

Verbal Irony Comprehension in Middle School Age Children and Adults in Polish and English

Discourse

by

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## Abstract

Verbal irony research has been limited to a homogenous North American population. Verbal irony comprehension relies on various cues (Colston, 2002). The objective of this study was to examine Polish and Canadian children's and adults' attention to two potential cues to ironic intent: 1) interpretive perspective (addressee versus bystander), and 2) parties present (speaker, addressee, and bystander). Polish participants were 36 9- to 10-year-olds and 36 adults recruited from schools in Poland. Canadian participants were matched from an existing dataset. Participants watched 9 videos containing ironic criticisms, literal criticisms, and literal compliments. Participants watched the same videos but they were narrated in their native language. Video characters criticized/complimented a present or absent addressee either with or without a bystander in three conditions: private evaluation, public evaluation, and gossip. Participants judged speaker's intent and humour from the addressee's perspective, and/or the bystander's perspective. Interpretative perspective served as a cue to verbal irony only among Canadian adults, who rated ironic criticisms more mean and more serious when interpreting these statements from the addressee's perspective versus the bystander's perspective. The number of parties present influenced interpretation of irony's seriousness for Polish adults, but not their Canadian counterparts. Polish adults rated public ironic criticisms as less serious compared to private ironic criticisms, while Canadian adults rated the conditions similarly. The results show that the relevance of cues in interpreting ironic criticisms is influenced by age and culture. The study brings a novel contribution in the area of developmental and cross-cultural psychology.

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Discourse

Verbal irony is a form of speech characterized by discrepancy between what is said and what is meant (e.g., Gibbs, 1986; Lee & Katz, 1998, Rockwell, 2005). The figurative meaning of an ironic statement is, therefore, opposite of the literal meaning (e.g., saying, “You’re so talkative” to a person who barely said a word while being on a date). Verbal irony often includes an evaluation of other people’s actions (Kotthoff, 2003; Sperberg & Wilson, 1986). The intended evaluation of ironic utterances is predominantly negative (Clark & Gerrig, 1984), however it can also be positive (Gibbs, 1986; Kreutz, 1996). Verbal irony serves communicative functions that literal language does not, such as teasing with humour (Colston & O'Brien, 2000), and expressing negative intent in a playful manner (Leggitt & Gibbs, 2000). Thus, speakers often use ironic utterances instead of literal statements to mute the perception of a critique (Colston, 1997; Dews & Winner, 1995; Jorgensen, 1996; Pexman & Olineck, 2002), and to lighten the conversation by introducing humour (Dews & Winner, 1995; Jorgensen, 1996; Pexman & Olineck, 2002). Ironic criticisms are considered to be less insulting and less threatening than literal criticisms (Brown & Levinson, 1987). This muting function of ironic criticism allows one to convey criticism in a less direct way than literal criticism (Dews & Winner, 1995).

The ability to understand verbal irony involves complex cognitive functions. Listeners must not only conclude that the speaker’s statement is not supposed to be taken literally, but also identify the specific incongruities occurring between the speaker’s intended message and the literal utterance (Hala, Pexman, Climie, Rostad, & Glenwright, 2010). Verbal irony comprehension is a slow developmental process which begins in middle childhood (Dews,



Kaplan, & Winner, 1995). It relies on multiple factors, including a child's ability to think about others' beliefs (Glenwright & Pexman, 2010) and social experience with verbal irony (Hala et al., 2010). The present study examines how age and culture influence the development of verbal irony comprehension by comparing this ability in children and adults from Canadian and Polish samples.

Verbal irony comprehension relies heavily on the socio-cultural information available to an individual (Holtgraves, 2005). For this reason, community membership is an important factor in providing the background knowledge that facilitates understanding of ironic utterances (Gerrig & Horton, 2005). It is developed based on membership in a particular socio-cultural group that shares a common knowledge base and personal experiences. For example, Northern U.S. residents produce more negative ironic statements than their Southern U.S. counterparts (Dress, Kreuz, Link, & Caucci, 2008), demonstrating that there are regional variations in the use of verbal irony. The majority of findings from verbal irony research to date are based on a strictly North American population. Little is known about verbal irony comprehension cross-culturally.

To my knowledge, only one published study has examined cross-cultural differences in the function of verbal irony. Canadian and Czech participants evaluated literal and ironic utterances in short stories accompanied by pictures, by answering speaker belief question, and rating how nice, mean and funny the speaker was (Filippova, 2014). Czech 7- to 9-year-old children were better at recognizing ironic criticisms than their 7- to 9- year-old Canadian counterparts, whereas Canadian children outperformed Czech participants in their comprehension of ironic compliments (Filippova, 2014). Thus, the results suggest that verbal irony is influenced by social and cultural environment, and by language socialization. While Filippova's study examines cross-cultural differences in irony comprehension, it is still unclear

whether such differences would appear between Canada and other Slavic countries. Taking into consideration the existing differences in the appreciation of ironic statements among Canadian and Czech children, it seems reasonable to speculate that such differences would exist between Canadian and Polish participants. The purpose of this study was to examine whether or not cultural groups differ in their attention to cues to ironic intent. Considering that Canadian and Polish participants come from a variety of cultural and linguistic backgrounds, I believe that it is important to study this phenomenon.

It is essential to consider cultural diversity in verbal irony comprehension, as culture influences people's perceptions, behaviour and beliefs (Harrison & Huntington, 2000; Hofstede, 2003; Kirkman et al., 2006). Culture and language are closely tied to one another (Schieffelin & Ochs, 1988). Individuals use language as a tool that enables them to accomplish goals in socially and culturally structured activities. Nevertheless, not all activities and language forms are present across various social groups, and often, they are not inclusive of all members of a social group. Consequently, the existing differences in the use of language lead to variations in cognitive skills among individuals of various cultural and social groups (Leontyev, 1981). Furthermore, assumptions based on cultural values shape the nature of relationships between people and their environment (Maznevski & Peterson, 1997).

A large body of research indicates that relationships with parents and peers, as well as school environment have a major impact on language socialization. Studies examining maternal speech to infants found both universalities and differences indicating cultural preferences in speech patterns, leading to cultural language socialization (Crago, Annahatak, & Ningiuruvik, 1993). Research examining maternal and paternal influence on communication styles has found that in certain cultures mothers tend to overshadow family conversation (Tryggvason, 2006),

whereas in other cultures, fathers are more likely to dominate interactions (Blum-Kulka, 1997). These differences lead to various patterns of language usage, contingent upon culture and gender of a parent and a child (Ely, Gleason & McCabe, 1996). Moreover, cross-cultural research showed that membership in a peer group leads to acquisition of specific language communication skills (Boggs, 1990; Shuman & Goodwin, 1993). Finally, there is some evidence suggesting that culture-specific linguistic skills are developed in the classroom environment (Burdelski, 2010). Given the differences in language socialization and organization of social interactions among various cultures, it is crucial to examine whether these factors also affect understanding of verbal irony among Canadian and Polish samples.

### **Comparing Canadian and Polish Culture**

Europe represents diversity in culture. The existence of multiple languages and traditions within Europe lends to the continent's reputation as the cross-cultural capital of the world. Each individual country is culturally distinct from one another. Poland is characterized by its strong religious values. In fact, Catholicism is considered to be a part of the Polish identity. Results from a study conducted to evaluate cultural and family values among European countries confirmed the importance of religion in Polish households and revealed that honesty and maintaining strong family bonds were also significant in Polish identity (Georgas & Mylonas, 2006). Apart from being religious and family oriented, Polish people also possess a unique speaking style. Consistent with other Slavic languages, Polish speech is characterized by the implementation of direct strategies such as imperatives and statements about the addressee's future actions (Kasper, 1996). The directness of Polish speakers signifies sincerity, straightforwardness, and cordiality, and does not impose on the addressee's freedom of conduct. This type of interaction is frequently used among friends and family members (Wierzbicka,

2003). Considering that Polish people are direct speakers, it is possible that they are less likely to use verbal irony in their speech, and are therefore, less familiar with this type of figurative language.

Canada, much like Europe, is also characterized by its multiculturalism. Canadian culture has been vastly enriched by a large population of immigrants from a variety of ethnic and religious backgrounds, and who possess distinct cultural traditions. This notion of multiculturalism is a reflection of the true Canadian spirit, as Canadians are considered to be tolerant, welcoming and polite (Ehrenfreund, 2010). In addition to being perceived in a positive manner by other nations, Canadians also hold a positive image of themselves. A study on national identity confirms this positive self-evaluation. Canadians identified themselves with adjectives such as polite, law abiding, flexible, tolerant, friendly, humble, open-minded, and pleasant (Lalonde, 2002). Despite the lack of research in the area of politeness and speaking style, it is my assumption that these positive characteristics would not only be visible in Canadians' actions, but also in their speaking style, politeness norms, and attitudes towards verbal irony.

### **Verbal Irony in English Discourse**

There are several types of ironic utterances. *Ironic criticisms* are worded positively but express negative feelings, as in “*great outfit*” stated to someone who is wearing a stained shirt. *Ironic compliments*, in contrast, are worded negatively but convey a positive message, as in “*terrible performance*” said to someone who won a golf tournament. There are multiple methods to assess verbal irony comprehension. The methods of testing ironic utterances are typically the same among child and adult participants. Ackerman (1981, 1983) established a prominent procedure of reading short stories ending with an evaluative comment. The terminal

comment is either a literal or an ironic statement. More recently, researchers have employed pre-recorded short stories accompanied by images (e.g., Banasik, 2013), videos with adult actors (e.g., Hancock, Dunham, & Purdy, 2000) or puppet shows (e.g., Climie & Pexman, 2008; Nilsen, Glenwright, & Huyder, 2011). Researchers have also used short clips recorded from television cartoon shows to test verbal irony comprehension among children (Dews et al., 1996), and clips from popular television talk shows to test verbal irony comprehension among adults (Rockwell, 2005). Verbal irony comprehension is typically measured using three dependent variables: speaker belief, speaker intent, and speaker humour. The speaker belief question examines whether the speaker meant what he or she said. The correct answer to this question reveals that listeners or addressees are able to infer that the ironic speaker does not believe the literal meaning of an ironic statement. The speaker intent question tests whether the speaker was perceived as nice or mean. It determines whether listeners or addressees understand the muting function of verbal irony and whether they are able to infer the speaker's intent to convey a critical or complimentary attitude. The speaker humour question evaluates whether the speaker was perceived as funny or serious. This question reveals whether listeners or addressees are able to perceive the playful function of ironic statements, and whether they are able to appreciate the humour in verbal irony. Cumulatively, these questions assess whether or not participants are able to correctly infer the ironic speaker's belief and communicative intentions.

