Verbal irony use in personal blogs

Juanita M. Whalen a , Penny M. Pexman a , Alastair J. Gill b & Scott Nowson c

a Department of Psychology, University of Calgary, 2500 University Dr NW, Calgary, Alberta, Canada, T2N 1N4

b Centre for Research in Social Simulation, Department of Sociology, University of Surrey, Guildford, GU2 7EX, UK

c Appen Pty Ltd., NorthTower, Level 6, Chatswood Central, 1 Railway Street, Chatswood Sydney, NSW, 2067, Australia

Accepted author version posted online: 17 Oct 2011. Published online: 16 Jan 2012.

To cite this article: Juanita M. Whalen, Penny M. Pexman, Alastair J. Gill & Scott Nowson (2013) Verbal irony use in personal blogs, Behaviour & Information Technology, 32:6, 560-569, DOI: 10.1080/0144929X.2011.630418

To link to this article: http://dx.doi.org/10.1080/0144929X.2011.630418
Verbal irony use in personal blogs

Juanita M. Whalen*, Penny M. Pexman*, Alastair J. Gillb and Scott Nowsonc

aDepartment of Psychology, University of Calgary, 2500 University Dr NW, Calgary, Alberta, Canada T2N 1N4; bCentre for Research in Social Simulation, Department of Sociology, University of Surrey, Guildford GU2 7EX, UK; cAppen Pty Ltd., North Tower, Level 6, Chatswood Central, 1 Railway Street, Chatswood Sydney, NSW 2067, Australia

(Received 27 August 2010; final version received 24 September 2011)

Blogs are a widely growing form of computer-mediated communication used to achieve various personal and professional communicative goals. In the present study, we examined previously posted entries from 71 regular bloggers. We examined the blogs for the use of five forms of verbal irony: hyperbole, understatement, rhetorical question, sarcasm and jocularity. In addition, topic and emotional valence of the ironic utterances were examined. Results showed that hyperbole and understatement were more frequently used than the other forms of ironic language. Discussion of hobbies and social outings was the most commonly occurring topic of ironic language, and bloggers used verbal irony to convey both positive and negative intent. The results of this study demonstrated that adult bloggers do use a variety of forms of verbal irony in their personal blogs, despite the potential risk of being misunderstood.

Keywords: computer-mediated communication; personal weblogs; nonliteral language; verbal irony

1. Introduction

Imagine you are at a dinner party and the host, a close friend of yours, makes the following remark: ‘I can’t wait for the temperature to drop a little’. This remark has the potential to be ambiguous, but, in a face-to-face setting where this remark has been spoken by someone you know well, you will likely have access to all the information needed to arrive at the appropriate interpretation without much difficulty. For instance, if the weather has been unseasonably cold and you know that cold weather is something your friend dislikes, or if your friend made the remark with exaggerated intonation, then you could readily determine that the remark was intended to be nonliteral, and is a case of verbal irony. Imagine now that you have stumbled across a new blog and read the same remark in the first post. Your interpretive challenge is now more difficult due to the impoverished environment: you do not know the author and, therefore, have no knowledge of the context they may be referencing, and you do not have access to the paralinguistic cues present in the face-to-face communication that often assist us with the interpretation of ambiguous messages. All of these constraints may make it more difficult for you to determine whether the blog author intends the statement literally or sarcastically. Despite interpretive challenges, verbal irony can help a writer achieve a number of communicative goals but little is known about when and how authors use verbal irony in this computer-mediated environment. The use of verbal irony in personal blog texts is the focus of the present study.

