when adults interpret speaker meaning for indirect remarks from the target's perspective, they have a tendency to interpret the remarks as being more negative than when they interpret the remarks from the speaker's perspective (Holtgraves, 2005). My suggestion is that children's tendency to interpret ironic criticisms from the target's perspective similarly leads them to interpret the remarks negatively.

To our knowledge, there has been no research to date concerning how children's perspective taking impacts their perceptions of ironic criticisms. However, there has been research concerning the manner in which perspective taking impacts childhood memories of teasing and some suggest that sarcastic irony represents a subcategory of teasing (e.g., Feinberg, 1996). Teasing consists of a communication, directed by a speaker to a target, which synthesizes elements of aggression, humor, and ambiguity (Shapiro, Baumeister, & Kessler, 1991). These elements of humor and ambiguity afford the teaser the ability to express aggression without facing the negative repercussions associated with undisguised disrespect (Shapiro et al., 1991) in a manner reminiscent of how indirectness affords the ironist the ability to save face for the addressee (Brown & Levinson, 1987). Kowalski (2000) found that adults' memories of childhood teasing episodes differed according to whether they were teasers or targets; teasers tended to recall the teasing episodes as being more humorous and less damaging than targets. Children in the Pexman et al. (2005) study also showed this tendency: when children's humorous intent ratings for ironic

criticisms were compared as a function of whether they identified with the speaker or target, children who identified with the speaker rated ironic criticisms as funnier than children who identified with the target. However, children's perspectives in the 2005 study were not explicitly manipulated, so it could not be determined whether children's humor ratings varied as a function of perspective or because of some other factor. It was also not determined whether children would identify with the target when an additional option was available (i.e., bystander). This manipulation was applied in the present Experiment 1 to reevaluate whether children's perceptions of irony differ as a function of the perspective they take (i.e., speaker, target, or bystander).

One cue to ironic intent could be the parties present when a speaker makes an ironic remark, in terms of the presence or absence of a target and a bystander. The presence of a bystander gives the ironist an audience, and the physical absence of a target could mitigate politeness concerns. The research with adults, however, has so far not produced any evidence that this cue is important. Compared to ironic remarks made directly to targets, adults viewed ironic remarks made to bystanders behind the target's back to be just as condemning (Colston, 1997) and as having an equally negative effect on the speaker-target relationship (Dews & Winner, 1995). Although this issue has not been addressed for children, there is some information concerning children's perceptions of direct (face-to-face) insults and indirect insults (i.e., made behind the target's back). Middle school aged children tend to characterize direct insults as inappropriate acts of teasing (Warm, 1997) and although they express awareness of social norms against talking behind the backs of others, they still engage in this behavior (Paine, 1968; Rysman, 1997). The present research also examined whether children would consider the

parties present when making ratings of speaker attitude and speaker intent to be humorous.

In the present study, 9- to 10-year-old children were presented with puppet shows containing ironic criticisms, literal criticisms, and literal compliments. In the shows containing criticisms, a speaker criticized a target's failure at performing an activity. In some shows, a bystander was present to witness the event. Children were instructed to rate the speaker's attitude and intended humor from the target's perspective and then from the bystander's perspective (if applicable). Children were not asked to make ratings of ironic criticisms and literal criticisms from their own perspective because I felt it would be inappropriate to direct such remarks at child participants. Children were not asked to make ratings from the speaker's perspective because our previous research shows that children rarely identify with speakers who make criticisms (Pexman et al., 2005). Given that 5- to 6-year-olds are able to consider the perspectives of others when producing and comprehending information in common ground tasks (Epley, Morewedge, & Keysar, 2004; Nadig & Sedivy, 2002) and that 8-year-olds can recognize that two people can arrive at very different interpretations of the same situation (Carpendale & Chandler, 1996; Lalonde & Chandler, 2002) it naturally follows that 9- to 10-year-olds would be able to consider the perspectives of others in forming these inferences.

It was predicted that when children made ratings from the target's perspective, they would rate remarks as more mean and more serious when a bystander is present to overhear the remark than when a bystander is not present to overhear the remark. Similarly, it was predicted that when children made ratings from the bystander's perspective, they would rate ironic remarks as less mean and less serious when they are

delivered when the target is not there to hear the criticism than when they are delivered in the presence of a bystander.

Similar to the Pexman et al. (2005) study, children's identification tendencies were explored by asking children "Which of these puppets acts most like you?" and "Why?" to see whether children would identify with the targets of ironic criticisms and literal criticisms when another option (i.e., bystander) was available. The present study also explored children's impressions of ironic speakers so children were asked to explain why they *did not* identify with the other puppets. This broad exploratory approach was used because this was a first attempt at obtaining children's descriptions of ironic speakers, ironic criticisms, and criticisms in general. It was expected that children's descriptions would contain concerns for politeness including disapproval of those who are mean and hurtful.

My research questions were as follows: 1) Do children modulate their impressions of ironic speaker attitude for ironic criticisms according to the perspective they take? It was predicted that children's ratings of speaker attitude would be considerably more negative (i.e., more mean) when children made these ratings from the target's perspective than when they made them from the bystander's perspective. 2) Do children modulate their impressions of speaker intent to be humorous for ironic criticisms according to the perspective they take? It was predicted that children's ratings of speaker intended humor would be less humorous (or more serious) when children made these ratings from the target's perspective than when they made them from the bystander's perspective. 3) Do children consider the parties present when ironic criticisms are delivered, in order to derive their impressions of speaker attitude and intended humor? It was hypothesized that

when children made ratings from the target's perspective, they would rate ironic criticisms as more mean and more serious when a bystander is present to overhear the remark than when a bystander was not present to overhear the remark. It was similarly hypothesized that when children made ratings made from the bystander's perspective, they would rate ironic criticisms as less mean and less serious when they are delivered when the target is not there to hear the criticism as compared to the situation where the bystander is present. 4) Do children identify with the target of ironic criticisms when a third option (i.e., bystander) is available? It was predicted that children would identify with the target of ironic criticisms more frequently that they would identify with bystanders because children would feel empathy for the target who was criticized. 5) Do children's justifications for not identifying with the critical speaker contain concerns for politeness? It was predicted that children's justifications for not identifying with the speaker who made the ironic criticism or literal criticism *would* contain explanations pertaining to concerns for politeness.

<div align="center">Method</div>

Participants

The participants in this study were 72 9- to 10-year-olds ($M = 10;2$, range $9;3 - 10;11$, 40 boys, 32 girls). Children were recruited from Grade 4 and Grade 5 classrooms from two schools in Calgary, Alberta, Canada. These participants came from largely middle class families and they all spoke English as their primary language.

Materials

Nine puppet show scenarios were depicted for each child. A total of 27 puppets with child-like appearances engaged in common children's activities (e.g., jumping on a

<div align="center">13</div>

trampoline, playing soccer, going to the local fair) with context appropriate props (e.g., trampoline, soccer ball and net, Ferris wheel). The puppets were introduced to the child before each show began. There were three puppet shows for each condition: present target/absent bystander (hereafter referred to as T+/B-), present target/present bystander (hereafter referred to as T+/B+), and absent target/present bystander (hereafter referred to as T-/B+; see Table 1). In the T+/B- condition, a speaker puppet evaluated a target puppet's performance of an activity when only the speaker and target were present. In the T+/B+ condition, a speaker puppet evaluated a target's performance in front of a bystander. In the T-/B+ condition, the target puppet exited and then the speaker puppet commented on the target's performance to a bystander puppet. The nine puppet show scenarios ended in three ironic criticisms, three literal criticisms, and three literal compliments for each child. Given the nature of these conditions, the scenarios were not presented in every one of the conditions but, across participants, each scenario ended in an ironic criticism, a literal criticism, or a literal compliment. Dialogues for the puppet shows were prerecorded by a narrator such that ironic criticisms were voiced in a mocking and deadpan intonation, literal criticisms were voiced in a cold and blunt intonation, and literal compliments were voiced in a warm and sincere intonation. Literal compliments were included to serve as control statements for ironic criticisms because they had the same wording and opposite meaning.

Children's perceptions of speaker attitude and intended humor were assessed with two scales used in our previous research (Harris & Pexman, 2003; Pexman et al., 2006; Pexman et al., 2005). The Nice/Mean scale (Figure 1) was used to evaluate children's perceptions of speaker attitude and the Funny/Serious Scale (Figure 2) was used to

evaluate children's perceptions of the speaker's intent to be humorous. In our previous research, these had been 5-point scales and we found that the midpoint was problematic for both analysis and interpretation. For this reason, the 5-point Nice/Mean and the 5-point Funny/Serious rating scales used in our previous work were revised as 6-point measures for the present study.

Procedure

Children were trained on the rating scales prior to testing to ensure they understood what each face represented and also that the entire range of each scale was to be used. For the Nice/Mean scale children were told that the six faces on the scale corresponded to the following evaluations from left to right: *Very nice, nice, a little bit nice, a little bit mean, mean,* and *very mean.* For the Funny/Serious scale children were told that the six faces corresponded to the following evaluations from left to right: *very funny, funny, a little bit funny, a little bit serious, serious,* and *very serious.*

After each puppet show, children were asked the following questions with the specific wording adapted to the relevant show. Question 1 was asked for all shows. Questions 2 and 3 were asked for shows in conditions where the target was present (i.e., T+/B-, T+/B+). Questions 6 and 7 were asked for shows in conditions where the bystander was present (i.e., T+/B+, T-/B+). Question 5 was worded to include the names of the parties present in the current show. The examples below illustrate the wording of these questions for shows in the T+/B+ condition.

1. *Speaker Belief question*: Participants were asked the speaker belief item to assess whether children interpreted the speaker's statement as a positive or negative

evaluation. For example, "When Aidan said '*What an excellent shot*' did he think that Christina made a good shot or a bad shot?"

2. *Target's Perspective of Speaker Attitude*: The second question concerned the Nice/Mean Scale and children rated the target's perspective the speaker's attitude conveyed by the statement (e.g., "Now let's talk about Christina (target). Point to one of these faces to show me how nice or mean Christina thought Aidan was trying to be when he said '*What an excellent shot*'").

3. *Target's Perspective of Speaker Humorous Intent*: The third question concerned the Funny/Serious Scale and children rated the target's perspective of the speaker's humorous intent in making the statement (e.g., "Now point to one of the faces to show me how funny or serious Christina thought Aidan was trying to be when he said '*What an excellent shot*'")

4. *Identification*: The fourth question concerned which puppet the children most identified with (e.g., "Which of these puppets acts most like you – Aidan, Christina or Grace?"). The experimenter pointed to the speaker puppet, target puppet and bystander puppet as they were named to remind the child of puppet names.

5. *Justification for Identification:* The fifth question concerned children's reasoning for making their previous response. Children were asked to explain 1) their response to the identification question, and 2) why they did not identify with the remaining puppet(s). (e.g., "You said that Christina acts most like you. Why? So why doesn't Grace act like you? And why doesn't Aidan act like you?").

6. *Bystander's Perspective of Speaker Attitude*: The sixth question concerned the Nice/Mean scale and children rated the bystander's perspective of speaker attitude (e.g., "Now let's talk about Grace (bystander). Point to one of these faces to show me how nice or mean Grace thought Aidan was trying to be when he said '*What an excellent shot*'").

7. *Bystander's Perspective of Speaker Humorous Intent*: The seventh question concerned the Funny/Serious Scale and children rated the bystander's perspective of speaker intent to be humorous (e.g., "Now point to one of the faces to show me how funny or serious Grace thought Aidan was trying to be when he said '*What an excellent shot*'").

For all questions, the experimenter repeated the statement made by the speaker puppet with the same intonation used on the audiotape to remind children of the speaker's intonation for the most recent show. Question 1 was asked first for all shows. For shows where the target was present, the order of Questions 2 and 3 was alternated for each child. All children were asked Question 4 before Question 5. For shows where the bystander was present, Questions 6 and 7 were also alternated for each child. For Questions 1, 2, 3, 6, and 7, the order of alternatives as spoken by the experimenter (i.e., good/bad, nice/mean and funny/serious) was randomized across items. The entire procedure took approximately 40 minutes per participant.

Design

Each child watched a total of nine puppet shows containing three literal criticisms, three ironic criticisms, and three literal compliments. For each statement type, one was delivered in a T+/B- show, one in a T+/B+ show, and one in an T-/B+ show.

Although this experiment used a repeated measures design, a fully crossed factorial design could not be used because ratings made from the target's perspective (Questions 2 and 3) were made only for the T+/B- and T+/B+ conditions and ratings made from the bystander's perspective (Questions 6 and 7) were made only for the T+/B+ and T-/B+ conditions. The present experiment used a 3 (Condition: T+/B-, T+/B+, T-/B+) by 3 (Statement Type: ironic criticism, literal criticism, literal compliment) within subjects design. When appropriate, ratings made according to perspective were separately analyzed.

Coding system

Speaker belief responses were coded as correct when the child indicated that speakers who made ironic criticisms and literal criticisms were making negative evaluations and speakers who made literal compliments were making positive evaluations. For responses made from the target's perspective and from the bystander's perspective, each child's Nice/Mean Scale ratings and Funny/Serious Scale ratings were coded on a 1 to 6 range. Speaker attitude ratings on the Nice/Mean Scale were coded so that 1 = *very nice*, 2 = *nice*, 3 = *a little bit nice*, 4 = *a little bit mean*, 5 = *mean*, and 6 = *very mean*. Speaker humorous intent ratings on the Funny/Serious Scale were coded so that 1 = *very funny*, 2 = *funny*, 3 = *a little bit funny*, 4 = *a little bit serious*, 5 = *serious*, and 6 = *very serious*. For trials when speaker belief was correctly attributed, a mean rating was calculated for target's perspective of speaker attitude, bystander's perspective of speaker attitude, target's perspective of humorous intent, and bystander's perspective of humorous intent. Children's responses to the identification question (e.g., speaker,

target, bystander) were categorized and their explanations for choosing and not choosing particular puppets for the identification justification item were grouped into themes.

Results

Children's performance on each of the dependent measures (speaker belief, ratings of speaker attitude from the perspective of the target and bystander, and ratings of humorous intent from the perspective of the target and bystander) were compared between 9-year-olds and 10-year-olds, and there were no significant effects of age. Comparisons between the performances of girls and boys showed no gender effects. Trend analyses were performed for each dependent measure and no significant order effects were found.

For the described statistical analyses, t_1 and F_1 refer to analyses where subjects were treated as a random factor (hereafter referred to as subjects analyses) and t_2 and F_2 refer to analyses where items were treated as a random factor (hereafter referred to as items analyses). The small number of items (9 scenarios for each participant) reduced the overall power of the items analyses but these tests are described for the interested reader. Results are reported for effects for which the subject analyses were statistically significant and conclusions were based on significant subject analysis effects.

Speaker Belief Responses

First, children's comprehension of speaker belief for ironic criticisms was compared to literal criticisms according to condition. Literal compliments were not included in this initial analysis because they served as control statements for ironic criticisms in our design. The mean proportions of correct speaker belief responses were compared with a 2 (Statement: ironic criticism, literal criticism) by 3 (Condition: T+/B-,

T+/B+, T-/B+) repeated measures ANOVA and the statement by condition interaction was not significant ($F_1(2, 136) = 1.33, p > .05, MSE = 0.02; F_2(2, 16) = 1.01, p > .05, MSE = 1.88$). The main effect of statement was not significant ($F_1 < 1, F_2(1, 8) = 1.15, p > .05, MSE = 1.78$) due to the fact that children attributed speaker belief for ironic criticisms ($M = .96, SD = .19$) just as accurately as they attributed speaker belief for literal criticisms ($M = .97, SD = .10$). The main effect of condition was not significant ($F_1 < 1, F_2(2, 16) = 1.90, p > .05, MSE = 1.88$) because children's accuracy in attributing speaker belief did not differ across the three conditions.