Demographic constructs, such as age and gender, can influence a person's appreciation of ironic utterances. Adults frequently use verbal irony. People between the ages of 20 and 40 years use ironic utterances in 28% of their interactions with other individuals (Gibbs, 2000). Gender has been found to predict the production, evaluation and interpretation of verbal irony. Males are more likely than females to perceive speaker humour in ironic statements (Jorgensen,

1996), and consequently are more likely to use verbal irony (Gibbs, 2000). Females, on the other hand are more likely than males to feel offended by ironic speakers (Jorgensen, 1996).

Children can struggle with comprehension of ironic utterances. They are not able to fully grasp the complexity of ironic speech between the ages of 6 and 12 (Capelli, Nakagawa, & Madden, 1990). Nevertheless, children begin to understand that ironic speakers present statements that contradict their true beliefs around 6 years of age (Ackerman, 1983; de Groot, Kaplan, Rosenblatt, Dews, & Winner, 1995; Dews et al., 1996; Glenwright & Pexman, 2010; Hancock, Dunham & Prudy, 2000; Harris & Pexman, 2003). The ability to comprehend verbal irony in terms of speaker's belief, speaker's intent and speaker's humour is a long developmental process that continues throughout adolescence (Pexman, Glenwright, Krol, & James, 2005). While some researchers believe that children begin to understand ironic speaker's humour around the age of 7 (Dews et al., 1996; Harris & Pexman, 2003), others believe that this type of verbal irony appreciation develops around the age of 13 (Demorest, Meyer, Phelps, Gardener & Winner, 1984; Pexman et al., 2005).

Developing a solid understanding and appreciation of verbal irony is an important social and communication skill. It allows individuals to infer the speaker's true intention, thereby helping to avoid misunderstandings. Given that children encounter ironic statements during their daily interactions with family members (Recchia, Howe, Ross, & Alexander, 2010), and while watching age-appropriate television shows (Dews & Winner, 1995), it is important that they develop and master this skill. Hala and colleagues (2010) demonstrated that children whose parents are more likely to use verbal irony understand irony better. Thus, social experience with verbal irony can enhance one's understanding of its communicative functions.

**Theories of verbal irony comprehension.** Several theories aim to explain how people come to understand verbal irony. Giora (1995) proposed that individuals compare the literal and implied meaning of the statement when interpreting verbal irony. During this comparison, the explicit meaning of the critical statement has a muting effect on the implicit meaning. For this reason ironic criticisms appear to be less harmful (Giora, 1995). Dews and Winner (1995) suggested that the people perceive verbal irony as less insulting comparing to literal criticisms, and more funny than literal criticisms.

Two theories that are particularly relevant to the present study are: parallel-constraint-satisfaction theory (Pexman, 2008), and the theory of politeness (Brown & Levinson, 1987). The theory of politeness is founded on the notions of 'face', which states that individuals strive to satisfy two basic needs: approval by others (positive face), and being unimpeded by others (negative face, Brown & Levinson, 1987). Various speech acts however pose a threat to one's face. Complaints, criticisms, accusations or interruptions are acts that threaten the 'positive face' of the addressee, while pressuring the addressee to accept or reject offers is considered as an act that threatens the 'negative face' (Brown and Levinson, 1987). Brown and Levinson (1987) suggest that individuals use verbal irony to convey critique in a more tactful way and to preserve one's 'face'. Furthermore, the founders of the theory of politeness believed that the notion of face is universal, and should be found across cultures. The parallel-constraint-satisfaction theory approach to verbal irony suggests that individuals simultaneously consider numerous cues to ironic intent for a coherent interpretation of the figurative statement (Pexman, 2008). This theory claims that the human cognitive system is automatically activated when it encounters potential cues to verbal irony and these cues are evaluated concurrently. If the activated cues support ironic interpretation, this type of interpretation would receive priority over time,

indicating the importance and reliability of particular cues in verbal irony comprehension (Pexman, 2008). The parallel-constraint-satisfaction approach to verbal irony indicates that such cues as tone of voice, incongruity, context and knowledge of the speaker are important in successful comprehension of this figurative form of language (Pexman, 2008).

**Cues to verbal irony.** Consistent with the parallel-constraint-satisfaction theory (Pexman, 2008), a number of studies confirm that verbal irony comprehension requires that listeners consider an array of cues to the speaker's belief and communicative intent. In their interpretation of ironic statements, children take into consideration incongruity between context and the statement (Ackerman, 1983; Nilsen, Glenwright, & Huyder, 2011; Winner & Leekman, 1991), the speaker's intonation (Capelli et al., 1990; Glenwright, Parackel, Cheung, & Nilsen, 2014; Laval & Bert-Erboul, 2005), and personality traits of the speaker (Pexman, Glenwright, Hala, Kowbel, & Jungen, 2006). Adults also take into consideration the relationship between the speaker and listener (Kreuz & Link, 2002; Pexman & Zvaigzne, 2004), and the speaker's sense of humour (Katz & Pexman, 1997). Intonation appears to be especially important in the interpretation of verbal irony. Individuals distinguish ironic from literal statements through highly stressed intonation (Ackerman, 1983), exaggerated tone, and lengthened syllables (Keenan & Quigely, 1999). Overall, individuals must assess multiple cues to accurately evaluate ironic statements.

In addition, the number of parties present during an ironic conversation can also serve as a cue in verbal irony comprehension. In the presence of a bystander, speakers consider the bystander's response when deciding if they will tease an addressee using verbal irony (Pawluk, 1989). In the case of a positive ironic statement, the presence of a bystander can have a beneficial impact on the addressee's perception (Kowalski, 2004). In the case of a negative



evaluation however, the presence of a bystander can induce addressee's feelings of embarrassment and even humiliation (Tedeschi, 2001). When an ironic statement is made to a bystander in the absence of an addressee (which is commonly considered to be gossip), adults perceive such comments as negative (Colston, 1997). This type of verbal irony, occurring behind an addressee's back, can have a damaging effect on the relationship between the speaker and the addressee (Dews & Winner, 1995). The current study aimed to explore the impact of bystander presence or absence as a potential cue to verbal irony comprehension.

### **Verbal Irony in Polish Discourse**

Research on verbal irony comprehension and appreciation in Polish discourse is very limited. I conducted a literature review using PsycINFO, EBSCOhost, Linguistics & Language Behavior Abstracts, and Polish Google Scholar in both Polish and English. Despite searching for publications in both English and Polish, I located only five articles on this topic. These papers indicated that Polish adults define irony as saying the opposite of what is true in order to underline the truth, and believed that irony and mockery can be used interchangeably (Milanowicz, 2013). Much like in North American culture, Polish males perceive verbal irony as a tool that evokes humour and provides emotional relief in a difficult situation, whereas females find it offensive and use it with the intention to indirectly criticize someone, while remaining polite (Milanowicz, 2013). Using verbal irony is a common tactic used by Polish politicians. It allows them to mock their opponents, attracts public communication (Habrajska, 1994), and wins the approval of those who share a similar outlook on the political situation (Poprawa, 2013).

To date, only two Polish studies have examined verbal irony understanding from a developmental perspective. Milanowicz and Bokus (2011) explored 4- to 6-year-old children's

understanding of verbal irony using situational context as a cue. Children listened to short stories read by an experimenter and evaluated speakers' statements based upon the context in the narratives. They found that although children as young as 4 years old were able to understand the ironic speaker's belief in provided scenarios, they could not recognize the speaker's intent. This ability however, was present among the 5- and 6-years-old participants, who were not only able to understand speaker intent, but also created their own instances of verbal irony using situational context. In the other Polish study, 4- to 6-year-old children listened to 12 pre-recorded narratives containing ironic criticisms, literal criticisms, and literal compliments (Banasik, 2013). A picture accompanied each pre-recorded narrative. Children then answered the speaker belief question asked by the experimenter, and rated speaker intent and humour. Though the results did not display any significant differences between the three age groups, all groups displayed a high accuracy in recognizing ironic utterances, as the average of correct responses on all dependent measures combined was 70% (Banasik, 2013). This finding could suggest a potential cross-cultural age difference in verbal irony comprehension among Polish and Canadian children. Given that North American children typically begin to develop verbal irony comprehension skills around the age of 6 (Ackerman, 1983; de Groot et al., 1995; Dews et al., 1996; Glenwright & Pexman, 2010; Hancock, Dunham & Prudy, 2000; Harris & Pexman, 2003), it is possible that Polish children begin to develop verbal irony comprehension skills at a younger age than Canadian children.

### **Children's and Adults' Understanding of Gossip**

According to English literature on communication, gossip is defined as small talk lacking facts and, much like verbal irony, it involves a positive or negative evaluative talk among individuals who are known to one another (Rosnow & Fine, 1976). Gossip involves discussing

issues concerning an absent third party (Eder & Enke, 1991; Grosser, Lopez-Kidwell & Labianca, 2010; Sabini & Silver, 1982). Despite the fact that gossip is perceived as a negative conduct, it is prevalent in over 65% of daily conversations among British adults (Elmer, 1994). Fine and Rosnow (1978) suggested that there are three major reasons for why people gossip: entertainment, information gathering, and social influence. Gossip is amusing. It has the power to attract people's interest while directing the attention away from the speaker (Fine & Rosnow, 1978). It also serves as a means to broaden our knowledge and exchange information about the trustworthiness of others (Dunbar, 1996).