A blog, short form for weblog, is an online journal of entries that are organised in reverse-chronological order, typically composed by a single author (Bar-Ilan 2005, Herman et al. 2005). Blogs often serve the purpose of a personal diary (Herring et al. 2005) and may offer the author a respite from the busy complexity of the internet by permitting them to use their personal blog page as a space for reflection (Murray and Hourigan 2008). Blogs began emerging in the early 1990s, with the term ‘weblog’ being formally adopted in 1997 (Murray and Hourigan 2008). Blogs have been steadily increasing in popularity, with estimates of 120,000 blogs being created daily and more than 70 million blogs in existence as of April 2007 (Guardian Online 2007). Writers choose to blog for a variety of reasons: some appreciate the cathartic effect writing has, some aim to stay connected to family and friends and some wish to encourage discussion of relevant and interesting topics. Many blogs are topic specific (Murray and Hourigan 2008). For instance, there are blogs about cooking, photography, parenting and travel, to name a few common subject areas. At the same time, many blogs are not created with a particular overarching theme or goal in mind. Despite

*Corresponding author. Email: jwhalen@ucalgary.ca

© 2013 Taylor & Francis
this, a number of consistent topics invariably emerge from the entries.

Past studies have provided valuable information about the topics discussed in blogs. Among adolescent and young adult bloggers, the most common topics were discussions about friends and family and daily life events (Subrahmanyam et al. 2009, Mazur and Kozarian 2010). Mazur and Kozarian (2010) also found that discussions of sexuality, personal hopes and dreams and academic and career plans were common. In contrast, Subrahmanyam et al.’s (2009) blog analysis showed that the topics least often explored by adolescents were more sensitive in nature and involved things like personal identity, sexuality and problems relating specifically to adolescence. Subrahmanyam et al. suggested that topics of a highly personal nature may be avoided by adolescent bloggers due to lack of true anonymity. Despite the avoidance of certain personal topics, there was a strong presence of emotion, which might indicate the use of blogs for cathartic purposes, as seen in diaries (Subrahmanyam et al. 2009). Gill et al. (2009) examined blog topic in relation to personality traits and demonstrated that individuals’ choices of blog topics were related to their personality style: for instance, individuals high in openness commonly blog about leisure activities, individuals high in conscientiousness blog about work and extraverts regularly blog about the other people in their lives. These findings suggest that blog writing can serve a variety of purposes for people with different personality characteristics.

Emotional valence has also been explored in the recent studies of blog writing. Subrahmanyam et al. (2009) described the emotional valence of blog entries written by adolescents. Their findings suggested that negative emotions, such as anger and frustration, were more commonly displayed than positive emotions, such as happiness. Gill et al. (2009) found that individuals who were high in neuroticism used fewer positive emotion words; those high in openness used more negative emotion words; extraverts used a greater number of both positive and negative emotion words and individuals high in conscientiousness and agreeableness used more positive emotion words in their writing.

One element of expression that has been underexplored in blogs to date is the use of verbal irony. The functions of verbal irony are varied. Some speakers use verbal irony to tease others (Kreuz et al. 1991, Pexman and Zvaigzne 2004) or to dull the impact of a potentially hurtful remark (Dews and Winner 1995, Pexman and Olineck 2002a). Verbal irony can also be used to convey humour (e.g. Kreuz et al. 1991, Roberts and Kreuz 1994, Colston and O’Brien 2000, Pexman and Olineck 2002b) or to help the speaker appear sophisticated (Giora et al. 2005). Verbal irony offers the writer a richer breadth of expression, which might be particularly appealing to bloggers, since many bloggers choose to blog to be expressive and to share attitudes on a variety of topics (Herring et al. 2005) or as an outlet for their emotions (Nardi et al. 2004). Personal blogs are constructed voluntarily; the writer has full control over the topic being discussed, and the manner in which that topic is discussed. Verbal irony may be particularly appealing to the blogger, since it helps them achieve a particular emotional tone and allows them to convey attitudes on a variety of topics. At the same time, ironic language is inherently ambiguous and so to choose to express an attitude nonliterally is to potentially sacrifice reader understanding. By examining whether, and how, bloggers use verbal irony we gain valuable insight about whether they are willing to risk misunderstanding for the potential of more witty or sophisticated expression. The examination of ironic language in blogs is important because of the growing popularity of blogs, and because blogs are highly personal yet widely accessible. The blog’s broad audience presents the blogger with the challenge of needing to convey attitudes in a way that will be understood by many readers. Thus, the blog is an opportunity to use verbal irony, but the lack of paralinguistic cues makes it arguably an impoverished environment for ironic language. If we find that bloggers nonetheless use verbal irony, it will suggest that irony helps to meet the communicative goals of bloggers. Further, exploring the frequencies of different forms of verbal irony will provide additional insight about bloggers’ communicative goals.