Three planned paired t-tests were conducted to compare speaker belief accuracy for literal criticisms and ironic criticisms for each condition and none were significant. Children were just as accurate at inferring a speaker's belief when an ironic criticism was directed at a target without the presence of a bystander in the T+/B- condition ($M = .96, SD = .20$) as they were when a literal criticism was directed at a target without the presence of a bystander in the T+/B- condition ($M = 1.00, SD = .00$), $t_1(71) = 1.75, p > .05, t_2(8) = 1.03, p > .05$. Similarly, children were just as accurate at inferring a speaker's belief when an ironic criticism was directed at a target in the presence of a bystander in the T+/B+ condition ($M = .94, SD = .14$) as they were when a literal criticism was directed at a target in the presence of a bystander in the T+/B+ condition ($M = .96, SD = .12$), $ts < 1, p > .05$. Lastly, children were just as accurate at inferring a speaker's belief when an ironic criticism was directed at an absent target in the presence of a bystander in the T-/B+ condition ($M = .96, SD = .17$) as they were when a literal criticism was directed at an absent target in the presence of a bystander in the T-/B+ condition ($M = .96, SD = .19$), $t_1(71) = 1.00, p > .05, t_2 < 1$. These comparisons show that children's accuracy

in attributing the ironic speaker's critical message was comparable to their accuracy in attributing the literal speaker's critical message regardless of the parties present when the message was uttered.

Next, a one-way ANOVA for each of the three statement types was conducted separately to test whether children's accuracy in attributing speaker belief varied according to condition. A Bonferroni correction was applied (alpha = .0167) and one of the three planned analyses were significant. The effect of condition was not significant for speaker belief accuracy for ironic criticisms (Fs < 1), or for literal criticisms ($F_1(2, 142) = 1.51, p > .05, MSE = 0.03; F_2(2, 16) = 1.05, p > .05, MSE = 3.73$), or for literal compliments ($F_1(2, 142) = 1.31, p > .05, MSE = 0.05; F_2(2, 16) = 2.05, p > .05, MSE = .005$). Children's accuracy in making inferences about speaker belief was consistently high within each statement type regardless of the parties present when the statement was delivered.

These analyses show that 9- to 10-year-old children are highly accurate in their ability to infer the belief of ironic speakers. There were very few instances in which children misinterpreted speaker belief. As such, I did not perform separate analyses of children's ratings and justifications when speaker belief was inaccurately attributed.

Speaker Attitude Ratings

Children's ratings of speaker attitude and speaker intent to be humorous were analyzed only when they correctly attributed speaker belief. These analyses were conducted in two stages: 1) an analysis of ratings within each statement type, 2) an analysis comparing ratings made for ironic criticisms and literal criticisms.

The first stage of the analyses consisted of four paired t-tests within each statement type and the Bonferroni procedure was applied to reduce critical alpha to .0125. The first two paired t-tests examined whether children modulated their ratings of speaker attitude and speaker intent to be humorous for each statement type according to perspective: 1) target's perspective in the T+/B- condition compared to bystander's perspective in the T+/B+ condition, 2) target's perspective in the T+/B- condition compared to bystander's perspective in the T-/B+ condition. The following two paired t-tests were used to investigate whether children modulated their ratings of speaker attitude according the parties present: 1) target's perspective in the T+/B- condition compared to target's perspective in the T+/B+ condition, and 2) bystander's perspective in the T+/B+ condition compared to bystander's perspective in the T-/B+ condition. These analyses could not be performed with a repeated measures ANOVA because this was not a fully crossed design in that conditions differed according to perspective and condition.

Although the primary interest was in children's perceptions of ironic criticisms, these four comparisons were also performed for literal criticisms and literal compliments in order to provide a thorough examination of the data. These comparisons tested whether children modified their perceptions of those types of remarks according to a) perspective and b) parties present.

The second stage of the analyses was a comparison of children's ratings between ironic criticisms and literal criticisms for each condition using two paired t-tests with a Bonferroni correction (alpha = .025). These comparisons were performed to see whether children's perceptions of ironic criticisms and literal criticisms differed: 1) target's perspective of ironic criticisms made in the T+/B- condition compared to target's

22

perspective of literal criticisms made in the T+/B- condition, 2) bystander's perspective of ironic criticisms made in the T+/B+ condition compared to bystander's perspective of literal criticisms made in the T+/B+ condition. Literal compliments were not included in this second stage because they served as control statements for ironic criticisms in our design.

Children's mean ratings of speaker attitude for each statement type made from the perspectives of targets and/or bystanders across the three conditions are shown in Table 2. The first stage of the analyses showed that children did not modulate their ratings of speaker attitude for ironic criticisms according to perspective or the parties present. Children's ratings of speaker attitude for ironic criticisms made from the target's perspective in the T+/B- condition ($M = 4.71$, $SD = .93$) were not significantly different from their ratings for ironic criticisms made from the bystander's perspective in the T+/B+ condition ($M = 4.56$, $SD = 1.10$), $t_1 < 1$, $p > .0125$; $t_2(8) = 1.62$, $p > .0125$. Similarly, ratings of speaker attitude for ironic criticisms made from the target's perspective in the T+/B- condition ($M = 4.71$, $SD = .94$) were not significantly different from their ratings for ironic criticisms made from the bystander's perspective in the T-/B+ condition ($M = 4.57$, $SD = 1.45$), $t_1 < 1$; $t_2(8) = 1.65$, $p > .0125$. Children's ratings for ironic criticisms made from the target's perspective in the T+/B- condition ($M = 4.71$, $SD = .93$) were not significantly different from ratings for ironic criticisms made from the target's perspective in the T+/B+ condition ($M = 4.37$, $SD = 1.12$), $t_1(69) = 2.22$, $p > .05$; $t_2 < 1$. Likewise, children's ratings of speaker attitude for ironic criticisms made from the bystander's perspective in the T+/B+ condition ($M = 4.56$, $SD = 1.18$) were not significantly different from their ratings for ironic criticisms made from the bystander's

perspective in the T-/B+ condition ($M = 4.57$, $SD = 1.45$), both $ts < 1$. These comparisons show that children perceived speaker attitude for ironic criticisms as quite mean regardless of the perspective they took when interpreting the remarks or which parties were present when remarks delivered.

The first stage analyses were conducted for literal criticisms to see whether children modified speaker attitude ratings according to perspective. None of these comparisons were significant: When children took the target's perspective, they rated literal criticisms in the T+/B- condition as being just as mean ($M = 4.67$, $SD = 1.17$) as when they took the bystander's perspective in the T+/B+ condition ($M = 4.71$, $SD = 1.02$), both $ts < 1$. When children took the target's perspective, they rated literal criticisms in the T+/B- condition as being just as mean ($M = 4.66$, $SD = 1.12$) as when they took the bystander's perspective in the   T-/B+ condition ($M = 4.76$, $SD = 1.21$), both $ts < 1$. When children took the target's perspective in the T+/B- condition ($M = 4.66$, $SD = 1.09$), they rated literal criticisms as being just as mean when they took the target's perspective in the T+/B+ condition ($M = 4.63$, $SD = 1.17$), both $ts < 1$. When children took the bystander's perspective in the T+/B+ condition ($M = 4.71$, $SD = 1.02$), they rated literal criticisms as being equally mean as when they took the bystander's perspective in the T-/B+ condition ($M = 4.77$, $SD = 1.22$), both $ts < 1$. As was the case for ironic criticisms, children's ratings of speaker attitude for literal criticisms remained quite "mean" regardless of whether their interpretations were made from the target's viewpoint or the bystander's viewpoint and regardless of whether the target or the bystander was present to hear the literal criticism.

When the first stage analyses were conducted for literal compliments, none of the comparisons were significant. When children took the target's perspective, they rated literal compliments in the T+/B- condition as being just as nice ($M = 1.75$, $SD = 1.02$) as when they took the bystander's perspective in the T+/B+ condition ($M = 1.80$, $SD = 1.19$), both ts < 1. When children took the target's perspective, they rated literal compliments in the T+/B- condition as being just as mean ($M = 1.75$, $SD = 1.02$) as when they took the bystander's perspective in the T-/B+ condition ($M = 1.64$, $SD = 1.31$), both ts < 1. When children took the target's perspective in the T+/B- condition ($M = 1.75$), they rated literal compliments as being just as nice when they took the target's perspective in the T+/B+ condition ($M = 1.57$, $SD = 1.27$) both ts < 1. When children took the bystander's perspective in the T+/B+ condition ($M = 1.80$, $SD = 1.19$), they rated literal compliments as being equally mean as when they took the bystander's perspective in the T-/B+ condition ($M = 1.64$, $SD = 1.31$), both ts < 1. Thus, children perceived speaker attitude for literal compliments as being very nice regardless of what perspective they took and regardless of who was present when the speaker complimented the target.

For the second stage of the analysis, paired t-tests were used to compare mean speaker attitude ratings for ironic criticisms and literal criticisms for each condition. First, the target's perspective of speaker attitude for ironic criticisms made in the T+/B- condition ($M = 4.71$, $SD = .92$) was compared to the target's perspective of speaker attitude for literal criticisms made in the T+/B- condition ($M = 4.66$, $SD = .97$) and this difference was not significant, both ts < 1. Next, the bystander's perspective of speaker attitude for ironic criticisms made in the T+/B+ condition ($M = 4.56$, $SD = 1.20$) was compared to the bystander's perspective of speaker attitude for literal criticisms made in

the T+/B+ condition ($M = 4.71$, $SD = 1.13$) and this difference was also not significant, $t_1(63) = 1.24$, $p > .025$; $t_2(8) = 1.18$, $p > .025$. Children rated ironic criticisms and literal criticisms as being comparably "mean" when they interpreted the remarks as targets and when they interpreted the remarks as bystanders.

Speaker Humorous Intent Ratings

Ratings of speaker intended humor for ironic criticisms were compared with four paired t-tests in the first stage analysis. When children rated intended humor of ironic criticisms, ratings made from the target's perspective in the T+/B- condition ($M = 3.62$, $SD = 1.50$) were not significantly different from ratings made from the bystander's perspective in the T+/B+ condition ($M = 3.81$, $SD = 1.63$), both ts < 1. When children rated intended humor of ironic criticisms, ratings made from the target's perspective in the T+/B- condition ($M = 3.62$, $SD = 1.50$) were not significantly different from ratings made from the bystander's perspective in the T-/B+ condition ($M = 3.47$, $SD = 1.65$), both ts < 1. These two comparisons show that children rated ironic criticisms as being just as serious when they interpreted the remarks from the target's perspective and the bystander's perspective. When children rated intended humor of ironic criticisms, ratings made from the target's perspective in the T+/B- condition ($M = 3.62$, $SD = 1.50$) were not significantly different from ratings made from the target's perspective in the T+/B+ condition ($M = 3.68$, $SD = 1.80$), both ts < 1. When children rated intended humor of ironic criticisms, ratings made from the bystander's perspective in the T+/B+ condition ($M = 3.81$, $SD = 1.62$) were not significantly different from ratings made from the bystander's perspective in the T-/B+ condition ($M = 3.47$, $SD = 1.64$), both ts < 1. These

two comparisons show that children perceived ironic criticisms as slightly serious regardless of the parties present when the speaker made the remarks.

The first stage of the analysis was also applied to humor ratings for literal criticisms and none of the four comparisons were significant. Children's ratings of intended humor for literal criticisms made from the target's perspective in the T+/B- condition ($M = 4.79$, $SD = 1.10$) were not significantly different from ratings made from the bystander's perspective in the T+/B+ condition ($M = 4.54$, $SD = 1.32$), $t_1 < 1$; $t_2(8) = 1.18$, $p > .0125$. Children's ratings of intended humor for literal criticisms made from the target's perspective in the T+/B- condition ($M = 4.79$, $SD = 1.12$) were not significantly different from ratings made from the bystander's perspective in the T-/B+ condition ($M = 4.97$, $SD = 1.23$), $t_1(67) = 1.30$, $p > .0125$; $t_2 < 1$. Children's ratings of intended humor for literal criticisms made from the target's perspective in the T+/B- condition ($M = 4.79$, $SD = 1.12$) were not significantly different from ratings made from the target's perspective in the T+/B+ condition ($M = 4.56$, $SD = 1.32$), $t_1(69) = 1.11$, $p > .0125$; $t_2 < 1$. Lastly, children's ratings of intended humor for literal criticisms made from the bystander's perspective in the T+/B+ condition ($M = 4.57$, $SD = 1.35$) were not significantly different from ratings made from the bystander's perspective in the T-/B+ condition ($M = 4.97$, $SD = 1.21$), $t_1(68) = 2.15$, $p > .0125$; $t_2(8) = 2.47$, $p > .0125$.

The same four paired t-tests were applied to speaker intended ratings for literal compliments and two out of the four comparisons were significant with a Bonferroni correction (alpha = .0125). When children took the position of the target in the T+/B- condition ($M = 4.18$, $SD = 1.54$) they rated literal compliments as being just as serious than when they took the position of the bystander in the T+/B+ condition ($M = 4.71$, SD

= 1.41), $t_1(67) = 2.13$, $p <.0125$; $t_2(8) = 2.64$, $p > .0125$. However, when children took the position of the bystander in the T-/B+ condition ($M = 4.85$, $SD = 1.53$) they rated literal compliments made after the target exited as being significantly more serious than when they took the position of the target in the T+/B- condition ($M = 4.18$, $SD = 1.54$) when the bystander was not there, $t_1(67) = 2.57$, $p <.0125$; $t_2(8) = 4.36$, $p < .0125$. Similarly, when children took the position of the target in the T+/B+ condition ($M = 4.85$, $SD = 1.48$) they rated literal compliments made in front of the bystander as being significantly more serious than when they took the position of the target in the T+/B- condition ($M = 4.18$, $SD = 1.51$) when the bystander was not there, $t_1(67) = 2.53$, $p <.0125$; $t_2 < 1$. However, when children took the position of the bystander in the T-/B+ condition ($M = 4.85$, $SD = 1.16$) they rated literal compliments made after the target exited as being just as serious as when they took the position of the bystander in the T+/B+ condition ($M = 4.71$, $SD = 1.11$) when the target was there, both $ts < 1$. These findings show that children perceive literal compliments made in the presence of bystanders as being more serious than remarks made in the absence of bystanders.

In the second stage of the analysis, ratings of speaker intended humor for ironic criticisms and literal criticisms were compared by condition. When children were asked to make ratings from the target's perspective, they rated ironic criticisms in the T+/B- condition ($M = 3.62$, $SD = 1.51$) as being significantly less serious than literal criticisms in the T+/B- condition ($M = 4.77$, $SD = 1.11$), $t_1(63) = 5.00$, $p < .025$; $t_2(8) = 5.19$, $p < .025$. Likewise, when children were asked to make ratings from the bystander's perspective, they rated ironic criticisms in the T+/B+ condition ($M = 3.81$, $SD = 1.85$) as being significantly less serious than literal criticisms in the T+/B+ condition ($M = 4.54$,

$SD = 1.33$), $t_1(64) = 3.74$, $p < .025$; $t_2(8) = 4.19$, $p < .025$. Children rated speakers who made ironic criticisms as being significantly less serious than speakers who made literal criticisms from both the target's perspective and the bystander's perspective.

Identification Responses

Table 3 displays the number of children who claimed to identify with the target, bystander, or speaker in each condition. There were too few children who claimed to be like neither of the two offered puppets to be included the following analyses. Children could choose between the target or the speaker in the T+/B- condition, they could choose between the target, speaker or the bystander in the T+/B+ condition, and they could choose between the bystander or the speaker in the T-/B+ condition. Sometimes, however, children still tended to identify with the target in the T-/B+ condition even when the experimenter did not offer this option.