Gossip assists children in learning norms about appropriate social behaviour (Fine, 1977). As children hear stories about various behaviours of others through gossip, they learn about the punishments and rewards that follow these behaviours. Consequently, they become acculturated into society and develop an understanding of what is right and wrong. The last function of gossip relates to social influence. In particular, gossip facilitates social bonding by increasing the sense of solidarity among a group (Gottman & Mettetal, 1986). Gossip provides information on opinions and beliefs of others, and establishes social cohesiveness among group members (Levin & Arluke, 1987). Although there are benefits to engaging in gossip, it is a rather dangerous form of everyday discourse. Gossip can be used as a form of aggression, where the speaker's intent is to harm the addressee's relationships with others (Archer & Coyne, 2005; Crick & Grotpeter, 1995). While it is known that North American adults perceive ironic gossip stated to the bystander in the absence of the addressee to be just as condemning as ironic utterances stated directly to the addressee (Colston, 1997), prior research has not evaluated cross-cultural differences on the subject. Polish literature on gossip is non-existent, and therefore does not provide any insight into perceptions of gossip among Polish people. The current study

attempted to address this paucity in research and evaluate how Canadian children and adults perceive ironic gossip in comparison to Polish children and adults.

### **The Development of Perspective Taking Skills**

Perspective taking is defined as an awareness of mental states of others and the ability to understand others' feelings and beliefs (Baron-Cohen, 1995). It requires individuals to appreciate and understand the values held by others. The process of perspective taking is closely associated with accuracy in judging other people's behaviours (Hall, Andrzejewski, & Yopchick, 2009), thoughts, feelings and desires, and placing oneself in their shoes (Ambady & Rosenthal, 1993). Taking the perspective of another person increases liking of, and compassion towards that person (e.g., Bilewicz, 2009; Galinsky & Moskowitz, 2000; Epley, Caruso, & Bazerman, 2006; Vorauer, Martens, & Sasaki, 2009; Vorauer & Sucharyna, 2013). According to research on socio-cognitive development, children in both North America and Europe begin to reason about the perspectives of other people between the ages of 3 and 5 (Wellman et al., 2001). This developmental milestone, often referred to as *Theory of Mind*, enables children to grasp a speaker's mental state. This, in turn allows them to understand the meaning and purpose of figurative language forms such as verbal irony (Glenwright & Pexman, 2010). Selman (1981) suggests that children between the ages of 3 and 6 often confuse their thought processes with the thought processes of other individuals; however, once they reach middle childhood, they can successfully consider the perspective of others. Children can also attribute emotion and mental states to fictional story characters (Bamberg & Reilly, 1996; Peterson & Slaughter, 2006). In particular, children as young as 5 years of age are capable of understanding the mental state of characters in a narrative and are successful at taking their perspective (O'Neil and Shultis, 2007).

They determine characters' mental states by evaluating events in the narrative such as goals, outcomes and characters' reactions (Bourg & Stephenson, 1997).

The English verbal irony literature indicates that adults and children can think about how an ironic statement may be perceived differently by speakers and addressees. Toplak and Katz (2000) found that the evaluation of ironic criticisms varies depending on the perspective taken by an individual. Adults interpret ironic utterances from the addressee's perspective as being more negative than when such interpretations are made from a perspective of the speaker.

Furthermore, children aged 8- to 10-years old can assess a listener's interpretation of a speaker's ironic statement by evaluating the listener's knowledge about the circumstances in which the statement was made (Nilsen et al., 2011). These findings show that perspective taking is also critical in verbal irony comprehension. These skills are likely very important when considering how ironic criticisms and gossip may be perceived differently by speakers, addressees, and bystanders in the current study.

The research examining perspective taking in the Polish literature is extremely sparse. To date only one study, examining the role of perceived power on helping behaviour, has been published (Bilewicz, 2009). Results revealed that Polish adults who imagined being an out-group member were more willing to help out-group members than those who did not take on this perspective. Considering the limited knowledge in this area of research, the current study addressed this gap by exploring the ability to take interpretative perspective in evaluating literal and ironic criticisms in Polish individuals.

### **Aims of the Present Study**

Given the influence of culture on cognition and social skills, and the lack of knowledge on cross-cultural understanding of ironic speech, my goal was to conduct a cross-cultural study

examining the impact of age and culture on verbal irony comprehension in Polish and English discourse. In particular, this study examined whether age and cultural differences exist between Canadian and Polish children's and adults' comprehension of verbal irony. The study manipulated the presence of a bystander and addressee to examine if differences in participants' interpretation of ironic language would exist due to the number of parties present during an interaction. Furthermore, the study examined whether age and culture influence participants' interpretations of speaker intent when they were asked to consider the perspective of the bystander or the addressee.

Children aged 9- to 10-years-old and adults watched video recordings of puppet shows containing ironic criticisms, literal criticisms, and literal compliments. Canadian participants watched videos narrated in English, while Polish participants watched videos narrated in Polish. In the shows containing ironic and literal criticisms, a speaker provided negative feedback regarding an addressee's performance on a particular task that was not successful. In shows containing literal compliments, the speaker praised an addressee's successful performance on a task. Literal compliments served as control statements using the same wording as ironic criticisms. The presence of a bystander was manipulated: in public evaluation videos, a bystander was present to witness the comment, and in private evaluation videos, the bystander was not present. In the gossip videos, the addressee exited the scene and the speaker evaluated the absent addressee's performance to a bystander. Children and adults rated speaker's intent and humour from the perspective of the addressee and/or the bystander. Thus, the study followed a mixed model experimental design with group as a between subjects factor (Canadian Children, Canadian Adults, Polish Children, Polish Adults) and with statement type (Literal Criticism, Ironic Criticism), and condition (Private Evaluation, Public Evaluation, Gossip) as

within subjects factors. Addressees and bystanders were not present in all videos so the design was not fully crossed. In order to analyze the interpretative perspective taken by participants, I compared ratings made in the public evaluation condition from the addressee's and bystander's perspective using a second mixed model design with group as a between subjects factor (Canadian Children, Canadian Adults, Polish Children, Polish Adults), and with statement type (Literal Criticism, Ironic Criticism), and perspective (Addressee, Bystander) as within subjects factors.

My first prediction was that Canadian and Polish participants of all ages would be able to correctly rate ironic speaker's intent as mean, given that North American research suggest that verbal irony comprehension begins around the age of 7 (Dews et al., 1996; Hennis & Pexman, 2003) and Polish literature indicates that understanding of verbal irony begins around the age of 5 (Milanowicz & Bokus, 2011; Banasik, 2013). Considering that children do not fully comprehend the muting function of verbal irony (e.g., Pexman et al., 2005) I predicted that Polish and Canadian children would rate ironic speaker's attitude as more mean than adults. I also hypothesized that both Canadian and Polish children would display a lack of understanding of the humour function of verbal irony, and would rate ironic speakers as serious, whereas adults in both countries would be able to perceive the ironic speaker's humour in ironic criticisms and would rate them as funny. This prediction was based on prior research indicating that middle school children find direct, face-to-face insults as a highly inapt form of teasing (Warm, 1997), and they begin to develop their appreciation for ironic speaker humour into their teenage years (Demorest et al., 1984). Next, given that Polish people are more likely to be direct and straightforward in their speech (Kasper, 1996; Wierzbicka, 2003), and Canadians are more likely to be polite, I predicted a cross-cultural difference in that Canadian participants would be more

proficient at identifying ironic speaker's attitude and humour. In particular, I expected that Canadian participants would rate ironic criticisms as significantly less mean and more funny than their Polish counterparts. Due to the limited knowledge of verbal irony in Polish discourse, no further cross-cultural predictions were made.

Given that 8- to 10-year-old children, like adults, can consider the listener's interpretation of ironic criticisms based on the listener's knowledge of the conversational context (Nilsen et al., 2011), I further expected that both children and adults in the present study would be able to consider the perspective of the addressee and bystander in the public evaluation condition. I predicted that both children and adults would rate the ironic criticisms as more mean and more serious from the addressee's perspective as compared to the bystander's perspective, given that the presence of a third party during a negative evaluation tends to increase negative emotions in the addressee (Tedeschi, 2001).

My hypotheses regarding the parties present condition comparisons were as follows. Both children and adults should be able to consider the presence of puppet characters in forming inferences about the speaker's ironic utterances. As prior research indicates, the presence of a bystander tends to induce feelings of embarrassment and humiliation in the addressee in the case of a negative evaluation (Tedeschi, 2001). Thus, I predicted that when forming their evaluation from the addressee's perspective, participants would rate ironic criticisms as mean and more serious in the public evaluation condition (in the presence of a bystander), than in the private evaluation condition (in the absence of a bystander). If children did not alter their ratings of speaker attitude and speaker humor according to the presence of a bystander, this would suggest that they do not find this detail important in forming these ratings. Moreover, this would suggest the addition of the bystander information made the rating task too cognitively taxing for them.



That is, it is possible that simultaneously considering the bystander's presence while determining the speaker's communicative intentions might pose too high of a cognitive load for 9- to 10-year-olds.

I was also interested in examining ratings made from the bystander's perspective in the public evaluation and gossip conditions. Considering that adults gossip frequently (Elmer, 1994) and children have a limited experience with this type of speech, I predicted that children, but not adults, would rate speaker attitude and speaker humor for ironic criticisms made in the gossip condition less favorably (more mean, more serious) compared to the private and public evaluation conditions. Adults rate ironic criticisms made directly to the addressees and to bystander behind the addressee's back as equally condemning (Colston, 1997), thus I expected adults to produce comparable speaker attitude and speaker humour ratings for ironic criticisms made in the public and gossip conditions.

## Method

### Participants

Polish participants were 36 children, aged 9- to 10-years ( $M = 9.28$ ,  $SD = .45$ , range = 9.00 – 10.50; 18 males, 18 females) recruited from an elementary school, and 36 adults aged 18- to 19 years ( $M = 18.11$ ,  $SD = .32$ ; 18 males, 18 females) recruited from a high school in a medium-sized Polish city. All participants spoke Polish as their primary language. Canadian participants were selected from a secondary data set obtained from an unpublished study (Tapley, Glenwright, Pexman, & Rano, 2013) and were individually matched to the Polish participants according to gender and age in years. The Canadian sample of participants included 36 children between the ages of 9 to 10 ( $M = 9.47$ ,  $SD = .51$ , range = 9.25 – 10.5; 19 males, 17 females) recruited from an elementary school, and 36 adults, ages of 18 to 19 ( $M = 18.08$ ,  $SD =$

.28; 18 males, 18 females) recruited from a large Canadian university in a medium-sized city in Canada. Canadian participants spoke English as their primary language. Independent samples *t*-tests showed that Polish and Canadian children did not significantly differ by mean ages measured in years,  $t(70) = 1.7, p = .09$ , and neither did the two groups of adults,  $t(70) = .39, p = .70$ .