There are various forms of verbal irony, each of which may serve a different purpose, although the common element to all of these ironic forms is that they can be used to express an attitude indirectly. Some of the most common forms of verbal irony are hyperbole, understatement, rhetorical question, sarcasm and jocularity (Kreuz et al. 1996, Gibbs 2000, Hancock 2004). These forms of verbal irony were selected for examination in the present study, because they have been explored together in other text-based studies and consistency with past studies ought to help us better understand the differences between blogs and other forms of written communication. Gibbs (2000) distinguished between these forms, which might be taken together as forms of irony, and other linguistic forms such as metaphors and idioms. The ironic forms are used in the discussion of people and are used to mock people to varying degrees, whereas other nonliteral forms have a wider focus and typically include many topics (Katz 1996, Gibbs 2000). In keeping with this distinction, the present study
examined the five above-mentioned forms of verbal irony that were defined as follows:

- **Hyperbole** is a language that is used to clearly exaggerate or overstate reality, such as ‘I’m so hungry I could eat a truckload of cookies’.
- **Understatement** is a language that clearly understates reality, such as ‘Probably not a good thing to be late for work every day’.
- **Rhetorical questions** are those that do not require a response, such as ‘oh, who is she kidding with that?’
- **Sarcasm** is a language that is used to convey an intent that is counterfactual to the actual utterance, such as ‘this weather is just perfect’.
- **Jocularity** is a language that conveys a different meaning than the spoken one, without being strictly counterfactual, such as ‘I think I’m allergic to work.’

Previous studies of face-to-face and computer-mediated communication (CMC) have provided estimates of the frequency with which various ironic forms were used in different contexts. In face-to-face communication among peers, Gibbs (2000) found that jocularity was the most commonly used form. In formal literary texts, Kreuz et al. (1996) found that hyperbole was the most commonly used form. In the first study of verbal irony in a CMC environment, Hancock (2004) examined conversations conducted face-to-face and across instant messaging. In the instant-messaging context, Hancock established that sarcasm and rhetorical question were the most commonly used forms. Finally, Whalen et al. (2009) examined email texts for frequency of ironic forms and found that, as in Kreuz’s examination of literary texts, hyperbole was the most commonly used form of ironic language. Thus, despite the potential challenges associated with interpretation of verbal irony in CMC, there is certainly evidence that verbal irony is used in those contexts, and the relative frequency of the different forms used seems to vary with the CMC context.

In the present study, we predicted that hyperbole would be the most commonly used form of verbal irony in personal blogs. This prediction was based on the fact that hyperbole has been used frequently in formal text-based settings (Kreuz et al. 1996); because blogs serve a similar function to personal diaries, one might expect the writing in blogs to resemble that of other traditional text-based formats. Hyperbole was also the most commonly used form of irony in an email setting (Whalen et al. 2009); with blogs and email sharing some common features, we could also expect similarities in verbal irony use between these two CMC environments. Both of these CMC environments can be devoid of useful paralinguistic cues, which makes the use of verbal irony risky. By contrast, the relative distance imposed by both blogs and emails may offer a face-saving ability (Brown and Levinson 1987) that permits the writer to express themselves through irony more readily (Hancock 2004). This suggests that, despite the scarcity of useful paralinguistic cues, each of these two CMC environments could be the outlets for expression using ironic language.