A chi-square analysis was used to compare the number of children who claimed to be like the target or the speaker between ironic criticisms and literal criticisms for each of the two conditions where the target was present. For the T+/B- condition where children could choose to identify with the target or the speaker, the number of children who identified with the target versus the number of children who identified with the speaker for ironic criticisms ($n = 50$ vs. $n = 9$) did not significantly differ from the number of children who identified with the target versus the speaker for literal criticisms ($n = 57$ vs. $n = 11$), $X^2 < .1$. Children's identification responses were not contingent on whether the speaker ironically criticized or literally criticized the target in one-on-one conversations. For the T+/B+ condition where children could identify with the target, speaker or the bystander, the number of children who identified with the target versus the

number of children who identified with the speaker for ironic criticisms ($n = 28$ vs. $n =$ 11) significantly differed from the number of children who identified with the target versus the speaker for literal criticisms ($n = 34$ vs. $n = 4$), $X^2(1) = 3.84, p > .05$. This comparison shows that children were just as likely to identify with the target in situations where the target was ironically or literally criticized in front of a bystander.

A third chi-square analysis was used to compare the number of children who claimed to be like the bystander or speaker between ironic criticisms and literal criticisms for the condition where the target was absent. For the T-/B+ condition where children could choose to identify with the bystander or the speaker, the number of children who identified with the bystander versus the number of children who identified with the speaker for ironic criticisms ($n = 51$ vs. $n = 14$) did not significantly differ from literal criticisms ($n = 56$ vs. $n = 9$), $X^2(1) = 1.46, p > .05$. This comparison shows that children were just as likely to identify with the bystander in situations where the absent target was ironically or literally criticized. Together these three comparisons indicate that children showed similar identification tendencies for ironic criticisms and literal criticisms for each of the three conditions – they predominantly identified with the target or the bystander (if applicable). Regardless of the parties present, children predominantly identified with the puppet who was not doing the criticizing.

Three chi-square analyses were performed to compare identification frequencies between ironic criticisms and literal criticisms for each condition. None of these comparisons were significant because the frequencies of children's identification responses for each condition were not contingent on whether the criticism was ironic or literal, all X^2s < 1.

Justifications for Identification Responses

Children's justifications for their identification responses were thematically coded in order to compare frequencies of themes as a function of the studied variables. Children's justifications provided information about their perceptions of communicative intent for literal criticisms and ironic criticisms and these are captured in the first four categories below. Children frequently gave explanations for their puppet identification responses that pertained to the puppets' gender, physical appearance, interests (e.g., he likes video games and so do I"), the type of activity that had been depicted (e.g., "She likes to ride in the boat like me"), or the puppet's interests (e.g., "I like to snowboard too"). These explanations did not seem to reveal much about children's impressions speaker intent and were grouped together in the last category. Five themes were devised for coding:

1. *Identify with failure*: Participant justified his/her identification response in terms of the target's performance, indicating that they were like the target who had failed, e.g., "Cause I can't skate well".

2. *Identify with success*: Participant justified his/her identification response in terms of the target's successful performance, e.g., "Well I'm not bragging but I'm good at snowboarding".

3. *Approval of talking that way*: Participant justified his/her identification response in terms of approval for what the speaker said or relating back to instances where they had made similar remarks, e.g., "Cause I would say that to my brother" or "cause she's being nice to her friend" or "Sometimes I give comments like that".

4. *Disapproval of talking that way*: Participant justified his/her identification response by stating that they would not say what the speaker said, e.g., "I just don't say that to people" or explaining why they disapproved of the statement, e.g., "Cause what he said was mean".

5. *Similar appearance, gender, interests, activities*: Participant justified his/her identification response in terms of the puppet's gender, e.g., "He's a boy too", the puppet's appearance, e.g., "I like to wear pink", or the puppet's activity, e.g., "I like playing mini golf".

Participants' justifications were coded by two independent coders, and rater agreement was good ($\kappa = .74$). The frequencies of responses in each of these themes for statements as a function of condition are shown in Table 4. Sometimes participants' justifications for selecting the puppet they identified with contained information about why they did not select the other puppet. For example, a child could provide a justification for identifying for the target that matched the *disapproval of talking that way* theme by explaining why they were not like the speaker. In such a case, the child's justification for not choosing the other puppet was repeated as a response to the subsequent question. Sometimes, however, children were unable to offer a justification for their identification choice, e.g., "Actually I don't know" or "No reason really" or their justification did not contain a clear reason, e.g., "Cause she doesn't care and neither do I" or "Cause I sometimes like music that they don't like". These justifications were not coded into a theme so the total number of justifications does not equal the total number of identification responses for some conditions.

As shown in Table 4, when children identified with the targets of ironic criticisms and literal criticisms, they most commonly expressed that they *identified with the target's failure* (Theme1). A chi-square test indicated that the frequencies of justifications for identifying with the target versus the speaker in Theme 1 for all three conditions did not differ between ironic criticisms ($n = 62$ vs. $n = 0$) and literal criticisms ($n = 70$ vs. $n = 0$; $X^2 < 1$). When children identified with the bystanders in the T+/B+ shows and the T-/B+ shows where ironic criticisms and literal criticisms were made, their most frequent explanation was that they *disapproved of talking that way* (Theme 4). The frequencies of justifications for identifying with the target versus the bystander in Theme 4 did not differ between ironic criticisms ($n = 1$ vs. $n = 47$) and literal criticisms ($n = 1$ vs. $n = 46$; $X^2 < 1$). These comparisons show that 9- to 10-year-old children tend to predominantly cite the same reason for identifying with the targets of ironic criticisms and literal criticisms: they can relate to the target's failure. They also cite the same reason for identifying with bystanders of ironic criticisms and literal criticisms: they disapprove of speakers who criticize others.

Table 4 also shows the frequencies of children's identification justifications within each condition. Unequal response frequencies between conditions did not allow for statistical comparisons but the most dominant themes cited in each condition are nonetheless informative. The same within condition justification theme trends occurred for ironic criticisms and literal criticisms. When children saw puppet shows where a speaker criticized a target without an audience (T+/B- condition) and shows where a speaker criticized a target in front of a bystander (T+/B+ condition), their most common reason for identifying with the target was *identification with the target's failure* (Theme

1). This was not the dominant theme expressed when children saw shows where a speaker criticized a target to a bystander after the target exited (T-/B+ condition). Here, the most common identification justification for identifying with bystanders was *disapproval of talking that way* (Theme 4). Unfortunately cross-condition comparisons cannot be made here but a visual inspection of dominant themes suggests that children tended to express disapproval of talking that way (Theme 4) more frequently in the T-/B+ condition than the T+/B- and the T+/B+ conditions. It appears as though children are more disapproving of speakers who insult absent targets. Indeed, some children provided justifications that suggested this such as "I wouldn't say something mean behind my friend's back. I'd let them hear me if I wanted to say something bad" and "I don't like it when people gossip about other people." Explanations like these indicate that children are particularly disapproving of speakers who criticize people behind their backs.

Children's justifications for not identifying with the other puppet were also categorized due to interest in children's explanations for why they did not choose to identify with the speakers who made ironic criticisms and literal criticisms. To explore this issue, finer-grained themes were devised to characterize the basis of children's disapproval of what the speaker said:

1. *Disapproval of saying mean things*: Participant justified not identifying with the speaker by describing the speaker as being mean, not nice, or hurtful, e.g., "Cause I'm not mean, e.g., " Mike said something that was not very nice".

2. *Would not say that*: Participant justified his/her identification response by stating that they would not say what the speaker said but did not explain why they

disapproved of the statement, e.g., "I just don't say that to people" or "I wouldn't just blurt out that someone did a bad job".

3. *Disapproval of criticisms, insults, putdowns*: Participant justified not choosing the speaker by referring to the speaker's remark as a criticism, insult, or a putdown, e.g., "Cause she was criticizing her", or "I don't insult my brother when he does a bad job".

4. *Disapproval of sarcasm, making fun of, joking*: Participant explained why they did not identify with the speaker by explicitly labeling the speaker as being sarcastic, using sarcasm, or making fun of the target, e.g. "Because I'm not as sarcastic as him, I'm usually more serious", or "I'm sarcastic but not sarcastic mean like her".

5. *Dissimilar appearance, gender, interests, activities*: Participant justified his/her identification response in terms of being dissimilar to the speaker puppet by referring to gender, appearance, interests or activities as described in the previous coding scheme.

Two independent coders categorized these justifications and inter-rater reliability was acceptable ($\kappa = .74$). The proportions of children's justifications for non-identifications for ironic criticisms and literal criticisms combined were categorized into each theme are shown in Table 5. Due to unequal responses frequencies across conditions, these values cannot be statistically compared. It is nonetheless apparent that one theme dominates across the three conditions: Children's main reason for not identifying with speakers of ironic criticisms and literal criticisms is that they disapprove of saying mean things. This finding supports the prediction that children's reasons for not

identifying with the critical speaker are based upon concerns for politeness and hurting the feelings of others.

Discussion

The main goal of this study was to determine whether children's tendency to interpret ironic criticisms from the target's point of view leads them to interpret the remarks negatively. This issue was addressed by determining a) whether children would consider speaker attitude and speaker intent to be humorous differently according to the perspective of the target and the perspective of the bystander, b) whether children would consider the parties present when deriving impressions of speaker attitude and speaker intent to be humorous, c) whether children would identify with the bystander instead of the target when the bystander option was offered, and d) whether children's explanations for not identifying with the speakers of criticisms would pertain to concerns for politeness.

Participants were presented with scenarios where a speaker criticized or complimented a target in the target's presence/absence and in the presence/absence of a bystander. Depending on the condition, children rated speaker attitude for ironic criticisms, literal criticisms, and literal compliments from the perspective of the target and/or the bystander. Children did not consider perspective as a relevant cue to speaker attitude or intent to be humorous. That is, children perceived ironic criticisms to be just as mean and just as serious when they considered the statements from the point of view of the addressee or a casual witness.

There is evidence that adults perceive indirect remarks more negatively when considering the target's perspective than when considering the speaker's perspective

(Holtgraves, 2005; Toplak & Katz, 2000). Children in the present study were not asked to adopt the perspective of the speaker because our previous research showed that children do not identify with speakers who make ironic criticisms or literal criticisms (Pexman et al., 2005). Ratings from children in the current study indicated that they viewed ironic remarks as being equally hurtful and just as serious when considered from the target's point of view and the bystander's point of view. While these ratings may accurately represent children's true perceptions of ironic criticisms according to the perspectives they were instructed to take, these ratings may be confounded by difficulty with the perspective taking task itself.

This task was deemed appropriate for 9- to 10-year-olds in the current study based on evidence that children possess a more advanced "interpretive" theory of mind by 8 years that allows them to consider that individuals can arrive at different interpretations of the same event (Carpendale & Chandler, 1996; Lalonde & Chandler, 2002) and also evidence that younger children can interpret information according to the perspectives of the speaker and the addressee in common ground tasks (Epley et al., 2004; Nadig & Sedivy, 2000). While being assigned a particular perspective adds to the cognitive load of any task (Keysar, 1994), I would suggest that the task used in the current study was significantly more difficult than the average common ground task. Firstly, children's ability to consider different perspectives in common ground tasks is typically assessed by motor responses and eye gaze latencies while children's ability to consider different perspective in the current irony appreciation task was assessed by their verbal ratings on a continuous scale. Children in common ground tasks are presented with literal language, while children in the current study were presented with ironic language. Ironic language

carries a significantly larger cognitive load than literal language for the developing

comprehension system (Pexman et al., 2006) because the mental state inferences required

for irony comprehension are constrained by a variety of contextual, and social factors

(Colston, 2002; Ivanko & Pexman, 2003; Katz, 1996; Katz, Blasko, & Kazmerski, 2004;

Utsumi, 2000).

Children must recognize and process these factors in order to understand the

ironic speaker's belief. For example, there is evidence that children attend to sarcastic

intonation when deciding on whether a speaker is using literal language or sarcastic

language (Winner, 1988; Laval & Erbert-Eboul, 2005).One also needs to recognize that

the speaker's statement is incongruent with the social context of the statement (Colston,

2002; Colston & O'Brien, 2000; Gerrig & Goldvarg, 2000; Ivanko & Pexman, 2003;

Katz & Lee, 1993; Pexman & Olineck, 2000). In fact, listeners are more likely to

interpret statements as ironic when statements allude to unmet social expectations (Gibbs,

1986; Kreuz & Glucksberg, 1989; Kumon-Nakamura, Glucksberg, & Brown, 1995).

Children need to be knowledgeable about these cues and they need to coordinate these

cues in order to correctly discern the ironic speaker's belief.

Another potential contributor to children's lack of perspective taking in the

present research may concern the order in which questions were posed. Each participant

was requested to make ratings from the target's perspective first, then from the

bystander's perspective. It is possible that children had difficulty inhibiting their initial

ratings made from the target's perspective when later making ratings from the

bystander's perspective due to executive demands. The ability to shift between

alternatives, inhibiting the first while responding to the second, is one executive

component shown to impact tasks requiring memory and attention (Pennington, Bennetto, McAleer, & Roberts, 1996).

Taken together, these issues suggest that children's abilities to consider the different perspective of the target and bystander might have been compromised by the overwhelming demands of the task used in the present study.

Children's perceptions of attitude and intent to be humorous were also unaffected by the parties present – ironic criticisms were perceived to be just as mean and just as serious when they were directed at the target in a one-on-one conversation, when they were directed at the target in front of a bystander, and when they were directed at an absent target. These results indicate that children do not consider an audience for the ironist as a relevant cue to ironic intent. These results also indicate that children do not view ironic criticisms directed at absent targets as being more polite than criticisms made directly to targets. This is also the case for adults; ironic remarks made to bystanders behind the target's back are viewed as being just as condemning as remarks made directly to targets (Colston, 1997). Although children's ratings of attitude and humor did not varying according to the parties present, they most frequently expressed disapproval of speakers who criticized absent targets, suggesting that they recognized that these transgressions are not socially acceptable. This finding corresponds with reports that middle school aged children are well aware of social norms against talking behind the backs of others (Paine, 1968; Rysman, 1997).

Children's ratings of speaker humor for literal compliments were, however, affected by the parties present: literal compliments directed at targets in the presence of a bystander were perceived as being more serious than literal compliments directed at

targets in one-on-one conversations. This indicates that, for 9- to 10-year-olds, the presence of an audience increases the speaker's perceived seriousness or sincerity of a literal compliment.

Our previous research showed that when children were offered the options of target and speaker and were asked who they were most like, they predominantly identified with the target (Pexman et al., 2005). In the present research, children were given the additional option of a bystander in two out of three conditions. When children were given two options, they overwhelmingly identified with the option that was not the speaker. That is, they chose the target when the options were target or speaker (in Pexman et al., 2005) and they chose the bystander when the options were bystander or speaker (in the present study). When children were offered all three options, they were just as likely to choose the target and the bystander. This finding suggests that children's identification tendency in our previous research may have been a consequence of children's empathy for the target's failure *and* their disapproval of critical speakers. Children's justifications in the current study support this claim. When they identified with targets, they expressed empathy for the target's failure. When they identified with bystanders, they expressed disapproval of the speaker who made a criticism. When children were asked why they were not like the speaker who made a criticism, children tended to express disapproval of saying mean things. This suggests that 9- to 10-year-old children do not perceive ironic criticisms as being more polite than literal criticisms as suggested by Politeness Theory (Brown & Levinson, 1987). However, children of this age do have strong expectations that people should speak positively, showing demonstration of the Pollyanna Hypothesis (Boucher & Osgood, 1969).

The present study also showed that children had very similar perceptions of ironic criticisms and literal criticisms. That is, children perceived that the speakers of these two types of remarks had similar attitudes, they identified with targets and bystanders of these remarks with similar frequencies, and they offered similar justifications for their identification responses. Children's perceptions of ironic criticisms and literal criticisms only differed in terms of the intended humor they perceived in these remarks: ironic criticisms were perceived as being less serious than literal criticisms. Same-aged children in the Pexman et al. (2005) study showed similar perceptions. This suggests that 9- to 10-year-old children have a developing understanding of irony's humor function.