A written assent, as well as signed parental consent form was obtained for all children who participated in this study. Adult participants provided a written consent before the experiment. All participants were informed about their right to withdraw from the procedure at any point. This study was approved by the Psychology/Sociology Research Ethics Board of the University of Manitoba.

### **Materials**

The materials in this study consisted of a series of nine puppet show videos. The puppet shows portrayed a total of 27 puppets engaging in activities common among both Canadian and Polish participants (e.g., jumping on a trampoline, or playing soccer) in the presence of adequate props (e.g., trampoline, or soccer ball and net). The videos corresponded with the three parties present conditions. In the private evaluation condition, the speaker puppet evaluated an addressee puppet's performance on the activity presented in the show, and no other parties were present during this evaluation. In the public condition however, the speaker puppet evaluated an addressee puppet's performance in the presence of a bystander. Finally, in the gossip condition, the speaker puppet made a comment on the addressee puppet's performance to a bystander in the absence of an addressee puppet. The puppet shows also included three statement type conditions. Each participant watched three puppet shows that ended in an ironic criticism, three ending in a literal criticism, and three ending in a literal compliment (See Tables 1 and 2). Ironic

criticisms were voiced in a mocking intonation, literal criticisms in a cold and blunt intonation, and literal compliments were voiced in a warm and sincere intonation in congruence with previous verbal irony research (Capelli et al., 1990; Cheang & Pell, 2008; Glenwright, et al., 2013; Milosky & Ford, 1997; Rockwell, 2007; Voyer & Techentin, 2010). Literal compliments were implemented as control statements. Participants rated speaker's intent and humour on two ratings scales developed by Glenwright and Pexman (2010): speaker's intent was measured on a Nice/Mean scale (Figure 1), while speaker humour was assessed on a Funny/Serious scale (Figure 2).

The current study used puppet shows to control for facial expressions, which are known to be a paralinguistic cue to verbal irony (e.g., Angeleri & Airenti, 2014; Climie & Pexman, 2008; Glenwright et al., 2014; Harris & Pexman, 2003). The audio in the puppet shows, previously presented to Canadian participants in English, was re-recorded in Polish by a native speaker. Due to the fact that research on prosodic characteristics of verbal irony in Polish is lacking, the narrator was instructed to use a natural intonation when recording the Polish audio. The natural ironic intonation voiced by the Polish narrator appeared to match the intonation characteristics of verbal irony in the English discourse. A translation-backtranslation procedure was employed to ensure semantic comparability in the puppet show scenario content. An independent translator translated all scripts from English to Polish. A second independent interpreter translated the scripts back from Polish into English. The accuracy of the translation was then evaluated by both translators. Upon agreement, minor revisions were applied, resulting in a high quality translation of the scenarios. To verify the accuracy of the translation and intonation of statements in the Polish puppet shows, three adult native Polish speakers blind to the purpose of the current study watched the puppet show videos with Polish narration and

identified the statements as either literal or ironic. These independent reviewers correctly identified all statement types.

### **Procedure**

Before watching a series of puppet show videos, children received training on how to use the rating scales. An experimenter presented the series of puppet shows to each child individually on a laptop computer instead of testing groups of children to maintain each child's interest, concentration, and to avoid possible distractions. Adult participants watched the same clips as a group in a classroom equipped with a large screen and a video projector. Adult participants were informed that the study also included child participants, and for this reason the procedure was child-friendly and employed the use of puppet shows. After each puppet show, children and adults answered a series of questions. An experimenter recorded children's responses, while adults provided their written responses in a response booklet in which the page numbers corresponded to the order of the puppet shows. Each page contained the two rating scales with six faces. For the Nice/Mean scale which evaluates speaker's intent, the faces had the following labels from left to right: *very nice, nice, a little bit nice, a little bit mean, mean, and very mean*. For the Funny/Serious scale, which evaluates speaker's humour, the six faces corresponded with the following labels from left to right: *very funny, funny, a little bit funny, a little bit serious, serious, and very serious*. An example of the dialogue presented in one of the puppet shows in the public evaluation/ironic criticism condition is as follows: 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 does not score a goal. Aidan says, "What an excellent shot" (ironic criticism). After watching each puppet show, participants answered the following questions (the wording was adjusted according to each scenario portrayed in the shows):

1. *Speaker Belief Question*: Participants were asked the speaker belief question to assess whether the speaker's statement was interpreted 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. *Addressee's Perspective of Speaker Intent*: This question concerned the Nice/Mean Scale and participants rated the addressee's perspective of the speaker's intent conveyed by the statement (e.g., "Now let's talk about Christina (addressee). How nice or mean did Christina think Aidan was trying to be when he said '*What an excellent shot*'?").
3. *Addressee's Perspective of Speaker's Humorous Intent*: The third question addressed the Funny/Serious Scale. Participants rated the addressee's perspective of the speaker's humorous intent in making the statement (e.g., "How funny or serious did Christina think Aidan was trying to be when he said '*What an excellent shot*'?")
4. *Bystander's Perspective of Speaker Intent*: The fourth question was asked only for videos containing bystanders and it addressed the Nice/Mean scale. Participants rated the bystander's perspective of speaker intent (e.g., "Now let's talk about Grace (bystander). How nice or mean did Grace think Aidan was trying to be when he said '*What an excellent shot*'?").
5. *Bystander's Perspective of Speaker Humorous Intent*: The fifth question was asked only for videos containing bystanders and it addressed the Funny/Serious Scale. Participants rated the bystander's perspective of the speaker's intent to be humorous (e.g., "How funny or serious did Grace think Aidan was trying to be when he said '*What an excellent shot*'?").

After viewing each puppet show, an experimenter verbally asked the above questions and recorded children's responses in their response booklets. Adult participants provided their written answers in response booklets. The speaker belief question tested whether participants detected irony in the speaker's statement and was posed only to child participants. Adults were not asked to answer this question, as their ability to comprehend verbal irony should be fully developed. Questions two and three concerned the addressee and were applied in instances where the addressee was present during an interaction. Questions four and five concerned the bystander, and were applied only after shows in which the bystander was present.

### **Results**

Participants' ratings for each dependent variable (speaker belief, attitude ratings made from the addressee's and bystander's perspective, and humour ratings made from the addressee's and bystander's perspective) were compared between the four groups of participants: Canadian children, Polish children, Canadian adults and Polish adults. Literal compliments were omitted from the analyses, as they served as control statements with the same wording as ironic criticisms. Participants' performance on each of the dependent measures was also compared between males and females within each cultural group with independent samples t-tests however no significant gender effects were found.

#### **Speaker Belief Responses**

Adult participants were not asked to answer the speaker belief question based on previous literature demonstrating that adults tend to produce accuracy ceiling levels for this question for all statement types (e.g., Filippova, 2014; Glenwright, et al., 2014). Children's comprehension of the speaker's meaning was tested using the speaker belief question. Speaker belief responses were deemed correct when children understood that ironic statements conveyed a belief that was

contrary to the literal sense of the message, and that literal statements were consistent with the speaker's belief. Children's comprehension of speaker belief for ironic criticisms was compared to literal criticisms according to the parties present condition. The mean proportion of correct speaker belief responses were compared with a 2 (Group: Polish Children, Canadian Children) X 2 (Statement Type: Ironic Criticism, Literal Criticism) X 3 (Parties Present: Private Evaluation, Public Evaluation, Gossip) mixed model ANOVA with group as a between subject factor and with statement type and parties present as within subject factors. The results did not yield any significant effects as Canadian and Polish children displayed ceiling levels of comprehension for ironic and literal criticisms regardless of statement type and parties present. The group by statement type by parties present interaction was not significant,  $F(2,128) = 1.64, p = .21, \eta^2 = .03$ . The statement type by parties present interaction was not significant,  $F(2,128) = 1.62, p = .21, \eta^2 = .03$ , and neither were the remaining interactions,  $F_s < 1$ . The main effect of group,  $F(1,64) = 3.88, p = .053, \eta^2 = .06$ , and the remaining main effects were not significant,  $F_s < 1$ .

Speaker attitude and humour responses were analyzed in two stages. First, I examined whether participants' ratings of speaker attitude and humour for ironic and literal criticisms were influenced by perspective. I conducted a mixed model ANOVA with group as a between subjects factor, and with statement type and perspective as within subjects factors comparing the addressee's perspective in the public evaluation condition versus the bystander's perspective in the public evaluation condition. Second, I examined whether participants' ratings of speaker attitude and humour for the two criticism types varied according to parties present. I conducted two additional mixed model ANOVAs with group as a between subjects factor, and with statement type and parties present condition as within subjects factors. The first ANOVA compared ratings made from the addressee's perspective in the private evaluation condition to

ratings made from the addressee's perspective in the public evaluation condition. The second ANOVA compared ratings made from the bystander's perspective in the public evaluation condition to ratings made from the bystander's perspective in the gossip condition. The overall analysis for each dependent variable consisted of three ANOVAs so a Bonferroni corrected critical alpha of .016 was used.