A number of different emotions can be conveyed in blog writing, and the frequency of the different forms of verbal irony might vary as a function of the emotion conveyed. According to Roberts and Kreuz (1994), hyperbole is commonly used to be humorous, to emphasise and to clarify; understatement is used to de-emphasise and to convey negative intent; sarcasm is used to be humorous, to emphasise, to clarify and to convey negative intent and rhetorical question is used to clarify, convey negative intent and to control the discourse. As such, in a personal blog, the various ironic forms might be used to convey different emotional tones. We predicted that hyperbole would be used more frequently to convey positive or neutral regard, whereas the other forms would be used more frequently when negative regard is intended. Overall, we predicted that all ironic forms combined would be used to convey a negative intent more often that it was used to convey a positive intent. That is, although verbal irony can be used in the discussion of positive or negative outcomes, it is more often used to comment on the fact that things have not turned out the way you had hoped or expected (Pexman 2008).

The relative frequency of different ironic forms in blogs might also depend on the blog topics. Even though the blogs examined in this study were not constructed with a particular thematic discussion in mind, some themes did emerge as common topics among the individual entries. That is, although the blogs were not designed to be about photography, or cooking, or some other specific hobby, it was common for discussion of hobbies and interests to emerge when the bloggers were writing about their lives. Verbal irony is used to highlight failed expectations, or to highlight the fact that events sometimes unfold in unexpected or unwanted ways (Pexman 2008). As such, it is plausible that certain topics (those that are more likely to involve failed or unmet expectations) might lend themselves more readily to the use of ironic language. We predicted that verbal irony use would be most common in the discussions of work and school. The blog, like a diary, can be used as a place to vent frustrations (Nardi et al. 2004), so it is likely that writers might use verbal irony to convey the challenges of work or school as a discussion topic in their
blogging. Past blog studies have indicated that discussions about friends and family were very common (Subrahmanyam et al. 2009, Mazur and Kozarian 2010), but discussing friends and family via the use of verbal irony may be a risky venture when those are the very people who are likely to be members of your audience. It is important to note the distinction between using verbal irony in the presence of family and friends, and using verbal irony to discuss one’s family and friends. Irony use seems likely in the former case, as previous studies have demonstrated that verbal irony is more readily perceived among friends and others with whom the speaker is close (Kreuz 1996, Clift 1999, Kotthoff 2003), whereas the latter case makes the friends and family the target of the ironic utterance, which may be socially risky. For these reasons, we expected that verbal irony would be frequent in the blogs since the closeness of the writer and intended audience would permit accurate interpretation of intent, but that verbal irony would not be frequently used in the direct discussion of family and friends.

Linguistic Inquiry and Word Count (LIWC; Pennebaker et al. 2001) is an automated text analysis tool that is designed to quantify features of many different texts, including online texts. LIWC provides information on variables such as emotional processes, cognitive processes and others by producing word frequency counts of relevant keywords. LIWC has some obvious limitations when verbal irony is of interest; the software identifies keywords within specified categories but cannot determine whether those words are used with literal or nonliteral intent. However, completing a LIWC analysis of the blogs might allow us to make some comparisons to other blog studies and may offer insight about how verbal irony use correlates with particular word groupings.

2. Method

2.1. Participants

Participants were 71 regular bloggers (24 male and 47 female), aged 15–50 (\(M = 28.04\) years, \(SD = 9.06\)). Forty bloggers were based in North America, 28 were based in the United Kingdom and 3 were located in Australia or New Zealand. Bloggers were identified through blog hosting sites and search engines and were recruited by direct mailing and by links shared on the blogs of participants who had already participated. Bloggers were invited to participate in the study if they were the sole author of the weblog, were English speaking and had posted at least one blog entry for the specified time period (the month of May 2003; Nowson 2006).

2.2. Materials

In the present study, we selected a subset of the blog posts that were provided in the original study (the dissertation of the fourth author, Nowson 2006). Participants in the original study provided the complete text from their previously posted blog for a period of 1 month. Bloggers were excluded from the study if they failed to meet selection criteria. That is, blogs were excluded for (a) being co-authored, (b) being written by non-English authors, (c) not containing any entries during the pre-specified time frame and (d) containing primarily non-personal content.