As mentioned, the present study shows that 9- to 10-year-old children perceive speaker attitude for ironic criticisms to be just as mean as that for literal criticisms. Prior research has shown that 5- to 8-year-olds perceive ironic criticisms to be less mean than literal criticisms (Dews et al., 1996; Harris & Pexman, 2003). With accumulating research, the developmental verbal irony literature is becoming more like the adult literature, producing mixed evidence for the manner in which irony alters the perception of critical remarks. Potential sources of this variability are proposed in the General Discussion.

In summary, this study showed that 9- to 10-year-old children perceive ironic criticisms to be just as mean as, but less serious than, literal criticisms. These perceptions remain constant regardless of whether children derive these perceptions from the viewpoint of the target or the bystander and regardless of who is present when the remarks are made. While children's identification responses depend of the options offered (bystanders vs. targets), their rationales for claiming to be like targets contain

information about empathizing with the target's failure and their rationales for claiming to be like bystanders contain information about disapproving of what the speaker said. This pattern was particularly apparent when absent targets were criticized. Children do not relate to critical speakers because they disapprove of saying mean things. That is, children show strong expectations that people should speak positively and politely but they do appreciate ironic criticisms as more polite than literal criticisms. Any future theory of irony development must address these perceptions.

It's Not How You Say It, But *What* You Say:

Children's Impressions of the Topics of Ironic Criticisms and Literal Criticisms

Melanie Glenwright and Penny M. Pexman

University of Calgary

Abstract

Many school-aged children can recognize an ironist's intent to temper his remark (i.e., speaker attitude) but often fail to recognize an ironist's intent to convey humor (Dews et al., 1996; Harris & Pexman, 2003). The present study was an investigation of whether these impressions vary as a function of statement topic. As such, 9- to 10-year-old children were presented with ironic criticisms and literal criticisms directed at topics that were more personal (a target's ability, a target's possession), or less personal (a situation). The results showed that a) children perceived speaker attitude more negatively for ironic criticisms and for literal criticisms for topics that were more personal, b) children's ratings of speaker humorous intent for ironic criticisms did not vary according to topic, c) children tended to identify with the targets of personal criticisms more than targets of less personal criticisms, and d) children expressed disapproval of ironic criticisms and literal criticisms directed at more personal topics. These results show that 9- to 10-year-olds view the topics of ironic criticisms and literal criticisms as relevant to speaker attitude but not to speaker intended humor. It is suggested that children's perceptions of criticisms are based on their conventions of politeness and concern for hurting the feelings of others.

The majority of developmental studies concerning verbal irony comprehension have employed situations where a target fails to meet a speaker's expectation and the speaker comments on this failure. In most cases, these expectations concern the target's performance on an everyday activity such as cleaning a bedroom (Demorest, Silberstein, Gardner, & Winner, 1983; Pexman et al., 2005; Winner & Leekam, 1991), playing sports (Ackerman, 1982; Capelli, Nakagawa, & Madden, 1990; Hancock, Dunham, & Purdy, 2000, Pexman et al., 2005), carrying groceries (Pexman et al., 2006), blowing out birthday cake candles (Hancock et al., 2000), or painting a picture (Harris & Pexman, 2003; Pexman et al., 2006). In other cases, the speaker's unmet expectation concerns the target's failure to provide a common courtesy such as providing assistance when the speaker asks for help (Dews et al., 1996), being quiet while the speaker is on the telephone (Creusere, 2000), or closing the window after the speaker has indicated that he is cold (Laval & Bert-Erboul, 2005). These examples clearly illustrate that there is a specific target of ridicule, a feature that Kreuz and Glucksberg (1989) point to as a defining feature of sarcasm. These scenarios have been presented to child participants aurally with accompanying illustrations (Andrews, Rosenblatt, Malkus, Gardner, & Winner, 1986; Demorest et al., 1983), videotaped cartoons or vignettes (Dews et al., 1996; Hancock et al., 2000), or puppet shows (Harris & Pexman, 2003; Pexman et al., 2005; Pexman et al., 2006) to increase the likelihood that children will understand that the speaker's ironic remark is counterfactual to the target's failure. Thus researchers have been careful in their choice of materials to ensure that children are familiar with the activities depicted and that children remain engaged during the depiction of these

activities. However, it remains possible that the content of these materials do not optimize children's consideration of the ironic speaker's intent to be humorous.

Research on humor production identifies a tendency to shift from nice to mean joke topics during middle childhood. Socha and Kelly (1994) reported that children aged 5 to 8 years tend to produce *prosocial humor* that adheres to politeness with joke topics concerning situations, logic, and language (e.g., "What do you give to a sick pig? Oinkment!") while children 9 years and older tend to produce *antisocial humor* that violates conventions of politeness by disparaging others (e.g., teasing about appearance, grades, or sex). Fittingly, there is evidence that 9- to 10-year-old children's appreciation of verbal irony's humor function and teasing function are closely related (Pexman et al., 2005). Not surprisingly, though, there is a fine line between the teasing topics that are considered to be funny and the teasing topics that are considered to be cruel.

The teasing topics that are considered to be acceptable tend to balance aggression and humor (Kowalski, Howerton, & McKenzie, 2001). The two most commonly used topics for teasing among children and adolescents are physical appearance (Alberts, Kellar-Guenther, & Corman, 1996; Kowalski, 2000; Warm, 1997) and academic competence (Scambler, Harris, & Milich, 1998; Shapiro, et al.,1991). At the same time, these two topics are considered by children and adolescents to be unacceptably cruel (Scambler et al., 1998) because they concern stable individual characteristics linked to shared cultural norms (Carlson Jones & Burrus Newman, 2005). In consideration of this literature, it is quite possible that the topics being commented on in developmental verbal irony research are not representative of the topics middle school-aged children find funny or acceptable to tease about.

Recall that developmental tests of verbal irony comprehension tend to depict scenarios where a target fails to meet the speaker's expectation by unsuccessfully performing a common activity (e.g., blowing out birthday cake candles) and the speaker comments on this inability. In the Pexman et al. (2005) study, 7- to 10-year-olds tended to express the notion that it is impolite to comment on the skills of others and that it is better not to say anything than to criticize someone's failure. Perhaps children aged 10 and younger find it rude to criticize the target's incompetence because they view the depicted competencies as personal characteristics. In the present study I was interested in how children would view ironic remarks directed at the target's possessions (rather than the target's abilities). It also seemed possible that children might find ironic remarks directed at less personal topics such as situations to be less impolite and more funny because these remarks would be less of a personal attack on the target. These issues were investigated in the present experiment.

There is evidence that the availability of a specific target distinguishes sarcastic irony from other kinds of irony. According to Kreuz and Glucksberg (1989), remarks that address a target's failure to meet a particular expectation are viewed as sarcastic but remarks that address generally positive expectations when there is no particular target failing to meet the expectation (i.e., wishing for sunny weather), are not viewed as sarcastic. Adults perceive remarks that are more ridiculing of specific targets as being more sarcastic (Lee & Katz, 1998) but it remains unknown whether children also hold this perception. Unfortunately, asking children about which criticism topics are more sarcastic or more ridiculing would be compromised by children's limited explanatory abilities. It is possible, however to ask children about social functions rendered by ironic

statements directed at specific targets and non-specific targets. These social functions are tapped by asking children about the ironist's attitude and the ironist's intent to be humorous.

In the present experiment I addressed the described issues by presenting 9- to 10-year-old children with ironic criticisms, literal criticisms, and literal compliments in the context of puppet shows. A speaker puppet directed these three statement types at three topics: a target's performance of an activity, a target's possession, or a general situation. After each puppet show, children rated the speaker's attitude in making the remark on a nice-mean continuum. Children also rated the speaker's intended humor in making the remark on a funny-serious continuum. Then children were asked which puppet (speaker or target) was most like them and why. Finally, children were asked why they did not choose the other puppet.

My predictions were as follows: 1) Children would rate speaker attitude for ironic criticisms and literal criticisms directed at a target's performance as being more negative (i.e., "meaner") than ironic criticisms directed at a target's possession because a possession is not a stable individual attribute. 2) Children would rate speaker attitude for ironic criticisms and literal criticisms directed at a target's performance as being more negative than ironic criticisms directed at a general situation because a general situation is a less personal topic. 3) Children would rate speaker intended humor for ironic criticisms directed at performances as being more serious than for ironic criticisms directed at possessions. 4) Children would rate speaker intended humor for ironic criticisms directed at performances as being more serious than for ironic criticisms directed at situations. 5) Children would claim to be like the speaker who directs ironic

criticisms at situations more often than children would claim to be like the speaker who directs ironic criticisms at performances. 6) When comparing ratings of speaker attitude according to children's identification responses, children who claim to be like the target should rate ironic criticisms and literal criticisms directed at performances as being more negative (i.e., more mean) and more serious compared to ratings for children who claim to be like the speaker. 7) Children's justifications for their identification responses for not choosing the speakers of ironic criticisms and literal criticisms should reflect concerns about politeness: their explanations should provide information in support of my prediction that criticisms directed at personal topics (i.e., the target's competency in performing a task) are perceived as more negative than criticisms directed at less personal topics (i.e., the target's possessions or situations).

Method

Participants

The participants in this study were 71 9- to 10-year-olds (M = 10;9, range 9;0 – 10;11, 41 boys, 30 girls). Children were recruited from Grade 4 and Grade 5 classrooms from two schools in Calgary, Alberta, Canada. Children came from largely middle class families and all spoke English as their primary language at home.

Materials

Nine puppet show scenarios containing common children's activities were depicted for each child. This experiment employed 18 puppets who were introduced to the child before each show began. Three puppet shows were depicted for each topic condition: performance, possession, and situation (see Table 6). In the performance shows, a speaker puppet evaluated a target puppet's performance of an activity (e.g.,

doing tricks on a trampoline, ice skating, playing soccer, and snowboarding over a ramp).

The target either succeeded at performing the activity (e.g., did a perfect trampoline flip) or failed at performing the activity (e.g., fell and landed on his/her face). In the possession shows, a speaker puppet evaluated a target's possession (e.g., Dave's new trampoline). This possession was described as being either of good quality (e.g., it worked really well and they could bounce very high) or as being faulty in some way (e.g., it didn't work very well and they couldn't bounce very high). Other possessions included new ice skates, a soccer ball, and a snowboard ramp. In the situation shows, the speaker puppet remarked on a situation where there was no obvious party responsible for the situation or possession (e.g., a trampoline used in gym class). Other situation topics included ice at the skating rink, a soccer ball found on the playground, and a found snowboard ramp. For the possession shows, the narration clearly highlighted the target puppet's ownership of the item evaluated by the speaker. The nine puppet show scenarios ended in three ironic criticisms, three literal criticisms, and three literal compliments for each child. Dialogues for the puppet shows were prerecorded by a narrator such that ironic criticisms were voiced in a mocking and deadpan intonation, literal criticisms were voiced in a cold and blunt intonation, and literal compliments were voiced in a warm and sincere intonation. Literal compliments were included to serve as control statements for ironic criticisms because they had the same wording and opposite meaning.

Procedure

Children were trained on the rating scales prior to testing to ensure they understood what each face represented and also that the entire range of each scale was to be used. For the Nice/Mean scale children were told that the six faces on the scale

corresponded to the following evaluations from left to right: *Very nice, nice, a little bit nice, a little bit mean, mean,* and *very mean*. For the Funny/Serious scale children were told that the six faces corresponded to the following evaluations from left to right: *very funny, funny, a little bit funny, a little bit serious, serious,* and *very serious*. After each puppet show, children were asked the following questions with the specific wording adapted to the relevant condition and show. The examples below illustrate the wording of these questions for shows in the possession condition.

1. *Speaker Belief question*: Participants were asked whether the speaker meant what he or she said to assess whether children interpreted the speaker's statement as a compliment or a criticism. For example, "When Mike said *"This is a great trampoline"*, did he think that Dave's new trampoline was good or bad?"

2. *Speaker Attitude question*: Children were asked to rate the speaker's attitude conveyed by the remark on the Nice/Mean Scale (e.g., "Point to one of these faces to show me how mean or nice Mike was trying to be when he said *'This is a great trampoline'*").

3. *Speaker Humorous Intent question*: Children were asked to rate the speaker's humorous intent on the Funny/Serious Scale (e.g., "Now point to one of these faces to show me how funny or serious Mike was trying to be when he said *'This is a great trampoline'*").

4. *Identification*: Children were asked to which puppet they most identified (e.g., "Which of these puppets acts most like you – Dave or Mike?"). The experimenter pointed to each puppet as she referred to them to remind children of puppet names.

5. *Identification Justification*: Children were asked why they made that choice and why they didn't choose with the other puppet (e.g., "You said that Mike acts most like you. Why? So why doesn't Dave act like you?").

For Questions 1, 2 and 3, the experimenter repeated the statement made by the speaker puppet with the same intonation used on the audiotape to remind participants of the intonation used by the speaker in the show. The experimenter also alternated the order of question options (i.e., good/bad, nice/mean, funny/serious) across items. The entire procedure lasted an average of 25 minutes per child.

Design

The experiment employed a 3 (Topic: performance, possession, situation) by 3 (Statement Type: literal criticism, ironic criticism, literal compliment) within-subjects design such that each child watched a total of nine puppet shows containing three ironic criticisms, three literal criticisms, and three literal compliments where each statement type was directed at a target's performance, a target's possession, and a situation. Nine versions of the materials were devised so that each scenario was depicted in every condition across participants. Within each version, scenario show order was randomized and a minimum of eight participants saw each version.

Coding system

Speaker belief responses were deemed correct when the child indicated that speakers of ironic criticisms and literal criticisms made negative evaluations and speakers of literal compliments made positive evaluations. Speaker attitude ratings on the Nice/Mean Scale were coded so that 1 = *very nice*, 2 = *nice*, 3 = *a little bit nice*, 4 = *a little bit mean*, 5 = *mean*, and 6 = *very mean*. Speaker humorous intent ratings on the

Funny/Serious Scale were coded so that 1 = *very funny*, 2 = *funny*, 3 = *a little bit funny*, 4 = *a little bit serious*, 5 = *serious*, and 6 = *very serious*. For trials when speaker belief was correctly attributed, a mean rating was calculated for speaker attitude and a mean rating was calculated for speaker humorous intent. Children's responses to the identification question (e.g., speaker, target) were categorized and their explanations for choosing and not choosing particular puppets for the identification justification item were grouped into themes.

Results

Means for each of the dependent measures (speaker belief, speaker attitude, and humorous intent) for 9-year-old children were compared to those for 10-year-old children, and there were no significant effects of age. Means for dependent measures were also compared for gender differences, and no gender differences in speaker belief accuracy or ratings of humorous intent were found. Comparisons of subject means for ratings of speaker attitude were made only when belief was correctly attributed, resulting in differing degrees of freedom for the following independent t-tests. The first of these comparison showed that boys and girls had significantly different interpretations of speaker attitude for ironic criticisms directed at situations. Boys rated ironic criticisms directed at situations ($M = 4.28$, $SD = 1.10$) as being significantly more mean than did girls ($M = 3.87$, $SD = 0.86$), $t(68) = 1.67$, $p < .05$. Boys and girls also made significantly different ratings of speaker attitude when literal criticisms were made in two of three topic conditions. Boys rated literal criticisms directed at a target's failed performance as being significantly more mean ($M = 5.07$, $SD = 0.82$) than did girls ($M = 4.61$, $SD = .72$), $t(71) = 2.50$, $p < .05$. Girls rated literal criticisms directed at situations as being

significantly more mean ($M = 4.27$, $SD = .72$) than did boys ($M = 3.46$, $SD = 1.28$), $t(71)$ $= 3.40$, $p < .001$. These comparisons suggest girls and boys perceive literal criticisms differently according to the topic that is being criticized. I also used trend analyses to examine each dependent measure and found no significant effects of order.