### **Speaker Attitude Responses**

For the children's data, the analysis included only mean speaker attitude ratings for children who comprehended the speaker's meaning and provided a correct response to the speaker belief question. Recall that Nice/Mean Scale ratings were coded on a 1 to 6 range where 1 = *very nice*, 2 = *nice*, 3 = *a little bit nice*, 4 = *a little bit mean*, 5 = *mean*, and 6 = *very mean*. To assess whether participants modulated their ratings of the speaker's attitude for ironic and literal criticisms according to perspective, mean ratings in the public evaluation condition were compared using a 4 (Group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Perspective: Addressee, Bystander) mixed model ANOVA. The perspective by group interaction was significant,  $F(3, 136) = 4.37, p = .006, \eta^2 = .09$ . Canadian adults rated criticisms from addressee's perspective as more mean ( $M = 4.76, SD = .52$ ) than from bystander's perspective ( $M = 4.43, SD = .47$ ),  $t(34) = 3.75, p = .001$ . It appears that interpretative perspective did not influence Canadian children's ratings of speaker attitude because they rated criticisms as equally mean from the addressee's and bystander's perspective. Polish children and adults also did not modulate speaker attitude ratings according to perspective because ratings made from the perspectives of bystander and addressee were not significantly different. Furthermore, the three-way interaction was not significant,  $F(3, 136) = 1.11, p = .35, \eta^2 = .02$ . Neither the statement type by group interaction,



$F(3, 136) = 2.97, p = .03, \eta^2 = .06$ , nor the statement type by perspective interaction was significant,  $F < 1$ . The main effect of group,  $F(1, 136) = 1.25, p = .29, \eta^2 = .03$ , the main effect of perspective,  $F(1, 136) = 1.89, p = .17, \eta^2 = .01$ , and the main effect of statement type were not significant,  $F < 1$ . These results show that Canadian adults were the only group of participants who considered interpretative perspective as a relevant cue to forming their speaker attitude ratings.

In order to determine whether the number of parties present during an interaction had an impact on participants' ratings of attitude for ironic and literal criticisms, I first compared their ratings made from the addressee's perspective in the private evaluation condition with their ratings made from the addressee's perspective in the public evaluation condition using a 4 (Group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Parties Present: Private Evaluation, Public Evaluation) mixed model ANOVA. The analysis yielded a significant main effect of parties present,  $F(1, 130) = 6.23, p = .01, \eta^2 = .05$ , because regardless of group and statement type, criticisms were rated as significantly more mean when all parties were present in the public evaluation condition ( $M = 4.73, SD = .64$ ) than when they were stated in the presence of a addressee only, as in the private condition ( $M = 4.56, SD = .76$ ). Thus, all groups of participants found criticisms delivered in front of an audience as more mean than criticisms delivered in private conversations. Neither the three-way interaction,  $F(3, 130) = 1.30, p = .27, \eta^2 = .03$ , nor the statement type by group interaction was significant,  $F(3,130) = 2.22, p = .09, \eta^2 = .00$ . The parties present by group interaction, and the parties present by statement type interaction were also not significant,  $F_s < 1$ . There was no main effect of statement type,  $F(1, 130) = 1.68, p =$

.20,  $\eta^2 = .01$ , or group,  $F < 1$ . Children and adults from both cultural groups found both criticism types more hurtful when they were made in public conversations than when they were made in private conversations.

Next, I compared speaker attitude ratings for when participants were asked to take the bystander's perspective in the public evaluation condition versus in the gossip condition with a 4 (Group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Parties Present: Public Evaluation, Gossip) mixed model ANOVA. The analysis did not yield a significant three-way interaction,  $F(3, 129) = 2.90$ ,  $p = .04$ ,  $\eta^2 = .06$ . The parties present by group interaction was not significant,  $F(3, 129) = 2.25$ ,  $p = .08$ ,  $\eta^2 = .05$ , neither were the remaining two-way interactions,  $F_s < 1$ . All main effects were also found to be non-significant,  $F_s < 1$ . All participants rated ironic and literal criticisms as equally mean, regardless of whether the remarks were made in the context of public evaluations or gossip.

### **Speaker Humour Responses**

Speaker humour ratings were analyzed only when children provided a correct response to the speaker belief question. Recall that Funny/Serious Scale ratings were coded on a 1 to 6 range where 1 = *very funny*, 2 = *funny*, 3 = *a little bit funny*, 4 = *a little bit serious*, 5 = *serious*, and 6 = *very serious*. I examined whether participants' ratings of speaker humor for ironic and literal criticisms varied according to whether they took the addressee's perspective or bystander's perspective in the public evaluation condition using a 4 (Group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Perspective: Addressee, Bystander) mixed model ANOVA. The analysis showed a significant perspective by group interaction,  $F(3, 136) = 9.83$ ,  $p < .001$ ,  $\eta^2 = .18$ . When taking

the perspective of addressee, Canadian adults rated criticisms as more serious ( $M = 3.84$ ,  $SD = .66$ ) than when taking the perspective of bystander ( $M = 3.06$ ,  $SD = .83$ ),  $t(34) = 6.04$ ,  $p < .001$ . The remaining three groups rated criticisms similarly regardless of whether they took the perspective of the addressee or bystander (See Figure 3). These findings show that Canadian adults were the only group of participants who considered interpretive perspective as a relevant cue when forming their interpretations of the speaker's seriousness but they did so for both ironic criticisms and literal criticisms. The statement type by group interaction was significant,  $F(1, 136) = 2.25$ ,  $p = .01$ ,  $\eta^2 = .05$ . Polish children rated ironic criticisms ( $M = 3.33$ ,  $SD = 1.31$ ) as less serious than literal criticisms ( $M = 5.13$ ,  $SD = .91$ ),  $t(35) = 6.91$ ,  $p < .001$ . Polish adults rated ironic criticisms ( $M = 2.50$ ,  $SD = .82$ ) as significantly less serious than literal criticisms ( $M = 5.21$ ,  $SD = 1.12$ ),  $t(35) = 11.43$ ,  $p < .001$ . The same trend occurred among Canadian children who rated ironic criticisms ( $M = 4.02$ ,  $SD = 1.53$ ) as less serious than literal criticisms ( $M = 4.73$ ,  $SD = 1.24$ ),  $t(32) = 2.65$ ,  $p = .012$ . Canadian adults also rated ironic criticisms ( $M = 2.43$ ,  $SD = 1.02$ ) as significantly less serious than literal criticisms ( $M = 4.47$ ,  $SD = .86$ ),  $t(34) = 8.76$ ,  $p < .001$ . These comparisons show that all participant groups recognized that critical speakers can use irony to mute the seriousness of an insult. The statement type by perspective interaction was also significant,  $F(3, 129) = 6.29$ ,  $p = .01$ ,  $\eta^2 = .04$ . The results showed a significant main effect of statement type,  $F(1, 136) = 211.29$ ,  $p < .001$ ,  $\eta^2 = .61$ . The main effect of group was also significant,  $F(3, 136) = 8.30$ ,  $p < .001$ ,  $\eta^2 = .16$ . There was no main effect of perspective,  $F(1, 136) = 2.99$ ,  $p = .09$ ,  $\eta^2 = .02$ . The three-way interaction was not significant,  $F(3, 136) = 2.35$ ,  $p = .08$ ,  $\eta^2 = .05$ .

In order to determine whether the number of parties present during an interaction influenced participants' ratings of speaker humor for both types of criticisms, I first compared their ratings made from the addressee's perspective in the private evaluation condition with their ratings made from the addressee's perspective in the public evaluation condition using a 4 (group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Parties Present: Private Evaluation, Public Evaluation) mixed model ANOVA. The analysis yielded a significant three-way interaction,  $F(3, 129) = 4.99, p = .003, \eta^2 = .10$  (See Figure 4). Polish children and Canadian children did not modulate their speaker humour ratings according to the parties present condition. Polish adults rated ironic criticisms as less serious in the public evaluation condition ( $M = 2.27, SD = .81$ ) compared to the private evaluation condition ( $M = 2.94, SD = 1.19$ ),  $t(35) = 3.35, p = .002$ , but rated literal criticisms similarly in both conditions. Canadian adults rated public ironic criticisms and private ironic criticisms as equally serious but they rated public literal criticisms as more serious ( $M = 5.03, SD = .89$ ) compared to private literal criticisms ( $M = 3.80, SD = 1.45$ ),  $t(34) = 5.87, p < .001$ . The results also showed a significant group by statement type interaction,  $F(3, 129) = 7.68, p = .01, \eta^2 = .15$ . The group by parties present interaction was also significant,  $F(3, 129) = 6.71, p < .001, \eta^2 = .14$ . There was a significant main effect of statement type,  $F(1, 129) = 230.93, p < .001, \eta^2 = .64$ . Furthermore, the analysis yielded a significant main effect of group,  $F(3, 129) = 6.58, p = .00, \eta^2 = .13$ . While children showed no consideration of the parties present cue in rating speaker humour, Polish adults considered this cue relevant for ironic criticisms but not literal criticisms whereas Canadian adults showed the reverse trend.

I subsequently compared speaker humour ratings for when participants were asked to take the bystander's perspective in the public evaluation condition and in the gossip condition with a 4 (group: Canadian Children, Canadian Adults, Polish Children, Polish Adults) x 2 (Statement Type: Literal Criticism, Ironic Criticism) x 2 (Parties Present: Public Evaluation, Gossip) mixed model ANOVA. There was a significant statement type by group interaction,  $F(3,129) = 6.65, p < .001, \eta^2 = .13$  (See Figure 5). Polish children rated ironic criticisms ( $M = 3.43, SD = 1.24$ ) as less serious than literal criticisms ( $M = 5.19, SD = .79$ ),  $t(35) = 7.22, p < .001$ . Polish adults rated ironic criticisms ( $M = 2.54, SD = .88$ ) as significantly less serious than literal criticisms ( $M = 5.18, SD = .86$ ),  $t(35) = 11.50, p < .001$ . Similarly, Canadian children rated ironic criticisms ( $M = 3.81, SD = 1.49$ ) as less serious than literal criticisms ( $M = 4.85, SD = 1.16$ ),  $t(25) = 3.60, p < .001$ , and Canadian adults rated ironic criticisms ( $M = 2.26, SD = 1.04$ ) as significantly less serious than literal criticisms ( $M = 4.14, SD = .86$ ),  $t(34) = 8.36, p < .001$ . The analysis also yielded a significant main effect of statement type,  $F(1, 129) = 220.63, p < .001, \eta^2 = .63$ . There was a significant main effect of group,  $F(3, 129) = 15.88, p < .001, \eta^2 = .96$ . Neither the statement type by parties present interaction,  $F(1,129) = 3.04, p = .08, \eta^2 = .02$ , nor the parties present by group interaction were significant  $F(3,129) = 1.12, p = .35, \eta^2 = .03$ . The main effect of parties present was not significant,  $F(1, 136) = 1.89, p = .17, \eta^2 = .01$ . The results did not show a significant three-way interaction,  $F < 1$ . Regardless of the parties present condition, all groups produced ratings indicating that they recognize that irony is perceived as less serious than literal language.