Due to the variability in post counts across bloggers, we randomly selected five blog entries per participant for analysis and inclusion in the present study. This selection yielded a total of 349 blog entries (with two bloggers having fewer than five entries to contribute), each with a mean word count of 263.98 words (\(SD = 317.78\)).

2.3. Procedure

Once the original blog corpus was narrowed to a final set of 349 entries, the first author examined each blog for instances of verbal irony, different forms of verbal irony, topics explored and emotional valence of the utterances, using the coding system outlined below. A second coder examined 25% of the blogs (selected at random) using the same system to ensure consistency of coding. The inter-rater agreement between the two coders for identifying that an utterance was ironic was 89.57%. Once an utterance was established as having ironic intent, the two coders agreed on the category of the utterance 98.36% of the time. All cases of disagreement were discussed between the coders until agreement was reached.

2.4. Coding of utterances

2.4.1. Verbal irony forms

To identify forms of verbal irony, the coder read each blog entry and noted all utterances that could potentially be intended ironically. After all potential cases were noted, the coder reread all blogs and decided which, if any, of those cases fit one of the predetermined verbal irony categories. The context surrounding the utterance was important in determining intent, and the utterance was only counted as ironic if it was clear that a literal interpretation was not intended. Sample utterances from each irony category are presented in Appendix 1.

As expected, hyperbole was the ironic form most frequently used by bloggers. Given the high frequency of this form, the coders elected to separate lexicalised instances of hyperbole from novel instances of
hyperbole. That is, many hyperbolic utterances are widely used words or phrases that the speaker might use frequently, regardless of context. For example, ‘loads of work’, ‘can’t wait for the weekend’ and ‘I have a ton of laundry to do’, all contain exaggerations of reality that are frequently used in everyday conversation. By contrast, other instances of hyperbole are more novel. In these cases, the speaker uses exaggeration in an original way by crafting an utterance that is more context specific and is less widely used. For example, ‘Kitchen of Doom’ and ‘my new favourite person’ are the cases of novel hyperbole, where the speaker may be using common words, but, in a less routine way, to convey exaggeration. Since hyperbole was such a frequently used form, we were afforded the opportunity to break hyperbole down into these two subcategories for examination.

2.4.2. Utterance topic

The blogs were not approached with an a priori set of topics or themes. Instead, the coder first read each utterance to determine the intended topic. Through multiple readings of the blogs, all topics were noted and later combined into broader themes. For instance, all discussions of friends, family members and romantic partners were originally noted as separate categories but were later combined into one topic category. The decision to combine topics into broader categories was made for practical purposes. There were a very large number of topics mentioned across blogs, and it would have been very difficult to identify any potential patterns if too many topics were considered. As such, topics that seemed to share commonalities were grouped. The resulting topics were work and school; family, friends and romantic partners; hobbies and outings; health, beauty and vanity; and politics, philosophy and general commentary. Topic-shifting within an entry was very common so we did not categorise each blog entry by topic; instead we identified topics that accompanied each individual ironic utterance in our corpus.

2.4.3. Emotional valence

Each ironic utterance was then classified as being used to convey positive intent, negative intent or neutral intent. As with the topic classification, emotional tone shifted frequently and particular blog entries often contained positive elements, neutral elements and negative elements at once. Therefore, instead of coding the post’s overall emotional tone, each individual ironic utterance was coded for emotional valence.

3. Results

We compared the relative frequencies of six forms of verbal irony: jocularity, sarcasm, lexicalised hyperbole, novel hyperbole, understatement and rhetorical question. Some form of verbal irony was used in 72.78% of all blog entries, with an average of 2.23 (SD = 3.98, range = 0–56) ironic utterances per entry. Across all instances of verbal irony in this blog corpus, lexicalised hyperbole was used the most often, in 44.56% of the cases. An additional 20.43% of the ironic utterances were the instances of novel hyperbole, 20.09% were the rhetorical questions, 6.51% were the instances of jocularity, 4.26% were the instances of sarcasm and 4.15% were the instances of understatement. In addition to the relative frequency of each verbal irony form, we examined the relative percentage of each language form that was dedicated to each of the five topics mentioned above: work and school; family, friends and romantic partners; hobbies and outings; health, beauty and vanity; and politics, philosophy and general commentary. These percentages are listed in Table 1. Finally, we examined how often each language form was used to express intentions with three different emotional valences: positive, neutral and negative. These findings are summarised in Table 2. In order to compare relative frequencies of verbal irony forms across topics and across valence (and to control for the fact that bloggers devoted more words to some topics and valences), we computed a proportion that equates to the number of ironic utterances