Each dependent measure was then analyzed in two stages. First, I examined how children informed their impressions of ironic criticisms and literal criticisms according to the topic of criticism. Three paired t-tests were used to compare each dependent measure for ironic criticisms and literal criticisms directed at 1) performances, 2) possessions, and 3) situations. A repeated measures ANOVA was not used for these comparisons because this analysis would exclude any children who were missing a single data point and therefore would provide an overly conservative description of the sample. Literal compliments were not included in this initial analysis because they served as control statements for ironic criticisms in the design and did not address the key research goals. Second, each dependent measure was analyzed with a separate one-way ANOVA for each statement type to test whether children had different perceptions of the same statement types directed at the three different topics.

For the described statistical analyses, t_1 and F_1 refer to analyses where subjects were treated as a random factor (hereafter referred to as subjects analyses) and t_2 and F_2 refer to analyses where items were treated as a random factor (hereafter referred to as items analyses). The small number of items (9 scenarios for each participant) reduced the overall power of the items analyses but these tests are described for the interested reader. Results are reported for effects for which the subject analyses were statistically significant and conclusions were based on significant subject analysis effects.

Three paired t-tests were used to compare the proportions of children who correctly understood the speaker's belief for literal criticisms and ironic criticisms for each topic and one test was significant. That is, children were significantly less accurate at inferring a speaker's belief when an ironic criticism was directed at a situation (M = .92, SD = .27) than when a literal criticism was directed at a situation (M = 1.00, SD = .00), $t_1(70)$ = 2.54, p < .001, $t_2(8)$ = 1.81, p > .05. However, children were just as accurate at inferring a speaker's belief when an ironic criticism was directed at a target's failed performance (M = .94, SD = .22) as they were when a literal criticism was directed at a target's failed performance (M = .99, SD = .11), $t_1(70)$ = 1.35, p > .05, t_2 < 1. Similarly, children were just as accurate at inferring a speaker's belief when an ironic criticism was directed at a target's faulty possession (M = .97, SD = .16) as they were when a literal criticism was directed at a target's faulty possession (M = 1.00, SD = .00), $t_1(70)$ = 1.42, p > .05, t_2 < 1.

Next, a one-way ANOVA for each of the three statement types was conducted separately to test whether children's accuracy in attributing speaker belief varied across the three topics for each statement. None of the three planned analyses were significant: The effect of topic was not significant for speaker belief accuracy for ironic criticisms ($F_1(2,140)$ = 1.51, p > .05, MSE = 0.04; F_2 < 1), for literal criticisms ($F_1(2,140)$ = 1.00, p > .05, MSE = 0.05; F_2 < 1), or for literal compliments ($F_1(2,140$ = 2.78, p > .05, MSE = 0.03; $F_2(2,16)$ = 2.94, p > .05, MSE = .004). These analyses show that children's accuracy in making inferences about speaker belief was consistently high for each

statement type regardless of topic. Analyses of children's ratings and justifications when speaker belief was inaccurately attributed were therefore not performed.

Speaker Attitude Ratings

Mean ratings of speaker attitude on the 6-point Nice/Mean scale were analyzed for shows where speaker belief was correctly attributed. Speaker attitude ratings for ironic criticisms and literal criticisms were compared for each of the three topics and the three planned paired t-tests were not significant. Children rated speakers who directed an ironic criticism at a target's failed performance ($M = 4.82$, $SD = 1.16$) as being just as mean as speakers who directed a literal criticism at a target's failed performance ($M = 4.89$, $SD = 0.81$), both $ts < 1$. Likewise, children rated speakers who directed an ironic criticism at a target's faulty possession ($M = 4.74$, $SD = 0.93$) as being just as mean as speakers who directed a literal criticism at a target's faulty possession ($M = 4.69$, $SD = .76$), both $ts < 1$. Lastly, children rated speakers who directed an ironic criticism at a negative situation ($M = 4.10$, $SD = 1.02$) as being just as mean as speakers who directed a literal criticism at a negative situation ($M = 3.80$, $SD = 1.15$), $t_1(69) = 1.79$, $p > .05$, $t_2(8) = 1.31$, $p > .05$. These comparisons show that children's perceptions of speaker attitude for ironic criticisms and literal criticisms were similar for each of the three topic conditions.

Next, a one-way ANOVA was conducted separately for each of the three statement types to test whether children adjusted their ratings of speaker attitude for the same statement type according to topic (See Figure 3). All follow-up paired t-tests were adjusted with a Bonferroni correction (alpha = .0167). The effect of topic was significant in the one-way ANOVA for speaker attitude ratings for ironic criticisms ($F_1(2, 122) =$

56

11.80, $p < .001$, $MSE = .87$; $F_2(2, 16) = 10.10$, $p < .01$, $MSE = .15$) because ironic criticisms directed at a target's failed performance were rated as being significantly more mean than were ironic criticisms directed at situations, $t_1(66) = 7.79$, $p < .0167$, $t_2(8) = 3.08$, $p < .05$. Similarly, ironic criticisms directed at a target's possessions were rated as being significantly more mean than were ironic criticisms directed at situations, $t_1(68) = 7.04$, $p < .0167$, $t_2(8) = 5.77$, $p < .001$. Ironic criticisms directed at a target's performance were rated just as mean as ironic criticisms directed at a target's possession, $t_1(68) = 1.43$, $p > .05$, $t_2 < 1$. The effect of topic was also significant for the one-way ANOVA on speaker attitude ratings for literal criticisms ($F_1 (2, 136) = 21.90$, $p < .001$, $MSE = .89$; $F_2(2, 16) = 3.06$, $p < .001$, $MSE = .16$). Follow-up paired t-tests indicated that literal criticisms directed at a target's failed performance were rated as being significantly more mean than literal criticisms directed at situations, $t_1(69) = 5.39$, $p < .0167$, $t_2(8) = 6.59$, $p < .001$. In addition, literal criticisms directed at a target's possessions were rated as being significantly more mean than literal criticisms directed at situations, $t_1(69) = 5.25$, $p < .0167$, $t_2(8) = 4.75$, $p = .001$. Similar to the third planned comparison for ironic criticisms, literal criticisms directed at a target's performance were rated just as mean as literal criticisms directed at a target's possession, $t_1(68) = 1.07$, $p > .05$, $t_2 < 1$. These analyses show that children modulated their impressions of speaker attitude according to topic in similar ways for ironic criticisms and literal criticisms: criticisms directed at situations were viewed as being less negative than criticisms directed at performances and possessions. Criticisms directed at possessions were viewed as being just as negative as criticisms directed at performances.

The effect of topic was not significant for the one-way ANOVA on speaker attitude ratings for literal compliments ($F_1(2, 126) = 1.28$, $p > .05$, $MSE = .31$; $F_2(2, 16) = 1.03$, $p > .05$, $MSE = .08$). This finding shows that children perceived speaker attitude for literal compliments as being equally nice when these remarks were directed at performances, possessions and situations.

Ratings of Humorous Intent

Children's ratings of speaker intent to be humorous on the 6-point Funny/Serious scale were analyzed when speaker belief was correctly attributed and these values are shown in Figure 4. Intended humor ratings for ironic criticisms and literal criticisms were compared for each topic and all three planned comparisons were significant in both the subject analyses and the item analyses. Speakers who directed ironic criticisms towards a target's failed performance ($M = 3.87$, $SD = 1.89$) were rated as being significantly less serious than speakers who directed literal criticisms towards a target's failed performance ($M = 4.99$, $SD = 1.11$), $t_1(68) = 4.92$, $p < .001$, $t_2(8) = 2.68$, $p < .05$. Similarly, speakers who directed ironic criticisms towards a target's faulty possession ($M = 4.01$, $SD = 1.54$) were rated as being significantly less serious than speakers who directed literal criticisms towards a target's faulty possession ($M = 4.97$, $SD = 1.03$), $t_1(66) = 4.62$, $p < .001$, $t_2(8) = 3.93$, $p < .05$. Also, speakers who directed ironic criticisms towards negative situations ($M = 3.97$, $SD = 1.58$) were rated as being significantly less serious than speakers who directed literal criticisms towards negative situations ($M = 5.08$, $SD = 0.94$), $t_1(64) = 5.45$, $p < .001$, $t_2(8) = 4.93$, $p = .001$. These findings show that 9- to 10-year-olds perceive speakers of ironic criticisms as being less serious than speakers of literal criticisms for all three topics.

Next, three separate one-way ANOVAs were conducted on ratings of speaker humorous intent for each statement type to see whether children modulated their interpretations of how funny or serious a statement type was according to topic. The effect of topic was not significant for the one-way ANOVA on humor ratings for ironic criticisms ($F_1 < 1$; $F_2 < 1$) or for literal criticisms ($F_1 < 1$; $F_2 < 1$). The only analysis that yielded a significant effect of topic was that for literal compliments ($F_1(2, 124) = 4.87$, $p < .01$, $MSE = 1.03$; $F_2(2, 16) = 1.17$, $p > .05$, $MSE = .26$). Only one of the three post-hoc paired t-tests were significant when a Bonferroni correction was applied (alpha = .0167). Children rated literal compliments directed at a situations ($M = 4.21$, $SD = 1.33$) as being significantly less serious than literal compliments directed at a target's possession ($M = 4.70$, $SD = 1.28$), $t_1(67) = 2.60$, $p < .0167$, $t_2(8) = 1.19$, $p > .05$. Literal compliments directed at situations were rated as being just as serious as literal compliments directed at a target's performance ($M = 4.64$, $SD = 1.20$), $t_1(66) = 1.90$, $p > .0167$, $t_2(8) = 1.00$, $p > .05$. Similarly, literal compliments directed at a target's possessions were rated as being just as serious as literal compliments directed at a target's performance, ts< 1.

Identification Responses

Table 7 displays the number of children who claimed to identify with the target or the speaker in each statement topic condition. There were too few children who claimed to be like neither of the two offered puppets to be included the following analyses. A chi-square analysis was used to compare the number of children who claimed to be like the target versus the speaker between ironic criticisms and literal criticisms for each topic condition. When children heard statements directed at performances, the number of children who identified with the target versus the number of children who identified with

the speaker significantly differed between ironic criticisms ($n = 44$ vs. $n = 20$) and literal criticisms ($n = 57$ vs. $n = 8$), $X^2(1) = 6.81$, $p < .05$. This comparison shows that children's identification responses were contingent on whether the speaker ironically criticized or literally criticized the target's performance. That is, children had a stronger tendency to identify with speakers who ironically criticized a target's performance compared to speakers who literally criticized a target's performance. When children heard statements directed at possessions, the number of children who identified with the target versus the number of children who identified with the speaker did not significantly differ between ironic criticisms ($n = 52$ vs. $n = 13$) and literal criticisms ($n = 54$ vs. $n = 12$), $X^2(1) < 1$, $p > .05$. Similarly, when children heard statements directed at situations, the number of children who identified with the target versus the number of children who identified with the speaker did not significantly different between ironic criticisms ($n = 29$ vs. $n = 32$) and literal criticisms ($n = 37$ vs. $n = 32$), $X^2(1) < 1$, $p > .05$. Together these two latter comparisons show that children's identification responses were not contingent on whether the speaker ironically criticized or literally criticized the target's performance or the target's possession.

Frequencies for target identification versus speaker identification were then compared between topics within each statement type with three separate chi-square analyses adjusted with a Bonferroni correction (alpha = .0167). The effect of topic was significant in the chi-square test on identification data for ironic criticisms ($X^2(2) = 15.11$, $p = .001$) because children's target identification responses were contingent on the topic of the ironic criticism. Children were more likely to identify with the targets than the speakers for ironic criticisms directed at a target's failed performance and ironic

criticisms directed at a target's possessions. But they were just as likely to identify with targets and speakers when ironic criticisms were directed at situations. Similarly, the effect of topic was significant in the chi-square analysis on identification data for literal criticisms $(X^2(2) = 23.32, p < .001)$ because the same identification trend held for ironic criticisms and literal criticisms: children were more likely to claim to be like the target than the speaker for literal criticisms directed at the target's performance and the target's possession but they were just as likely to claim to be like the target as the speaker when the literal criticisms were directed at a situation. The effect of topic was not significant for the chi-square test on identification responses for literal compliments because children were just as likely to claim to be like the target or the speaker when literal compliments were directed at performances, possessions and situations $(X^2 < 1, p > .05)$.

Next, children's ratings of speaker attitude and intended humor for criticisms were examined according to whether they identified with targets or speakers. Children perceived criticisms as being more negative when they identified with the targets of the remarks (See Figure 5). Children who identified with the targets of ironic criticisms tended to rate the remarks as being more mean $(M = 4.60)$ than children who identified with the speakers $(M = 3.70)$, $t(29) = 3.19, p < .01$. Children who identified with the targets of literal criticisms also tended to rate the remarks as being more mean $(M = 4.84)$ than children who identified with the speakers $(M = 3.84)$, $t(39) = 3.87, p < .001$. When children's ratings of intended humor for ironic criticisms were compared according to whether they identified with the targets $(M = 3.77)$ or speakers $(M = 3.73)$, this difference was not significant, $t < 1$. This was also the case for literal criticisms; children's ratings of

intended humor for ironic criticisms did not differ according to whether children identified with targets ($M = 5.03$) or speakers ($M = 5.13$), $t < 1$.

These comparisons show that target identification is linked to 9- to 10-year-old children's perceptions of speaker attitude for literal criticisms and ironic criticisms but that target identification is not linked to their perceptions of speaker intent to be humorous.

Justification for Identification Responses

Children's justifications for the identification responses were coded using the five themes described in Experiment 1 but with two minor revisions. Here, children's identifications classified in the *Identify with failure* theme (Theme 1) also contained information about having a faulty possession, e.g., "Cause lots of time my stuff gets broken", or relating to experiences with bad luck, e.g., "I've played with lots of soccer balls and it doesn't really matter if they pop". Similarly, children's identifications classified in the *Identify with success* theme (Theme 2) also contained information about having functional possessions, e.g., "I have a trampoline too", or relating back to experiences of good luck, e.g., "One time, my family, we went mini-golfing and we had the whole place to ourselves!". The following five themes were applied: 1) *Identify with failure/Having faulty possessions/Experiences with bad luck*, 2) *Identify with success/Having functional possessions/Experiences of good luck*, 3) *Approval of talking that way*, 4) *Disapproval of talking that way*, and 5) *Similar appearance, gender, interests, activities.*

Justification coding between two independent raters was compared with Cohen's Kappa and agreement was acceptable ($\kappa = .78$). The frequencies of responses in each of

these themes as a function of statement and topic are shown in Table 8. When one

generalizes across the target identification frequencies for the two criticisms types in

Table 8, the key themes that children most frequently expressed were *identify with*

failure/having faulty possessions/having bad luck (Theme 1) and *disapproval of talking*

that way (Theme 4). A chi-square analysis indicated that the frequencies of justifications

for identifying with the target versus the speaker in Theme 1 across the three conditions

did not differ between ironic criticisms ($n = 37$ vs. $n = 0$) and literal criticisms ($n = 42$ vs.

$n = 1$; $X^2 < 1$). For Theme 4 the frequencies of target identifications versus speaker

identifications were equal for ironic criticisms ($n = 40$ vs. $n = 1$) and literal criticisms ($n =$

35 vs. $n = 1$; $X^2 < 1$). These comparisons show that 9- to 10-year-old children tend to

predominantly cite the same reasons for identifying with the targets of ironic criticisms

and literal criticisms: they can relate to the target's experience, and they disapprove of

speakers who criticize others.