### Discussion

The present study shows developmental trends in irony comprehension that are consistent with previous research. Polish and Canadian children displayed ceiling levels of comprehension of speaker belief for ironic and literal criticisms thereby demonstrating their comprehension of both types of statements. I hypothesized that children would rate ironic speakers' attitude as more mean than adults due to the long developmental process to fully comprehend verbal irony that continues into adolescence (Demorest et al., 1984). This prediction was supported by the current data because both Polish and Canadian children considered ironic speakers as mean than Polish and Canadian adults. The hypothesis regarding Canadian participants rating speaker attitude for ironic criticisms as less mean than Polish participants was not supported. However, consistent with prior research (Dews & Winner, 1995), all groups of participants recognized that speakers can use verbal irony to mute the seriousness of an insult (Dews & Winner, 1995), and therefore rated ironic criticisms as less serious than literal criticisms. I further hypothesized that both Canadian and Polish children would display a lack of understanding of the humour function of verbal irony, and would rate ironic speakers as serious, whereas adults in both countries would be able to perceive the ironic speaker's humour in ironic criticisms and would rate them as funny. The results of the present study support this hypothesis, because children considered ironic criticisms as serious, while adults rated them as funny, therefore confirming that adults are superior to school-age children in appreciating humour function of ironic utterances. Children typically fail to appreciate the humour function of irony until they reach middle childhood, and concentrate their attention on the critical nature of ironic utterances (Dews et al., 1996; Harris & Pexman, 2003; Pexman et al., 2005). This finding appears to be universal across Polish and

Canadian cultures, suggesting that verbal irony comprehension follows a similar developmental trajectory in both cultures.

### **Interpretative Perspective and Parties Present as Cues to Speaker Attitude**

In the present study, I aimed to determine whether age and culture influence Polish and Canadian participants' attention to interpretive perspective taken by participants (addressee versus bystander) in verbal irony comprehension. Although I hypothesized that both children and adults would be able to consider the perspective of an addressee and a bystander when forming their ratings of speaker's attitude, my prediction was only partially supported by the data. Polish participants did not moderate their attitude ratings according to perspective, demonstrating that they did not see interpretive perspective as a relevant cue to ironic attitude. Canadian adults, however, rated both types of criticisms as significantly more mean from the addressee's perspective than from the bystander's perspective. This finding is coherent with previous research showing that individuals perceive ironic utterances more negatively when taking the perspective of an addressee (Holtgraves, 2005).

Given that Polish and Canadian children did not consider interpretive perspective when forming their ratings of speaker attitude, it is possible that the cognitive demands imposed on children by the design of the study impaired their ability to successfully take on the perspective of others. It appears that children could not simultaneously consider the perspective of the addressee and bystander, because they lacked the cognitive resources required to switch perspectives. Moreover, Polish people tend to be direct and straightforward in their speech, and likely comfortable with critique. Therefore, it is possible that, contrary to the theory of politeness (Brown & Levinson, 1987), Polish adults did not perceive criticisms as more face-threatening for the addressee and, therefore, did not modulate their ratings for the addressee and bystander.

### **Interpretative Perspective and Parties Present as Cues to Speaker Humour**

I also hypothesized that children and adults would be able to consider the perspective of an addressee and a bystander when forming their ratings of speaker humour. Canadian adults were the only group of participants who considered interpretive perspective as a relevant cue when forming their interpretations of the speaker's seriousness and they did so for both ironic criticisms and literal criticisms. When taking the addressee's perspective, Canadian adults rated both criticisms types as more serious compared to when taking the bystander's perspective, thus supporting the notion that ironic utterances are perceived more negatively when taking the perspective of an addressee (Holtgraves, 2005), and that the presence of a bystander during a critique induces negative emotions in the addressee (Tedeschi, 2001). The ability to take on interpretative perspective when forming rating of speaker humour is a highly cognitively demanding task. Individuals must suppress their own knowledge of the given context to accurately successfully consider the perspective of others. Given that the present study required consideration of speaker belief, attitude and humor, in addition to switching the perspective between the addressee and bystander, it is possible that the task was simply too complicated for the children participants. Polish adults, on the other hand, being accustomed to honesty and a straightforwardness in their speech, likely did not find the criticisms to be face threatening to the addressee, and, therefore, did not produce difference rating from the addressee's and bystander's perspectives.

I further aimed to determine whether age and culture influence Polish and Canadian participants' attention to parties present in understanding of verbal irony. It appears that the number of parties present during a negative evaluation of the target influenced participants' ratings of speaker humour. While Polish adults rated public ironic criticisms as significantly less



serious compared to private criticisms, Canadian adults did not modulate their speaker humour ratings for ironic criticisms according to parties present. The current data suggests a cross-cultural difference in the interpretation of public ironic criticisms. The presence of a third party appeared to decrease the negativity of the ironic criticisms among Polish participants, but not Canadian participants of the study. A study conducted among Austrian participants suggests that adults tend to embrace and appreciate ironic remarks in sociable interactions among multiple friends, but find them offensive in non-friendly environments (Kotthoff, 2003). Perhaps Polish participants recognized that the puppet shows depicted interactions among friends and therefore perceived the ironic criticisms to be playful, whereas Canadian participants did not view the environment as friendly, and thus found ironic criticisms to be more serious.

Contrary to my hypothesis, Polish and Canadian children did not consider ironic criticisms stated in the gossip condition as more mean than ironic criticisms made in the public evaluation condition. It is possible that rather than perceiving gossip as a form of aggression, with the intent to impair the addressee's relationships with others (Archer & Coyne, 2005; Crick & Grotpeter, 1995), children saw it as an act of social bonding (Gottman & Mettetal, 1986) and an expression of social cohesiveness among the group (Levin & Arluke, 1987). It is also possible that the irony comprehension task used in the present study was cognitively taxing for children because it required that the children simultaneously consider the speaker's belief, the speaker's meaning, the addressee's interpretation of the speaker belief and meaning (Winner, et al., 1987), as well as the parties present during the conversation. Polish and Canadian adults did not modulate their ratings made in the gossip condition compared to the public evaluation condition, further supporting prior findings that adults consider ironic criticisms made directly to the addressees and to bystander behind the addressee's back as equally condemning (Colston,

1997). The current study suggests that there were no cultural or developmental differences in the interpretation of ironic gossip.

Interestingly, the current study found significant differences in the interpretation of literal criticisms. Canadian adults considered literal criticisms delivered at an addressee in the presence of a bystander to be more offensive than literal criticisms delivered in a one-on-one setting. The presence of a third party during a negative evaluation did not seem to affect the speaker ratings of Canadian children and Polish participants. This finding is consistent with prior literature suggesting that the presence of a bystander during a public negative evaluation tends to induce feelings of embarrassment and humiliation in the addressee (Tedeschi, 2001). Although I did not expect to see any significant results in the ratings of literal criticisms, it appears that such differences appear between Polish and Canadian speakers. Recall that Polish speech is characterized by the use of imperatives and statements of addressee's future conduct. This directness of Polish speakers indicates not only straightforwardness, but also sincerity (Kasper, 1996; Wierzbicka, 2003). Thus, it is possible that upon being accustomed to direct honesty in speech, Polish listeners do not consider literal criticisms as insulting, while Canadian speakers, who tend to be accustomed to polite speech, might consider literal criticisms as harsh. Moreover, prior research suggests that concern about preserving one's dignity increases the likelihood of payback to a literal public insult (Felson, 1978). In cases when the addressee cannot respond to such insult, the addressee's social credibility becomes impaired (Felson, 1978). Given that the puppet show videos ended with the speaker evaluating the addressee's performance and the addressee did not have a chance to respond, it is possible that Canadian participants felt that the speaker compromised the addressee's self-worth and therefore rated literal criticisms as more serious in the presence of a third party. It is quite possible that Polish

adults perceived it as an honest evaluation in a friendly environment and therefore did not consider literal criticisms as more offensive when the bystander was present.

The current cross-cultural study aimed to examine differences in the appreciation of verbal irony according to two potential cues to ironic statement: perspective, and number of parties present during an ironic evaluation among Polish and Canadian participants. Although the study found a few minor differences in the way Polish and Canadian participants evaluated ironic utterances, it appears that there are more similarities than differences in the way participants from the two cultures evaluated ironic statements. Polish and Canadian children appear to acquire verbal irony comprehension in a similar manner. In addition, all groups perceived ironic criticisms as less serious than literal criticisms.

### **Limitations**

The current study employed secondary as well as primary data. Data was collected by multiple researchers so there may have been a lack of standardization in the process of administering the procedure. In particular, an issue of rapport between researcher and participant becomes a possibility. Children could have responded differently to each experimenter, leading to unintended effects on the collected data.

Despite the fact that Polish and Canadian adult participants were of the same chronological age, Polish adults were enrolled in high school whereas Canadian adults were attending university. Considering that Polish individuals begin their primary education at the age of 7 and graduate from high school at the age of 18, while Canadians enter elementary schools at the age of 5, and graduate from high school between the ages of 16 and 17 (Hughes, Kritsonis, Butler, Mentor, & Herrington, 2007) the differences in learning environment and social settings could have lead to a potential source of discrepancy in the data collected among adult

participants. A more direct comparison would have examined participants one year later, at a time when both groups of participants would be attending universities.

A final limitation pertains to a lack of standardized control over the prosodic features of voice (pitch, loudness, and duration) of the ironic statements recorded for the puppet shows. English and Polish audio was recorded by native speakers. Ironic criticisms were voiced with an exaggerated pitch and with a prolonged pronunciation, which are intonation characteristics prescribed to verbal irony (e.g., Ackerman, 1983, Capelli et al., 1990; de Groot et al., 1995). Nevertheless, professional speech analysis software was not employed to ensure intonation consistency across all ironic statements.