<table>
<thead>
<tr>
<th>Utterance type</th>
<th>Work and school</th>
<th>Friends, family and romantic partners</th>
<th>Hobbies and social outings</th>
<th>Health, beauty and vanity</th>
<th>Politics, philosophy and general commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperbole – lexicalised</td>
<td>12.70</td>
<td>11.80</td>
<td>48.30</td>
<td>13.30</td>
<td>13.90</td>
</tr>
<tr>
<td>Hyperbole – novel</td>
<td>10.10</td>
<td>8.80</td>
<td>47.20</td>
<td>23.30</td>
<td>10.70</td>
</tr>
<tr>
<td>Understatement</td>
<td>18.80</td>
<td>9.40</td>
<td>37.50</td>
<td>18.80</td>
<td>15.60</td>
</tr>
<tr>
<td>Rhetorical question</td>
<td>12.80</td>
<td>17.90</td>
<td>35.90</td>
<td>5.10</td>
<td>28.20</td>
</tr>
<tr>
<td>Sarcasm</td>
<td>21.20</td>
<td>15.20</td>
<td>39.40</td>
<td>15.20</td>
<td>9.10</td>
</tr>
<tr>
<td>Jocularity</td>
<td>15.70</td>
<td>11.80</td>
<td>43.10</td>
<td>15.70</td>
<td>13.70</td>
</tr>
</tbody>
</table>
divided by the number of words overall. These proportions were used in the analyses reported next.

In order to simplify our analyses, and to deal with the low frequencies of usage for some utterance types, we combined some utterance types into broader groupings based on their perceived functional similarity, before subjecting them to an analysis of variance (ANOVA). We combined lexicalised hyperbole, novel hyperbole and understatement together into one utterance group; sarcasm and jocularity were combined into another utterance group; rhetorical question was left in its own category. Hyperbole and understatement were combined because both of these forms are used to modulate the degree of an utterance by emphasising or de-emphasising; sarcasm and jocularity were combined because they are both used to tease in a more direct, and potentially risky, fashion; rhetorical question was left on its own because it is often used to manage the discourse. The same approach was taken with emotional valence. The frequency of neutral utterances was low enough to justify combining neutral and positive utterances together into one group; the category of negative utterances was left intact. The data were subjected to a 5 (topic) × 3 (utterance group) × 2 (valence group) repeated measures ANOVA. Due to violations of sphericity, a Greenhouse–Geisser correction was used in reporting the results from the omnibus analysis. In addition, a Bonferroni correction was applied to all follow-up analyses that were conducted. There was a significant interaction between utterance group and emotional valence, $F(1.17, 402.99) = 17.41, p < .001$. Further exploration of this effect indicated that hyperbole and understatement were used more frequently ($M = .00098$, $SD = .00326$) than rhetorical question ($M = .00003$, $SD = .00100$), $t(345) = 3.61, p < .001$, and more frequently than sarcasm and jocularity ($M = .00014$, $SD = .00057$), $t(348) = 4.79, p < .001$. Rhetorical question was also used more frequently than sarcasm and jocularity, $t(345) = 3.32, p < .01$.

Two significant main effects also emerged from our analysis. The first was an effect of utterance group, $F(1.17, 402.99) = 17.41, p < .001$. Further exploration of this effect indicated that hyperbole and understatement were used more frequently ($M = .00098$, $SD = .00326$) than rhetorical question ($M = .00003$, $SD = .00100$), $t(345) = 3.61, p < .001$, and more frequently than sarcasm and jocularity ($M = .00014$, $SD = .00057$), $t(348) = 4.79, p < .001$. Rhetorical question was also used more frequently than sarcasm and jocularity, $t(345) = 3.32, p < .01$.