The third most dominant justification theme was *approval of talking that way*

(Theme 3). These explanations mostly occurred when children claimed to be like the

speaker who made literal criticisms and ironic criticisms. A chi-square analyses could not

be performed due to different *ns*, but the frequencies of justifications for identifying with

the target versus the speaker in Theme 3 across the three topics appears to differ between

ironic criticisms ($n = 7$ vs. $n = 53$) and literal criticisms ($n = 10$ vs. $n = 21$). The relatively

large number of instances where children identified with the ironic speaker citing

approval of talking that way is noteworthy because, to date, there has not been any

information published concerning children's self-reported tendency to produce ironic

criticisms or their approval of those who use verbal irony in general.

Justification frequencies were combined for ironic criticisms and literal criticisms for the following analyses because frequencies for justification themes for target identifications versus speaker identifications did not differ between the two criticism types and I wanted to see whether children cited different justifications across the three topic conditions. Table 8 also illustrates the frequencies of children's identification justifications falling into the five themes for ironic criticisms and literal criticisms across the three topic conditions. Due to unequal response frequencies across the three conditions, these values could not be statistically compared but they are offered for visual inspection of the dominant justifications for each condition. This table illustrates that when children identified with the target whose performance was criticized, the most common explanation for this choice was *identifying with failure* (Theme 1). When children identified with the target whose possession was criticized, the most common explanation was *disapproval of talking that way* (Theme 4). When children identified with the target when a situation was criticized, they most frequently expressed *disapproval of talking that way* (Theme 4).

Next five finer-grained themes were used to characterize children's explanations for not being like the speaker: 1) *Disapproval of saying mean things*, 2) *Would not say that*, 3) *Disapproval of criticisms, insults, putdowns*, 4) *Disapproval of sarcasm, making fun of, joking*, and 5) *Dissimilar appearance, gender, interests, activities*. Justifications for not identifying with puppets were categorized by two independent raters and agreement among them was excellent ($\kappa = .85$). The frequencies of children's justifications for not identifying with the speakers across the three topics are shown in Table 9 and unfortunately these frequencies cannot be statistically compared so the

following interpretations are speculative but nonetheless informative. A visual inspection of these frequencies indicates that when children are asked why they are not like speakers who make criticisms of performances and possessions, they tend to predominantly cite disapproval of saying mean things or they indicate that they would not say what the speaker said. In general, children indicated that they could not relate to speakers who make criticisms and they viewed criticisms of performances and possessions as being hurtful. When asked why they are not like the speakers who criticized situations, they most commonly referred to their dissimilarity with the speaker's appearance, gender, interests or activities. This suggests that children tend to be less disapproving of criticisms when the topic is a non-personal situation.

Discussion

The main goal of this study was to investigate whether criticism topic would impact 9- to 10-year-old children's interpretations of ironic criticisms and literal criticisms. The results of this study indicate that topic is indeed an important source of information for 9- to 10-year-olds when they are formulating their interpretations of speaker attitude. It was predicted that children would rate speaker attitude for ironic criticisms and literal criticisms directed at a target's performance as being more hurtful (i.e., more mean) than ironic criticisms directed at a target's possession. This prediction was based on the proposal that children and adolescents tend to view teasing as particularly hurtful when teasing topics address culturally valued and stable individual characteristics (Carlson Jones et al., 2005). The target's performance was therefore conceptualized as being more of a personal topic than the target's possession because the target's performance reflected a stable underlying competency. However, the present

results show that children of this age believe that it is just as mean to criticize someone's faulty bike as it is to criticize someone's lousy soccer skills. Perhaps children perceive one's competencies as being just as personal as possessions or they perceive possessions as being just as culturally valued as characteristics. Future research is required to ascertain exactly how children determine the perceived hurtfulness of varying criticism topics.

It was also predicted that children would rate speaker attitude for ironic criticisms and literal criticisms directed at a target's performance as being more hurtful than ironic criticisms and literal criticisms directed at a situation. This prediction was based on the speculation that children would be less disapproving of criticisms of less personal topics and because adults perceive ironic criticisms of specific targets to be more sarcastic than ironic criticisms of non-specific targets (Kreuz & Glucksberg, 1989; Lee & Katz, 1998). This prediction was supported: children conveyed that it is more hurtful to criticize someone's lousy soccer skills than to criticize the faulty trampoline in gym class. This finding shows that 9- to 10-year-olds have different impressions of sarcastic irony and situational irony. That is, they interpret remarks that address a target's failure to meet a particular expectation (i.e., sarcastic irony) as being more aggressive than remarks that address generally positive expectations when there is no particular target failing to meet the expectation (i.e., situational irony).

Indeed, some children were careful to distinguish between their ratings of speaker attitude according to whether there was a specific owner of the criticized object. For instance, one child queried the experimenter as to whether the faulty skating rink was privately owned or publicly owned, explaining that it would be more mean to

sarcastically criticize something that belonged to someone compared to something that was publicly owned. Unfortunately it was not possible to statistically test whether children are less disapproving of speakers who criticize less personal topics due to unequal response frequencies across conditions. I would echo the suggestion from teasing researchers that future research is required to explore a wider range of teasing topics to determine how children establish which topics are acceptable and which are not acceptable (e.g., Kowalski et al., 2001). Given that statement topic can contribute to children's attributions of speaker attitude, it is also suggested that future developmental tests of irony appreciation should carefully consider the topics of ironic materials and literal materials.

It was predicted that children would rate speaker intended humor for ironic criticisms directed at a target's failed performance as more serious than ironic criticisms directed at 1) possessions and 2) situations. However, criticism topic had no impact on children's perceptions of the ironic speaker's intent to be humorous - speakers who ironically criticized someone's lousy soccer skills were perceived as trying to be just as serious as speakers who ironically criticisms someone's faulty bike or the faulty trampoline in gym class. The present research did show, however, that 9- to 10-year-old children perceived ironic criticisms as being less serious than literal criticisms. This finding corresponds with ratings from 9- to 10-year-old children in the Pexman et al. (2005) study and adds to the growing body of literature indicating that 9- to 10-year-olds show the beginnings of an awareness of verbal irony's humor function. This finding also corresponds with reports that children begin to show an appreciation of antisocial humor by disparaging others in their own remarks around 9 years of age (Socha & Kelly, 1994).

The present study also showed that boys and girls had significantly different interpretations of speaker attitude for ironic criticisms directed at situations: boys rated these statements as being significantly more mean than did girls. Gender differences have been reported for adult perceptions of verbal irony in terms of perceptions of humorous intent but not intended humor. Men are more likely to perceive humor intended in sarcasm than women (Ivanko, Pexman, & Olineck, 2004; Jorgensen, 1996) and men claim to use verbal irony more often than women (Colston & Lee, 2004; Gibbs, 2000). The described gender effects in the present study cannot be clearly explained by the adult literature and they did not appear in Experiment 1. I suspect that these findings are spurious and it would therefore be inappropriate to draw strong conclusions based on these findings. Replication of the described gender effects would warrant future research on this issue.

Based on the speculation that children would be less disapproving of speakers who direct ironic criticisms and literal criticisms at situations compared to speakers who criticize a target's performance or a target's possession, it was predicted that children would claim to be more like the speaker in the situation topic conditions compared to the performance and possession topic conditions. Children's target identification rates showed some consideration of criticism topic but this prediction was not entirely supported. Children were more likely to identify with the target when the target's performance was literally criticized compared to when the target's performance was ironically criticized. However, children were equally likely to identify with the targets when possessions and situations were ironically criticized or literally criticized. I suspect

that children are less disapproving of speakers who direct criticisms at non-specific

targets and I plan to investigate this issue further in future research.

It was also hypothesized that target identification would impact children's

perceptions of speaker attitude: children who identify with the target should perceive

ironic criticisms and literal criticisms as being more mean and more serious than children

who identify with the speaker. This hypothesis was supported: children who identified

with the targets of ironic criticisms and literal criticisms did perceive the remarks as

being more mean than children who identified with the speaker. That is, children who

related to puppets who were criticized perceived criticisms more harshly and children

who related to puppets who delivered criticisms. This effect is consistent with adult

research showing that perceptions of speaker intent for ironic criticisms and indirect

remarks differ according to whether they take the speaker's perspective or the target's

perspective. Adult ratings of ironic criticisms made from the speaker's perspective tend

to be more positive than ratings from the target's perspective (Toplak & Katz, 2000).

Likewise, when adults interpret speaker meaning for indirect remarks from the target's

perspective, they have a tendency to interpret the remarks as being more negative than

when they interpret the remarks from the speaker's perspective (Holtgraves, 2005). My

suggestion is that children bring their own privileged knowledge of criticisms in

attributing speaker intent; children who have a tendency to interpret ironic criticisms

from the target's perspective tend to also interpret the remarks negatively. I also predicted

that children who identify with the target should perceive ironic criticisms and literal

criticisms as being more serious than children who identify with the speaker. This

prediction was not supported, suggesting that children's tendency to identify with the

targets of ironic remarks does not affect their impressions of the ironic speaker's intent to be humorous.

I was interested in exploring children's impressions of criticisms according to topic so I asked children "Which puppet acts the most like you?" and "Why?" When children heard a target's failure criticized, they predominantly identified with the target and indicated that they could relate to the target's failure. Children have strong concerns that it is hurtful to criticize someone's failure and show consideration that criticisms threaten the target's face (Goffman, 1957, 1967, 1971). Thus, children's face concerns are exaggerated with respect to adults who prefer to criticize someone with irony rather than delivering a direct criticism (Pexman & Zvaigzne, 2004) because the indirectness of irony protects the target's face (Brown & Levinson, 1987) and the humor conveyed by irony can foster positive face for the speaker and for the target. When children heard a target's possession criticized or a situation was criticized, they predominantly expressed disapproval of speaking that way. Children hold strong expectations that people should speak positively (Pollyanna Hypothesis; Boucher & Osgood, 1969) but they do not recognize that ironic criticisms can be viewed as more polite than literal criticisms (Politeness Theory; Brown & Levinson, 1987). That is, children recognize the ironic speaker's intent to criticize (a negative intention) but they fail to fully appreciate the ironic speaker's intent to be humorous (a positive intention). I suspect that 9- to 10-year-old children have difficulty representing conflicting intentions so they tend to rely on their politeness concerns as a strategy to reduce the intentional ambiguity posed by ironic criticisms. This issue is addressed in the General Discussion.

Children's open-ended responses for not identifying with speakers could not be statistically compared due to differing sample sizes so the following characterization should be interpreted with caution. When speaker attitude ratings are considered alongside target identification justifications and justifications for not identifying with speakers, 1) Children perceive criticisms of a target's failure as being particularly mean and they can relate to instances where they themselves had failed and 2) Children perceive criticisms of a target's possession as being just as mean as criticisms of a target's failure and they disapprove of talking that way. That is, children seemed to be familiar with the "if you can't say something nice to someone, don't say anything at all" social convention of politeness (Pollyanna Hypothesis, Boucher & Osgood, 1969). I suggest that children's notions of what is impolite underpin their disapproval of critical speakers but this needs to be confirmed with more specific questioning in future research. Compared to criticisms of performances and possessions, children perceive criticisms of situations as being less mean and they are just as likely to identify with the targets and speakers when situations are criticized. I suspect that children are less disapproving of criticisms directed at situations and I plan to test this claim in future research.

Speaker attitude ratings showed that, regardless of criticism topic, 9- to 10-year-olds perceived ironic criticisms as being just as mean as literal criticisms. When I isolated speaker attitude ratings for ironic criticisms and literal criticisms directed at performances, I found that children perceived ironic criticisms as being equally mean as literal criticisms. However, 5- to 8-year-olds in the Harris and Pexman (2003) study showed a different perception of similar remarks: they rated ironic criticisms directed at a

target's failed performance as being significantly less mean than literal criticisms. Potential sources of this variability are proposed in the General Discussion.

Results suggested that children do in fact attend to topic in formulating their attributions of speaker attitude because criticisms directed at a target's failed performance or a target's faulty possession were both perceived as being meaner than criticisms directed at a negative situation. This finding supports my inclination that the topic of ironic criticisms (i.e., a target's failure to meet a speaker's expectation) used in previous developmental tests of verbal irony appreciation may not be a fair assessment of children's perceptions of ironic speaker attitude. That is, children's ratings of speaker attitude in previous verbal irony studies might have been biased due to the topics of the ironic remarks.

This study also showed that 9- to 10-year-old children's impressions of ironic criticisms are very similar to their perceptions of literal criticisms. Children modulated their impressions of speaker attitude according to topic for ironic criticisms and literal criticisms. Children showed similar target identification patterns for two of the three topic conditions for ironic criticisms and literal criticisms. Their justifications for these identifications were also the same for ironic criticisms and literal criticisms. They also cited similar reasons for not identifying with speakers who made ironic criticisms and literal criticisms. These findings suggest that children's ratings of speaker attitude in previous verbal irony studies might have also been biased due to the kind of ironic remarks used. Recall that most developmental studies have focused on children's comprehension of ironic criticisms which are thought to be the simplest forms of verbal irony because they are counterfactual to the speaker's belief. Although these kinds of

ironic remarks are the simplest, perhaps developmentalists need to broaden their materials to include potentially less hurtful ironic speech forms (i.e., counterfactual assertions and insincere thanking) and to address a broader range of topics to capture a more thorough characterization of children's comprehension and appreciation of verbal irony.

GENERAL DISCUSSION

The present research tested two conceptually distinct possibilities for why children do not appreciate an ironist's humorous intent. Experiment 1 was an examination of whether children fail to see the humor intended in irony because they identify with the targets of ironic remarks (Harris & Pexman, 2003; Pexman et al., 2005). This claim was not supported. Children perceived humorous intent for ironic criticisms as being slightly serious when they interpreted remarks from the target's point of view and when they interpreted remarks from the bystander's point of view. In addition, there was no evidence that they consider the presence of the target or the presence of an audience as relevant when deriving their impressions of the ironist's humorous intent because all ironic criticisms were rated as slightly serious across conditions. Children were just as likely to identify with the target and the bystander, suggesting that children's tendency to identify with targets in our previous research (Pexman et al., 2005) may have been amplified by the available options of target and speaker.

Experiment 2 was an examination of whether the topics of remarks that were presented to children in previous irony appreciation studies violated an important norm of politeness. This claim was partially supported. While children's perceptions of humorous intent did not vary according to topic, children perceived speaker attitude more negatively when the topics of ironic criticisms and literal criticisms were more personal. These results show that children consider the topics of ironic criticisms and literal criticisms as relevant to speaker attitude but not intended humor.

Results from both studies show that although 9- to 10-year-old children are very accurate in their ability to infer the belief of speakers who make ironic criticisms, they are

still somewhat more accurate at inferring the belief of speakers who make literal criticisms. This finding is in agreement with speaker belief accuracy levels for 9- to 10-year-olds in the Pexman et al. (2005) study. These results are also not surprising when considering that even adults do not show perfect accuracy in attributing the intended meaning of ironic speakers (Ackerman, 1982, Colston, 2000; Demorest, Silberstein, Gardner, & Winner,1984).

Speaker attitude ratings from both studies showed that, regardless of perspective, the parties present, or criticism topic, 9- to 10-year-olds perceived ironic criticisms to be just as mean as literal criticisms. Speaker attitude ratings for ironic criticisms and literal criticisms in Experiment 1 were comparable across conditions. When speaker attitude ratings for ironic criticisms and literal criticisms directed at performances in Experiment 2 were examined, results showed that children perceived ironic criticisms to be equally as mean as literal criticisms. However, 5- to 8-year-olds in the Harris and Pexman (2003) study showed a different perception: they rated ironic criticisms directed at a target's failed performance as being significantly less mean than literal criticisms on the same topic. There are two possible sources of this discrepancy: measurement or age.