### **Implications and Future Directions**

Recall that the parallel-constraint-satisfaction theory indicates that individuals simultaneously attend to multiple cues to ironic intent for a coherent interpretation of the statement (Pexman, 2008). If the activated cues support ironic interpretation, this type of interpretation receives priority over time to reflect reliability and the importance of particular cues (Pexman, 2008). The current study provides evidence relevant to the parallel-constraint-satisfaction theory of verbal irony by providing information about the importance of interpretative perspective and parties present in interpreting ironic statements. It appears that interpretative perspective serves as a helpful cue to comprehending verbal irony only among Canadian adults, but not children or Polish adults. Moreover, the current study suggests that the number of parties present provides some information in regards to identifying ironic speaker's humour for Polish adults, but not children or Canadian adults. The results of the present study are informative as they suggest that cues other than interpretative perspective and the number of parties present should be given priority in the parallel-constraint-satisfaction model.

Furthermore, the results of the present study that highlight cultural differences between the adult participant groups also suggest that the parallel-constraint-satisfaction theory should include details regarding the influence of culture on verbal irony comprehension.

Contrary to claims from Brown and Levinson (1987), the theory of politeness does not apply universally across all cultures. Unlike Canadian adults, Polish adults in the present study did not find criticisms to be face-threatening for the addressee. It is possible that Polish individuals are much more comfortable with criticisms than Canadians and therefore do not see irony as a tactful tool necessary for saving the addressee's face. These differences could be stemming from various speaking styles exhibited by Polish and Canadian individuals.

The current study poses noteworthy pedagogical implications. Recent findings in the area of sociolinguistics have demonstrated that teasing, mockery, and verbal irony have become prevalent in North American classrooms (Rampton, 2006). Children frequently encounter verbal irony while interacting with their family members (Recchia et al., 2010), and while watching television shows relevant to their age group (Dews & Winner, 1995). Although irony can be used to critique in a playful manner (Leggitt & Gibbs, 2000), as well as to invoke humour (Kotthoff, 2003; Partington, 2007), children who have not yet fully developed an appreciation for verbal irony might easily misinterpret ironic statements as being a negative and hostile form of communication. The present study provides practical implications for parents and educators because it demonstrates that acquisition of a solid verbal irony comprehension involves a lengthy developmental process. Thus, younger children may struggle with this type of speech and may easily misjudge it as harsh critique. Parents and educators should be aware that increasing social experience with verbal irony aids in the development of understanding its communicative functions, thereby decreasing the likelihood of misunderstandings.

While a large body of research has examined verbal irony comprehension among children and adults, to date the majority of results came from a homogenous North American population. The current research represents a novel and important direction in that it explored the impact of cultural and linguistic differences on attention to two cues to ironic intent by extending the sample to a European population. Although the results of the current study suggest that certain cultural differences exist in the appreciation of verbal irony among Polish and Canadian participants, further research needs to be conducted to fully examine whether the evaluation of verbal irony is contingent upon cultural norms. Furthermore, the current study sets up a foundation for future research in the area of cross-cultural psychology exploring figurative language comprehension. Future studies could examine whether cultural differences occur in the application of other types of figurative language such as metaphor, rhetorical questions, or hyperbole. Nevertheless, it is important to keep in mind that throughout the rapid process of globalization, the cultural differences that were once highly prevalent are likely beginning to fade away. Widely available access to internet, social media, streaming video, and other types of global communication devices promote cultural homogenization.

### **Conclusion**

The current research investigated whether 9- to 10-year-old Polish and Canadian children, and 18- to 19-year-old Polish and Canadian adults modulate their interpretations of verbal irony based on interpretative perspective and parties present. The study utilized quantitative research methods across these two cultures, employing short puppet show videos, and testing participant interpretation of speaker belief, speaker attitude and speaker humour. The results indicate that the interpretative perspective taking influences interpretation of verbal irony among Canadian adults, while the number of parties present during an ironic utterance serves as

a cue among Polish participants. The current data suggests a cross-cultural difference in the interpretation of public ironic criticisms. Moreover, it appears that appreciation of the humour function of verbal irony follows a similar developmental trajectory among Polish and Canadian participants. Both Polish and Canadian children struggled with the comprehension of ironic speaker's humour. These results add to a growing literature on cross-cultural research within developmental psychology, enriching our knowledge on verbal irony comprehension among North American and European samples.

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Table 1

## Sample Puppet Show Scenarios for Each Condition and Statement Type in English

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Private evaluation Condition

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*" (sarcastic 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)

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## Public evaluation Condition

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*" (sarcastic 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)

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## Gossip Condition

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*" (sarcastic criticism)

Aidan says, "*Christina has 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. After Christina got picked up,

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

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Table 2

## Sample Puppet Show Scenarios for Each Condition and Statement Type in Polish

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Ocena prywatna

Scenariusz A: Krysia i Adam należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę daleko od bramki i nie strzeliła gola.

Adam na to powiedział, “*Ale super strzał*” (krytycyzm ironiczny)

Adam na to powiedział, “*Ale okropny strzał*” (krytycyzm)

Scenariusz B: Krysia i Adam należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę i od razu strzeliła gola.

Adam na to powiedział, “*Ale super strzał*” (komplement)

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## Ocena publiczna

Scenariusz A: Krysia Adam i Gosia należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę daleko od bramki i nie strzeliła gola.

Adam na to powiedział, “*Ale super strzał*” (krytycyzm ironiczny)

Adam na to powiedział, “*Ale okropny strzał*” (krytycyzm)

Scenariusz B: Krysia, Adam i Gosia należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę i od razu strzeliła gola.

Adam na to powiedział, “*Ale super strzał*” (komplement)

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## Plotka

Scenariusz A: Krysia Adam i Gosia należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę daleko od bramki i nie strzeliła gola. Kiedy Krysia poszła do domu,

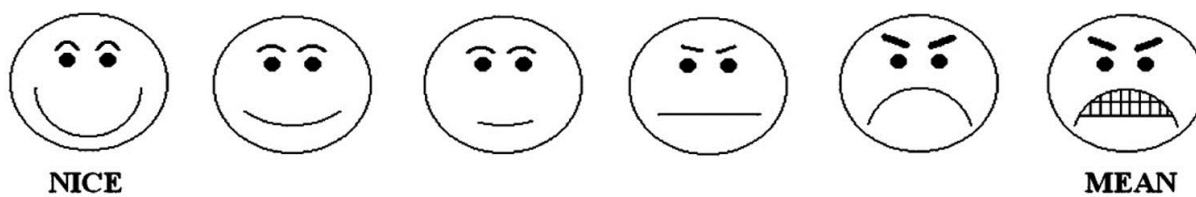
Adam na to powiedział, “*Ale Krysia super strzela do bramki*” (krytycyzm ironiczny)

Adam na to powiedział, “*“Ale Krysia okropnie strzela do bramki”*” (krytycyzm)

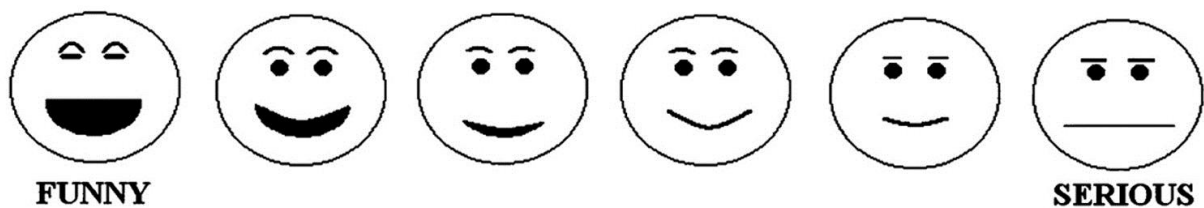
Scenariusz B: Krysia, Adam i Gosia należą do tej samej drużyny piłki nożnej. Kiedy ćwiczili strzały do bramki, Krysia kopnęła piłkę i od razu strzeliła gola. Kiedy Krysia poszła do domu,

Adam na to powiedział, “*Ale Krysia super strzela do bramki*” (komplement)

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*Figure 1.* Nice/mean scale for speaker intent ratings. This figure illustrates ratings for the speaker intent, where answers were coded as 1 = very nice, 2 = nice, 3 = a little bit nice, 4 = a little bit mean, 5 = mean, and 6 = very mean.



*Figure 2.* Funny/serious scale for speaker humor ratings. This figure illustrates ratings for the speaker humour, where answers were coded as 1 = very funny, 2 = funny, 3 = a little bit funny, 4 = a little bit serious, 5 = serious, and 6 = very serious.