Children in the Harris and Pexman study made ratings on a 5-point Mean/Nice scale and it is possible that they produced nicer speaker attitude ratings for ironic criticisms than literal criticisms only because they were choosing the midpoint (a little bit nice, a little bit mean) when they were unsure and guessing. This possibility is one of the reasons why this scale was revised to include 6 points in the present study. It is suspected, however, that this is likely not the explanation for the different results observed in these studies. Instead, I suggest that age differences between participants in the two studies

better explains this discrepancy. Children in the Harris and Pexman study were, on average, three years younger than children in the current study and they showed considerably lower comprehension levels than children in the current study (79% vs. 94% for ironic criticisms) and therefore likely had a less sophisticated understanding of ironic intent. Moreover, ratings from 9- to 10-year-olds in the Pexman et al. (2005) study were comparable to ratings from 9- to 10-year-olds in the current study. Perhaps the critical nature of ironic criticisms becomes more relevant to children as they progress through the middle school years and their understanding of ironic intent becomes more sophisticated. This is the case with teasing: while 6-year-olds and 10-year-olds engage in teasing with the same frequency, the way they interpret being teased when they are targets is decidedly different. Six-year-old targets rarely perceive teases negatively, while 10-year-old targets perceive teases as being particularly cruel (Oswald, Krappman, Chowdhuri, & von Salisch, 1987).

Moreover, mixed reports on children's perceptions of ironic intent are likely in consideration of the mixed reports on adult's perceptions of ironic intent. There remains a controversy on whether sarcasm increases or decreases the negativity of a criticism. While earlier accounts suggested that adults perceive ironic criticisms as having a muted critical quality (Dews & Winner, 1995), other results have suggested that adults perceive ironic remarks as being more critical (Toplak & Katz, 2000), less polite (Jorgensen, 1996), more condemning (Colston, 1997), and more mocking (Pexman & Olineck, 2002) than literal remarks. The results of the presently described studies and the results of the Pexman et al. (2005) study suggest that 9- to 10-year-old children have perceptions that fall in the middle ground of these mixed reports.

Children in Experiment 1 and Experiment 2 showed exaggerated politeness concerns for ironic criticisms. In order to appreciate the ironist's intentions to criticize and to be humorous, one must be able to represent intentions of opposite valences. Children begin to show the ability to represent emotions of opposing valences around 10 to 11 years of age (Bennett & Hiscock, 1993; Harter & Buddin, 1987; Harter & Whitesell, 1989). I suggest that children who have difficulty representing competing intentions will view the ironist's intention to criticize as being more salient than the ironist's intention to be funny due to social conversational norms that people should speak positively rather than negatively (Grice, 1975, 1978) and that people should try to make a positive impression (Pexman & Olineck, 2002). This positivity norm is a culturally inherent aspect of language: lexicons contain more positively evaluative terms than negatively evaluative terms and children's developing vocabularies show positive terms earlier than negative terms (Matthews, Hancock, & Dunham, 2006). I suggest that children interpret ironic criticisms within the framework of this positivity norm because it is inherent early in language development. This deeply engrained positivity expectation thus serves as a convenient interpretive strategy when children are faced with the representational challenge of the ironist's incongruent intentions.

In addition to representational skills, one needs to have experience with ironic language in daily discourse where interlocutors are accepting of the use of ironic criticisms. Children who can represent conflicting emotions will be able to attune to situations where ironic language is socially acceptable and where ironic remarks are viewed as humorous. The development of representational skills combined with increased social experience can allow children to appreciate the dual social functions of

an ironic criticism: indirectness and humor. Without these skills and experiences children may associate irony only with negative face, and this could be the reason for exaggerated politeness concerns and disapproval for critical speakers.

There is a clear need for future research to examine the precise nature of children's impressions of ironic intent. In addition, any future theory that proposes to capture the development of irony appreciation (at present none exist) must address the described issues.

Limitations of This Research

The limitations of the present research must be considered. Children in Experiment 1 showed no evidence of perspective-taking because their ratings made from the perspectives of the target and bystander did not differ. While these ratings may indeed accurately characterize how children perceive remarks from the two different perspectives, it is very possible that the perspective taking task was too difficult for 9- to 10-year-old participants. While there is evidence that children begin to show evidence of an interpretative theory of mind in the consideration that people can have very different interpretations of the same event around the age of 8 years of age (Carpendale & Chandler, 1996), I suspect that the perspective taking task used here would have been more appropriate for adolescents. The two main features of the task used in Experiment 1 require considerable processing skills: perspective taking (Keysar, 1994) and nonliteral language interpretation (Pexman et al., 2006). Performance on the perspective switching task may have also been compromised by test question order because children may have experienced difficulty inhibiting their initial ratings made from the target's point of view. Moreover, research demonstrating how perspective taking impacts irony interpretation

involved adults adopting the perspective of the target and the speaker (Holtgraves, 2005; Toplak & Katz, 2000). Children in Experiment 1 were not asked to adopt the perspective of the speaker because our previous research showed that children do not identify with critical speakers (Pexman et al., 2005). This may have been an oversight in my experimental design because perhaps adopting the ironic speaker's perspective could potentially highlight the participant's consideration of speaker attitude and humorous intent. Any future exploration of this issue should require older participants (with advanced perspective taking skills) to adopt perspectives of the target, bystander and speaker.

Another potential limitation of Experiment 1 and Experiment 2 concerns the use of ironic criticisms to represent ironic remarks in general. Ironic criticisms were used in the present research for two main reasons: 1) they are the simplest forms of verbal irony because they are counterfactual (Creusere, 2000) and 2) the exact wording of ironic criticisms can be controlled with the use of literal compliments. However, the present research has shown that children have exaggerated politeness concerns that lead them to disapprove of ironic criticisms and literal criticisms. It is therefore difficult to tease apart children's impressions of ironic criticisms from their impressions of criticisms per se. It is important that findings concerning children's impressions of ironic criticisms in the present research should not be generalized to children's impressions of ironic remarks in general. Therefore my future research concerning children's impressions of ironic remarks should compare ratings of speaker attitude and intended humor for ironic criticisms to other kinds of ironic remarks such as counterfactual assertions and insincere thankings.

Implications of This Research

The goals of the present research were to test our previous claims concerning children's lack of appreciation for humor in verbal irony. The present experiments showed that 9- to 10-year-old children identify with the targets of ironic criticisms and literal criticisms. It is suggested that target identification is one of the reasons children fail to see the humor intended by ironic remarks. One practical implication of this research that parents and educators can consider this issue when they are explaining to children the reasons why speakers choose to use verbal irony (i.e., to be funny). These experiments also show that children's developing grasp of social norms interferes with their recognition of verbal irony's humor function. As such, children can also benefit from learning about the various contexts in which it can be socially acceptable to violate these norms, such as when speaking ironically. Finally, parents and educators could also gain insight into children's views by learning about the topics children view as particularly impolite and which they consider teasing about to be socially inappropriate.

REFERENCES

Ackerman, B. P. (1982). Contextual integration and utterance interpretation: The ability

of children and adults to interpret sarcastic utterances. *Child Development, 53,*

1075-1083.

Alberts, J. K., Kellar-Guenther, Y., & Corman, S. R. (1996). That's not funny:

Understanding recipients' responses to teasing. *Journal of Language and Social*

Psychology, 11, 153-177.

Andrews, J. E., Rosenblatt, U., Malkus, H., Gardner, H., & Winner, E. (1986). Children's

abilities to distinguish metaphoric and ironic utterances from mistakes and lies.

Communication and Cognition, 19, 281-298.

Bennett, M., & Hiscock, J. (1993). Children's understanding of conflicting emotions: A

training study. *The Journal of Genetic Psychology, 154,* 515-524.

Boucher, J., & Osgood, C. (1969). The Polyanna hypothesis. *Journal of Verbal Learning*

and Verbal Behavior, 8, 1-8.

Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language use.*

Cambridge: Cambridge University Press.

Capelli, C. A., Nakagawa, N., & Madden, C. M. (1990). How children understand

sarcasm: The role of context and intonation. *Child Development, 61,* 1824–1841.

Carlson Jones, D., & Burrus Newman, J. (2005). A three-factor model of teasing: The

influence of friendship, gender, and topic on expected emotional reactions to

teasing during early adolescence. *Social Development, 14,* 421-439.

Carpendale, J. I. & Chandler, M. J. (1996). On the distinction between false belief

understanding and subscribing to an interpretive theory of mind. *Child Development, 67,* 1696-1706.

Colston, H. L. (1997). Salting a wound or sugaring a pill: The pragmatic functions of ironic criticisms. *Discourse Processes, 23,* 24-45.

Colston, H. L. (2000). On necessary conditions for verbal irony comprehension. *Pragmatics & Cognition, 8,* 277-324.

Colston, H. L. (2002). Pragmatic justifications for nonliteral gratitude acknowledgments: "Oh sure, anytime." *Metaphor & Symbolic Activity, 17,* 205-226.

Colston, H. L., & Gibbs, R. W., Jr. (2002). Are irony and metaphor understood differently? *Metaphor and Symbol, 17,* 57-80.

Colston, H. L., & Keller, S. B. (1998). You'll never believe this: Irony and hyperbole in expressing surprise. *Journal of Psycholinguistic Research, 27,* 499-513.

Colston, H. L., & Lee, S.Y. (2004). Gender differences in verbal irony use. *Metaphor and Symbol, 19,* 289-306.

Colston, H. L., & O'Brien, J. (2000). Contrast and pragmatics in figurative language: Anything understatement can do, irony can do better. *Journal of Pragmatics, 32,* 1557-1583.

Creusere, M. A. (2000). A developmental tests of theoretical perspectives on the understanding of verbal irony: Children's recognition of allusion and pragmatic insincerity. *Metaphor and Symbolic Activity, 15,* 29-45.

Demorest, A., Meyer, C. Phelps, E., Gardner, H., & Winner, E. (1984). Words speak louder than actions: Understanding deliberately false remarks. *Child Development, 55,* 1527-1534.

Demorest, A., Silberstein, H., Gardner, H., & Winner, E. (1983). Telling it as it isn't:

Children's understanding of figurative language. *British Journal of*

Developmental Psychology, 1, 121-134.

Dews, S., Kaplan, J., & Winner, E. (1995). Why not say it directly? The social functions

of irony. *Discourse Processes, 19,* 347-367.

Dews, S., & Winner, E. (1995). Muting the meaning: A social function of irony.

Metaphor & Symbolic Activity, 10, 3-19.

Dews, S., Winner, E., Kaplan, J., Rosenblatt, E., Hunt, M., Lim, K., McGovern, A.,

Qualter, A., & Smarsh, B. (1996). Children's understanding of the meaning and

functions of verbal irony. *Child Development, 67,* 3071-3085.

Epley, N., Morewedge, C. K., & Keysar, B. (2004). Perspective taking in children and

adults: Equivalent egocentrism but differential correction. *Journal of*

Experimental Psychology, 40, 760-768.

Feinberg, L. S. (1996). *Teasing: Innocent Fun or Sadistic Malice?* Far Hills, NJ: New

Horizon Press.

Gibbs, R. W., Jr. (2000). Irony in talk amoung friends. *Metaphor and Symbol, 15,* 5-27.

Goffman, E. (1957). On face-work: An analysis of ritual elements in social interaction.

Psychiatry, 18, 213-231.

Goffman, E. (1967). *Interaction ritual: Essays on face-to-face behavior.* Garden City,

NY: Anchor.

Goffman, E. (1971). *Relations in public: Microstudies of the public order.* New York:

Anchor.

Grice, H. P. (1975). Logic and conversation. In P. Cole (Ed.), *Syntax and semantics 3:*
Speech acts (pp. 43-58). New York: Academic Press.

Grice, H. P. (1978). Further notes on logic and conversation. In P. Cole (Ed.), *Syntax and*
semantics 9: Pragmatics (pp. 113-128). New York: Academic Press.

Hancock, J. T., Dunham, P. J., & Purdy, K. (2000). Children's comprehension of critical
and complimentary forms of verbal irony. *Journal of Cognition and Development,*
1, 227-248.

Hanna, J.E., Tanenhaus, M. K., & Trueswell, J. C. (2003). The effects of common ground
and perspective on domains of referential interpretation. *Journal of Memory and*
Language, 49, 43-61.

Harris, M., & Pexman, P. M. (2003). Children's perceptions of the social functions of
verbal irony. *Discourse Processes, 36, 147-165.*

Harter, S., & Buddin, B. (1987). Children's understanding of the simultaneity of two
emotions: A five-stage acquisition sequence. *Developmental Psychology, 23,* 388-
399.

Harter, S., & Whitesell, N. R. (1989). Developmental changes in children's
understanding of single, multiple, and blended emotion concepts. In C. Saarni &
P. L. Harris (Eds.), *Children's understanding of emotion.* (pp. 81-116). New
York: Cambridge University Press.

Holtgraves, T. (2005). Diverging interpretations associated with the perspective of the
speaker and recipient in conversations. *Journal of Memory and Language, 53,*
551-566.

Ivanko, S. L., Pexman, P. M., & Olineck, K. M. (2004). How sarcastic are you?

Individual differences and verbal irony. *Journal of Language and Social Psychology, 23,* 244-271.

Jorgensen, J. (1996). The functions of sarcastic irony in speech. *Journal of Pragmatics, 26,* 613- 634.

Katz, A. N. (1996). On interpreting statements as metaphor or irony: Contextual heuristics and cognitive consequences. In J. S. Mio & A. N. Katz, (Eds.). *Metaphor: Implications and Applications* (pp. 1-122). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Katz, A. N., & Blasko, D. G., & Kazmerski, V. A. (2004). Saying what you don't mean: Social influences on language processing. *Current Directions in Psychological Science, 13,* 186-189.

Keysar, B. (1994). The illusory transparency of intention: Linguistic perspective taking in text. *Cognitive Psychology, 26,* 165-208.

Keysar, B., Barr, D. J., Balin, J. A., & Brauner, J. S. (2000). Taking perspective in conversation: The role of mutual knowledge in comprehension. *Psychological Science, 11,* 32–38.

Kowalski, R. M. (2000). 'I was only kidding!': Victims' and perpetrators' perceptions of teasing. *Personality and Social Psychology Bulletin, 26,* 231-241.

Kowalski, R. M., Howerton, E., & McKenzie, M. (2001). Permitted disrespect: teasing in interpersonal interactions in R. M. Kowalski (Ed.), *Behaving badly: Aversive behaviors in interpersonal relationships.* Washington, DC: American Psychological Association.

Kreuz, R. J., & Glucksberg, S. (1989). How to be sarcastic: The echoic reminder theory of verbal irony. *Journal of Experimental Psychology: General, 118,* 374-386.

Kreuz, R. J., Long, D. L., & Church, M. B. (1991). On being ironic: Pragmatic and mnemonic implications. *Metaphor and Symbolic Activity, 6,* 149-162.

Lalonde, C. E., & Chandler, M. J. (2002). Children's understanding of interpretation. *New Ideas in Psychology, 20,* 163-198.

Laval, V., & Bert-Erboul, A. (2005). French-speaking children's understanding of sarcasm: The role of context and intonation. *Journal of Speech, Language, and Hearing Research, 48,* 610-620.

Lee, C. J., & Katz, A. N. (1998). The differential role of ridicule in sarcasm and irony. *Metaphor & Symbol, 13,* 1-15.

Matthews, J. K., Hancock, J. T., & Dunham, P. J. (2006). The roles of politeness and humor in the asymmetry of affect in verbal irony. *Discourse Processes, 41,* 3-24.

Nadig, A. S., & Sedivy, J. C. (2002). Evidence of perspective taking constraints in children's on-line reference resolution. *Psychological Science, 13,* 329-336.

Oswald, H., Krappman, L., Chowdhuri, I., & von Salisch, M. (1987). Gaps and bridges: Interactions between girls and boys in elementary school. *Sociological Studies of Child Development, 2,* 205-223.

Paine, R. (1968). What is gossip about? An alternative hypothesis. *Man, 3,* 278-285.

Pennington, B. F., Bennetto., L., McAleer, O., & Roberts, R. J. (1996). Executive functions and working memory. In G. R. Lyon & N. A. Krasnegor (Eds.), *Attention, Memory and Executive Function* (pp. 327 – 348). Baltimore: Paul H. Brookes.

Pexman, P. M., Glenwright, M., Hala, S., Kowbel, S., & Jungen, S. (2006). Children's use of trait information in understanding verbal irony. *Metaphor & Symbol, 21,* 39-60.

Pexman, P. M., Glenwright, M., Krol, A., & James, T. (2005). An acquired taste: Children's perceptions of humor and teasing in verbal irony. *Discourse Processes, 40,* 259-288.

Pexman, P. M., Glenwright, M., James, T. & Krol, A. (in review). How do children develop an appreciation for verbal irony? Correlations with family variables. *Social Development.*

Pexman, P. M., & Olineck, K. (2002). Does sarcasm always sting? Investigating the impact of ironic insults and ironic compliments. Discourse Processes, 33, 199-217.

Pexman, P. M., & Zvaigzne, M. T. (2004). Does irony go better with friends? *Metaphor & Symbol, 19,* 143-163.

Roberts, R. M., & Kreuz, R. J. (1994). Why do people use figurative language? *Psychological Science, 5,* 159-163.

Rysman, A. (1977). How the "gossip" became a woman. *Journal of Communications, 27,* 176-180.

Scambler, D. J., Harris, M. J., & Milich, R. (1998). Sticks and stones: Evaluation of responses to childhood teasing. *Social Development, 7,* 234-249.

Shapiro, J.P., Baumeister, R. F., & Kessler, J. W. (1991). A three-component model of children's teasing: Aggression, humor, and ambiguity. *Journal of Social and Clinical Psychology, 10,* 459-472.

Socha, T. J., & Kelly, B. (1994). Children making "fun": Humorous communication, impression management, and moral development. *Child Study Journal, 24,* 237-253.

Sperber, D. & Wilson, D. (1981) Pragmatics. *Cognition, 10,* 281-286.

Toplak, M., & Katz, A. N. (2000). On the uses of sarcastic irony. *Journal of Pragmatics, 32,* 1467-1488.

Utsumi, A. (2000). Verbal irony as implicity display of ironic environment: Distinguishing ironic utterances from nonirony. *Journal of Pragmatics, 32,* 1777-1806.

Warm, T. R. (1997). The role of teasing in development and vice-versa. *Developmental & Behavioral Pediatrics, 18,* 97-101.

Winner, E., & Leekam, S. (1991). Distinguishing irony from deception: Understanding the speaker's second-order intention. *British Journal of Developmental Psychology, 9,* 257-270.

Table 1

Sample Puppet Show Scenarios for Each Condition in Experiment 1

T+/B-

Scenario A: Christina and Aidan are on the same soccer team. While practicing shots on

the goal, Christina kicks the ball away from the net and doesn't score a goal.

    Aidan says, *"What an excellent shot"* (ironic criticism)

    Aidan says, *"What an awful shot"* (literal criticism)

Scenario B: Christina and Aidan are on the same soccer team. While practicing shots on

the goal, Christina kicks the ball in the top corner of the net and scores a goal.

    Aidan says, *"What an excellent shot"* (literal compliment)

T+/B+

Scenario A: Christina, Aidan and Grace are all on the same soccer team. While

practicing shots on the goal, Christina kicks the ball away from the net and doesn't score

a goal.

    Aidan says, *"What an excellent shot"* (ironic criticism)

    Aidan says, *"What an awful shot"* (literal criticism)

Scenario B: Christina, Aidan and Grace are all on the same soccer team. While

practicing shots on the goal, Christina kicks the ball in the top corner of the net and

scores a goal.

    Aidan says, *"What an excellent shot"* (literal compliment)

T-/B+

Scenario A: Christina, Aidan and Grace are all on the same soccer team. While practicing shots on the goal, Christina kicks the ball away from the net and doesn't score a goal. After Christina got picked up,

   Aidan says, *"Christina has an excellent shot"* (ironic criticism)

   Aidan says, *"Christina has an excellent shot* (literal criticism)

Scenario B: Christina, Aidan and Grace are all on the same soccer team. While practicing shots on the goal, Christina kicks the ball in the top corner of the net and scores a goal. After Christina got picked up,

   Aidan says, *"Christina has an excellent shot"* (literal compliment)

Table 2

Speaker Attitude and Speaker Intended Humor as a function of Statement, Perspective, and Condition

	Literal Criticisms			Ironic Criticisms			Literal Compliments		
Perspective	T+/B-	T+/B+	T-/B+	T+/B-	T+/B+	T-/B+	T+/B-	T+/B+	T-/B+
Speaker Attitude									
Target	4.66	4.63	N/A	4.71	4.37	N/A	1.75	1.57	N/A
Bystander	N/A	4.71	4.77	N/A	4.56	4.57	N/A	1.80	1.64
Speaker Intended Humor									
Target	4.79	4.56	N/A	3.62	3.68	N/A	4.18	4.85	N/A
Bystander	N/A	4.54	4.97	N/A	3.81	3.47	N/A	4.71	4.85

Note. Ratings were only included when speaker belief was correctly attributed. Ratings were not made from the target's perspective in the T-/B+ condition and ratings were not made from the bystander's perspective in the T+/B- condition. Speaker attitude ratings were coded so that 1 = *very nice*, 2 = *nice*, 3 = *a little bit nice*, 4 = *a little bit mean*, 5 = *mean*, and 6 = *very mean*. Speaker intended humor ratings were coded so that 1 = *very funny*, 2 = *funny*, 3 = *a little bit funny*, 4 = *a little bit serious*, 5 = *serious*, and 6 = *very serious*. Values above do not add to *n* = 72 or 100% due to missing data (i.e., "I don't know" or responses that could not be coded). Values above represent the means for the entire sample and may be slightly different than values reported paired t-tests for participants with the two relevant data points.

Table 3

Identification Responses ("Which Puppet Acts Most Like You?") as a function of Statement and Condition

| | Literal Criticisms | | | | | | Ironic Criticisms | | | | | | Literal Compliments | | | | | |
| | T+/B- | | T+/B+ | | T-/B+ | | T+/B- | | T+/B+ | | T-/B+ | | T+/B- | | T+/B+ | | T-/B+ | |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Target	57	81.4	34	50.7	4	5.7	50	79.4	28	41.2	6	8.5	29	42.6	24	36.4	1	1.6
Bystander	N/A		29	43.3	56	80.0	N/A		29	42.6	51	70.8	N/A		9	13.6	16	25.4
Speaker	11	15.7	4	6.0	9	12.9	9	14.3	11	16.2	14	19.4	37	54.4	1	1.5	46	73.0
Neither	1	1.4	0	0	1	1.4	2	3.2	0	0	0	0	1	1.5	0	0	0	0

Note. Identification responses were only included when speaker belief was correctly attributed. Values above do not add to $n = 72$ or 100% due to missing data (i.e., incorrect speaker belief responses, "I don't know" or responses that could not be coded).

Table 4

Identification Responses as a function of Condition and Statement

		T+/B-						T+/B+						T-/B+					
		Literal Criticisms		Ironic Criticisms		Literal Compliments		Literal Criticisms		Ironic Criticisms		Literal Compliments		Literal Criticisms		Ironic Criticisms		Literal Compliments	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Identify with failure	Target	38	48.7	38	48.7	2	2.6	29	55.8	22	42.3	1	1.9	3	60.0	2	40.0	0	0.0
	Bystander	N/A						0	0.0	2	100	0	0.0	0	0.0	0	0.0	0	0.0
	Speaker	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	100
Identify with success	Target	2	11.1	0	0.0	16	88.19	1	6.7	0	0.0	14	93.3	1	100	0	0.0	0	0.0
	Bystander	N/A						0	0.0	0	0.0	0	0.0	1	100	0	0.0	0	0.0
	Speaker	2	66.7	1	33.3	0	0.0	0	0.0	0	0.0	1	100	0	0.0	1	33.3	2	66.7
Approval of talking that way	Target	0	0.0	3	37.5	5	62.5	0	0.0	1	33.3	2	66.7	0	0.0	1	100	0	0.0
	Bystander	N/A						1	14.3	5	71.4	1	14.3	2	50.0	0	0.0	2	50.0
	Speaker	4	10.3	3	7.7	32	82.1	4	10.5	10	26.3	24	63.2	6	10.9	10	18.2	39	70.9
Disapproval of talking that way	Target	8	80.0	2	20.0	0	0.0	1	25.0	1	25.0	2	50.0	0	0.0	1	50.0	1	50.0
	Bystander	N/A						11	47.8	12	52.2	0	0.0	35	50.0	35	50.0	0	0.0
	Speaker	1	100	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Similar appearance, gender, etc.	Target	5	35.7	5	35.7	4	28.6	3	27.3	3	27.3	5	45.5	0	0.0	2	100	0	0.0
	Bystander	N/A						13	46.4	8	28.6	7	25.0	13	36.1	11	30.6	12	33.3
	Speaker	3	25.0	5	41.7	4	33.3	0	0.0	1	12.5	7	87.5	3	33.3	2	22.2	4	44.4

Note. Identification responses were only included when speaker belief was correctly attributed. Values above do not add to

$n = 72$ or 100% due to missing data (i.e., incorrect speaker belief responses, "I don't know" or responses that could not be coded).

Table 5

Frequency of Themes Conveyed in Justifications for Not Identifying with the Speaker as a Function of Condition for Ironic Criticisms and Literal Criticisms Combined

Condition		Disapproval of saying mean things	Would not say that	Disapproval of criticisms, insults, put downs	Disapproval of sarcasm, making fun of, joking	Similar appearance, gender, interests, activities
T+/B-	n	28	17	19	7	20
	%	30.8	18.7	20.9	7.7	22
T+/B+	n	57	16	19	8	6
	%	53.8	15.1	17.9	7.5	5.7
T-/B-	n	53	14	21	13	6
	%	49.5	13.1	19.6	12.1	5.6

Table 6

Sample Puppet Show Scenarios for Each Condition in Experiment 2

Target's Performance

Scenario A: Dave and Mike are jumping on the trampoline. When they take turns to practice their tricks, Dave falls and lands on his face.

Mike says, "*Great trampoline tricks*" (ironic criticism)

Mike says, "*Awful trampoline tricks*" (literal criticism)

Scenario B: Dave and Mike are jumping on the trampoline. When they take turns to practice their tricks, Dave does a perfect flip.

Mike says, "*Great trampoline tricks*" (literal compliment)

Target's Possession

Scenario A: Dave and Mike are jumping on Dave's new trampoline. When they try to do tricks on the trampoline, it doesn't work well and they can't bounce very high.

Mike says, "*This is a great trampoline*" (ironic criticism)

Mike says, "*This is an awful trampoline*" (literal criticism)

Scenario B: Dave and Mike are jumping on Dave's new trampoline. When they try to do tricks on the trampoline, it works really well and they can bounce very high.

Mike says, "*This is a great trampoline*" (literal compliment)

Sample Puppet Show Scenarios for Each Condition in Experiment 2 (continued)

Situation

Scenario A: Dave and Mike are jumping on the trampoline in gym class. When they try to do tricks on the trampoline, it doesn't work well and they can't bounce very high.

Mike says, *"This is a great trampoline"* (ironic criticism)

Mike says, *"This is an awful trampoline"* (literal criticism)

Scenario B: Dave and Mike are jumping on the trampoline in gym class. When they try to do tricks on the trampoline, it works really well and they can bounce very high.

Mike says, *"This is a great trampoline"* (literal compliment)

Table 7

Identification Responses as a function of Statement and Topic Condition

	Literal Criticisms						Ironic Criticisms						Literal Compliments					
	Performance		Possession		Situation		Performance		Possession		Situation		Performance		Possession		Situation	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Target	57	80.3	54	76.1	37	52.1	44	62.0	52	73.2	29	40.8	19	26.8	21	29.6	22	31.0
Speaker	8	11.3	12	16.9	32	45.1	20	28.2	13	18.3	32	45.1	46	64.8	45	63.4	45	63.4
Neither	1	1.4	2	2.8	2	2.8	2	2.8	2	2.8	2	2.8	0	0	3	4.2	2	2.8

Note. Identification responses were only included when speaker belief was correctly attributed. Values above do not add to *n* = 71 or

100% due to missing data (i.e., incorrect speaker belief responses, "I don't know" or responses that could not be coded).

Table 8

Identification Responses as a function of Topic and Statement

		Performance						Possession						Situation					
		Literal Criticisms		Ironic Criticisms		Literal Compliments		Literal Criticisms		Ironic Criticisms		Literal Compliments		Literal Criticisms		Ironic Criticisms		Literal Compliments	
		n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Identify with failure	Target	32	57.1	22	39.3	2	3.6	8	34.8	15	65.2	0	0.0	2	66.7	0	0.0	1	33.3
	Speaker	0	0.0	0	0.0	2	100	0	0.0	0	0.0	0	0.0	1	50.0	1	50.0	0	0.0
Identify with success	Target	1	7.1	2	14.3	11	78.6	2	28.6	1	14.3	4	57.1	2	100	0	0.0	0	0.0
	Speaker	0	0.0	0	0.0	0	0.0	0	0.0	1	100	0	0.0	0	0.0	0	0.0	1	100
Approval of talking that way	Target	1	20.0	0	0.0	4	80.0	3	50.0	3	50.0	0	0.0	6	50.0	4	33.3	2	16.7
	Speaker	3	5.4	17	30.4	36	69.3	2	4.3	13	27.7	32	68.1	16	26.2	23	37.7	22	36.1
Disapproval of talking that way	Target	9	42.9	12	57.1	0	0.0	17	48.6	16	45.7	2	5.7	9	36.0	12	48.0	4	16.0
	Speaker	0	0.0	0	0.0	0	0.0	1	100	0	0.0	0	0.0	0	0.0	1	100	0	0.0
Similar appearance, gender, *etc.*	Target	10	45.5	10	45.5	2	9.1	17	43.6	12	30.8	10	25.6	14	40.0	9	25.7	12	34.3
	Speaker	5	50.0	1	10.0	4	40.0	21	37.5	14	25.0	21	37.5	11	40.7	6	22.2	10	37.0

Note. Identification responses were only included when speaker belief was correctly attributed. Values above do not add to $n = 71$ or 100% due to missing data (i.e., incorrect speaker belief responses, "I don't know" or responses that could not be coded).

Table 9

Frequency of Themes Conveyed in Justifications for Not Identifying with the Speaker as a

Function of Topic for Literal Criticisms and Ironic Criticisms Combined

Criticism Topic		Disapproval of saying mean things	Would not say that	Disapproval of criticisms, insults, put downs	Disapproval of sarcasm, making fun of, joking	Similar appearance, gender, interests, activities
Performance	*n*	39	20	14	1	7
	%	48.1	24.7	17.3	1.2	8.6
Possession	*n*	28	25	16	8	7
	%	33.3	29.8	19.0	9.5	8.3
Situation	*n*	7	6	2	4	16
	%	3.5	17.1	5.7	11.4	45.7

Note. The above frequencies represent justifications for not identifying with the speaker

and target for ironic criticisms and literal criticisms combined.

Figure Captions

Figure 1. Nice/Mean Scale for speaker attitude ratings.

Figure 2. Funny/Serious Scale for speaker humorous intent ratings.

Figure 3. Mean speaker attitude ratings for topic by statement type.

Figure 4. Mean speaker humorous intent ratings for topic by statement type.

Figure 5. Mean speaker attitude ratings for criticism type by target-speaker identification.

NICE   MEAN

FUNNY   SERIOUS