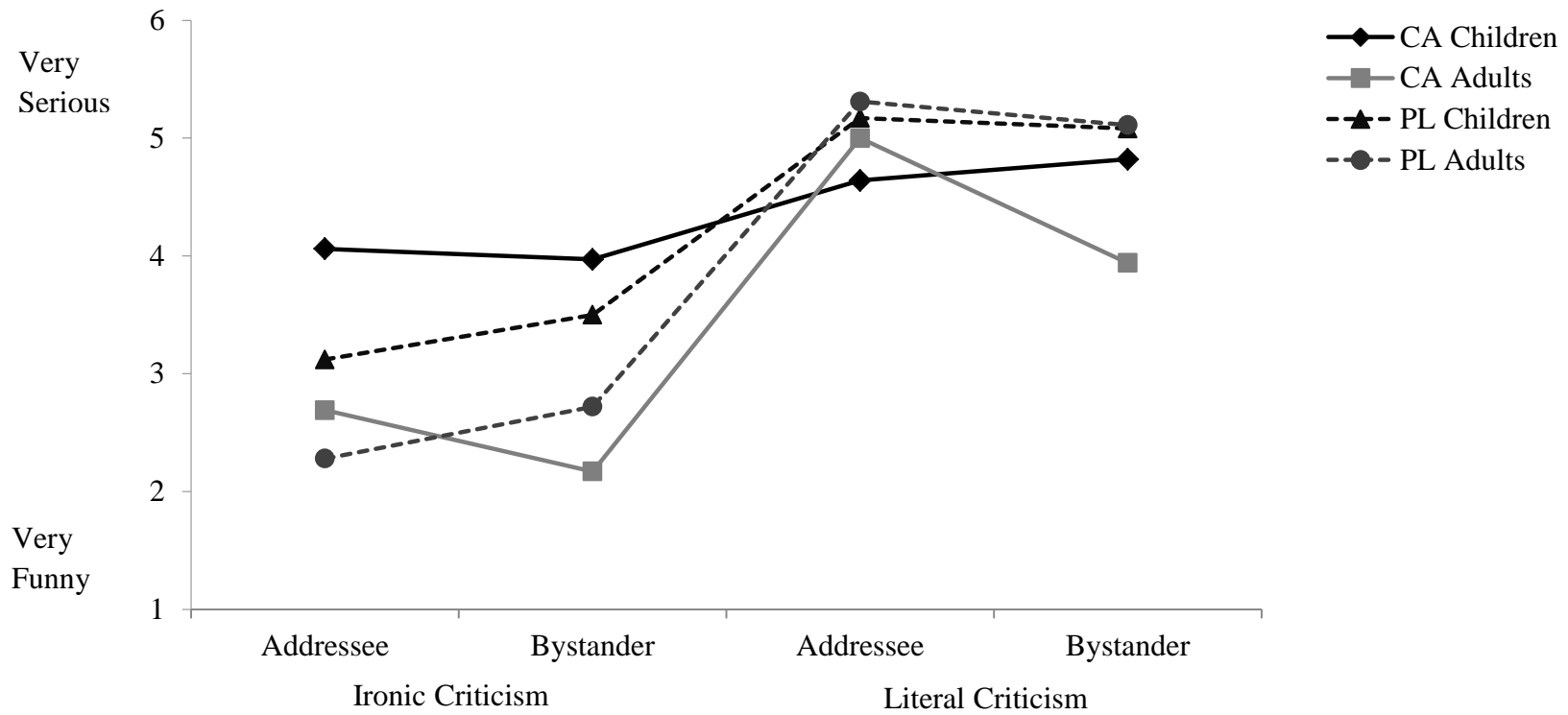


Figure 3. Speaker humor ratings as a function of statement type, perspective, and nationality group. Canadian adults were the only group who rated criticisms as more serious from the addressee’s perspective compared to the bystander’s perspective.

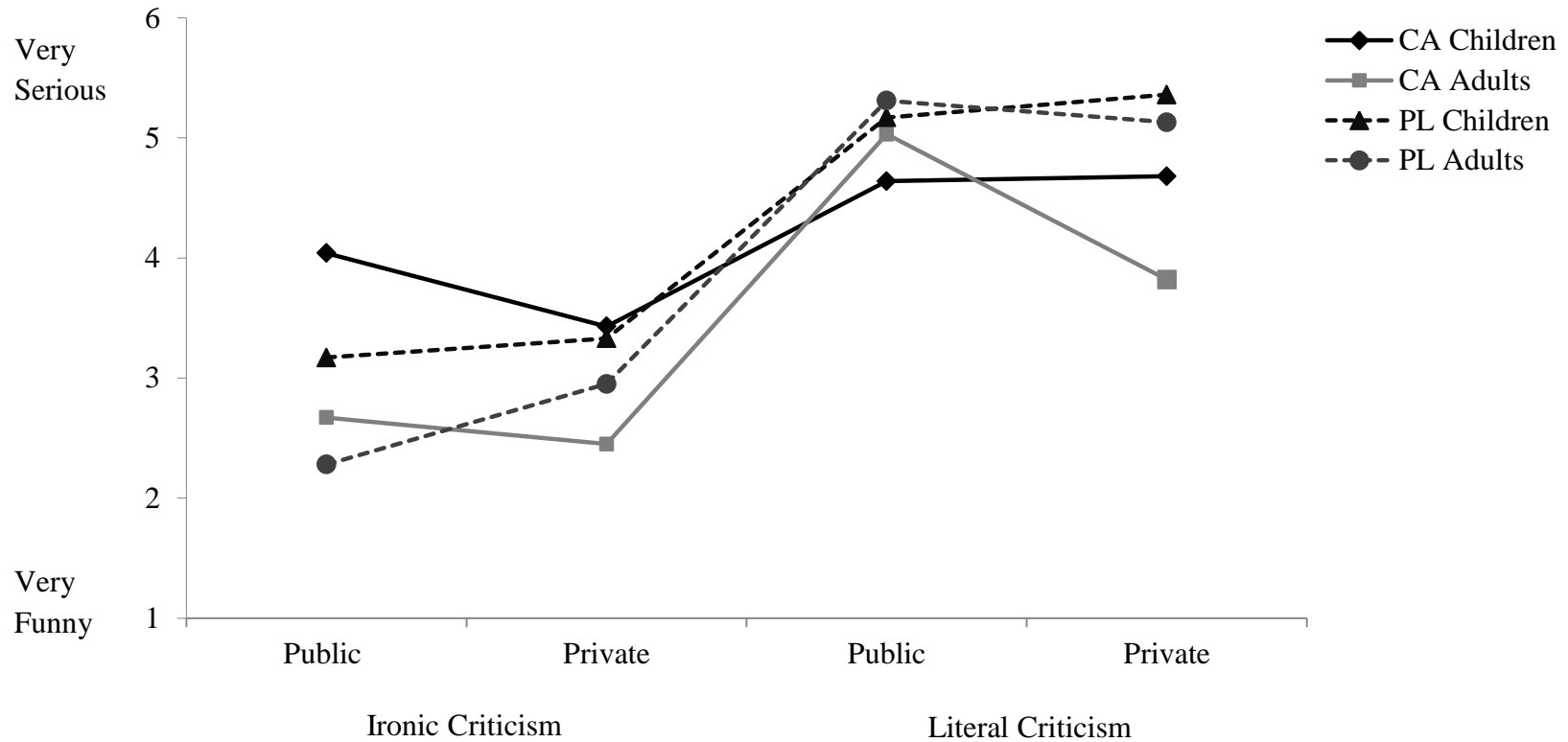


Figure 4. Speaker humor ratings as a function of statement type, private and public evaluation condition, and nationality group. This figure illustrates ratings made from the addressee’s perspective in the private and public evaluation condition. Polish adults rated public ironic criticisms as less serious than private ironic criticisms whereas Canadian adults rated public literal criticisms as more serious than private literal criticisms.

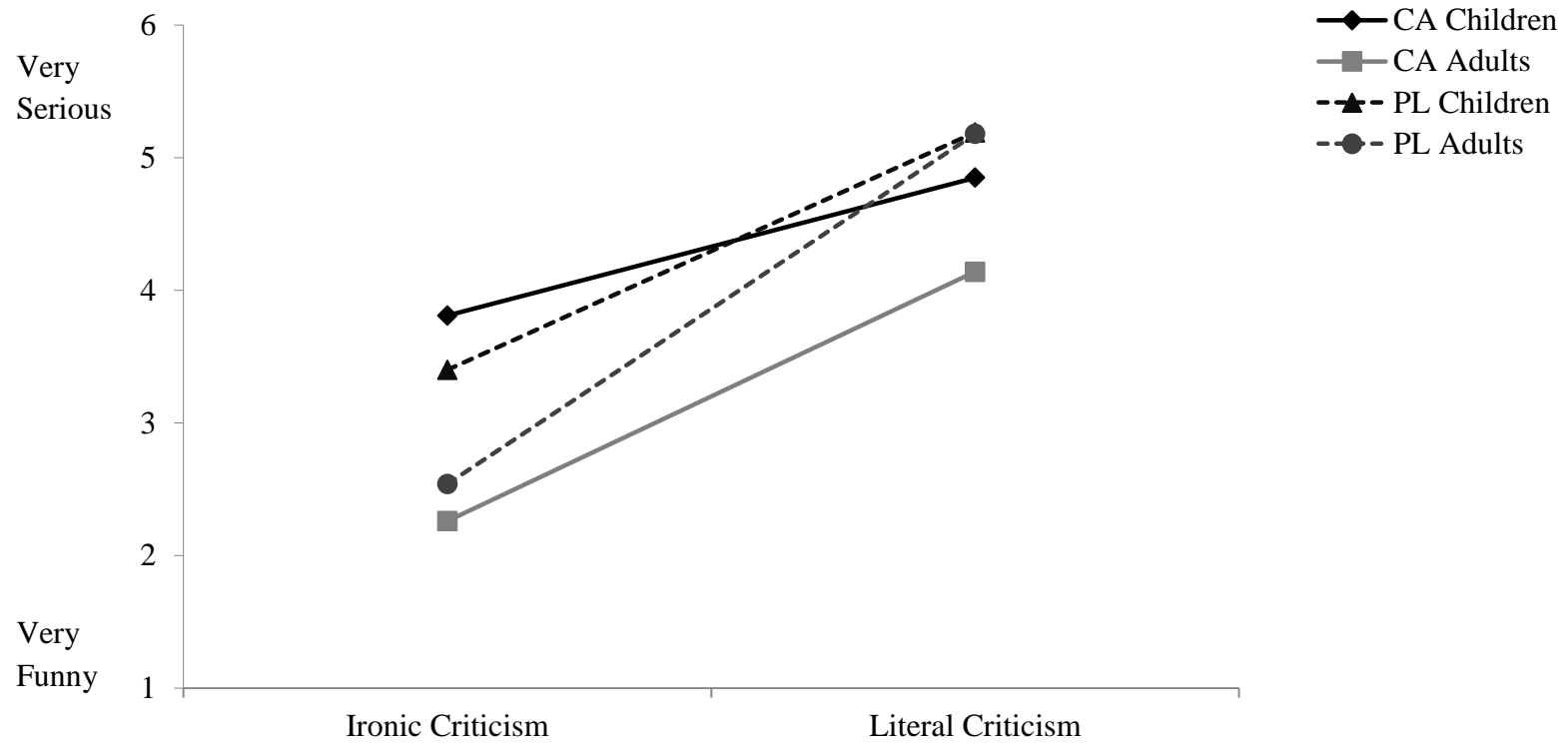


Figure 5. Speaker humor ratings as a function of statement type and nationality group. All groups produced ratings indicating that they recognize that irony is perceived as less serious than literal language.