The second main effect was for topic, $F(1.69, 584.26) = 6.64, p < .005$. Further exploration of this variable revealed that verbal irony was used more frequently in the discussion of hobbies and outings ($M = .00113$, $SD = .00510$) than in the discussion of friends and family ($M = .00031$, $SD = .00140$), $t(348) = 2.90, p < .05$. Hobbies and outings were also discussed with irony more often than were the issues relating to health, illness and beauty ($M = .00023$, $SD = .00136$), $t(345) = 3.15, p < .05$.

Table 3 lists the significant correlations between LIWC variables and overall proportion of verbal irony use in each blog entry. Eleven LIWC variables were

<table>
<thead>
<tr>
<th>LIWC variable</th>
<th>Examples</th>
<th>Irony use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistic processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd person pronouns</td>
<td>You, your</td>
<td>.152*</td>
</tr>
<tr>
<td>Articles</td>
<td>A, an, the</td>
<td>-.161*</td>
</tr>
<tr>
<td>Present tense</td>
<td>Is, does, hear</td>
<td>.182**</td>
</tr>
<tr>
<td>Numbers</td>
<td>Second, thousand</td>
<td>.110*</td>
</tr>
<tr>
<td>Psychological processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family</td>
<td>Daughter, husband, aunt</td>
<td>-.126*</td>
</tr>
<tr>
<td>Humans</td>
<td>Adult, baby, boy</td>
<td>.184**</td>
</tr>
<tr>
<td>Affective processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative emotion</td>
<td>Hurt, ugly, nasty</td>
<td>.110*</td>
</tr>
<tr>
<td>Cognitive processes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inclusive</td>
<td>And, with, include</td>
<td>-.182**</td>
</tr>
<tr>
<td>Relativity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motion</td>
<td>Arrive, car, go</td>
<td>-.106*</td>
</tr>
<tr>
<td>Personal concerns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisure</td>
<td>Cook, chat, movie</td>
<td>-.176**</td>
</tr>
<tr>
<td>Home</td>
<td>Apartment, kitchen, family</td>
<td>-.163*</td>
</tr>
</tbody>
</table>

Notes: *Significant at $p < .05$; **significant at $p < .001$.

The examples provided in the above table were taken directly from the LIWC website and are the examples of words identified in the LIWC2007 dictionary (Pennebaker et al., 2001).
significantly correlated with overall verbal irony use in blogs. For present purposes, we examine the correlations between verbal irony and the variables that fall under psychological processes, affective processes and personal concerns, since these seemed most logically relevant to the functions and mechanisms of verbal irony. Overall irony use was positively correlated with the use of words relating to humans \( (r = .184, p = .001) \) and the use of negative emotion words \( (r = .110, p < .05) \). Verbal irony use was negatively correlated with the use of words relating to family \( (r = -.126, p < .05) \), leisure \( (r = -.176, p = .001) \) and home \( (r = -.163, p < .05) \).

4. Discussion

The purpose of the present study was to determine whether bloggers use verbal irony in blogs, which forms they use, and if the use of these forms varied with the topic of discussion. This examination is important because it helps us determine the communicative goals and strategies of bloggers in the growing world of CMC.

First, we were interested in the frequency with which six common forms of verbal irony were used: lexicalised hyperbole, novel hyperbole, understatement, rhetorical question, sarcasm and jocularity. Second, we wished to determine whether these forms were used differently in the discussion of five relatively frequent topics: work and school, friends and family, hobbies and outings, health and beauty, and politics and philosophy. Third, we sought to determine whether each of the ironic forms were used relatively more often to convey positive, neutral or negative intent in the blogs. Finally, we examined the blogs using LIWC (Pennebaker et al. 2001) to learn more about how the use of verbal irony related to the use of other language categories. Due to low frequencies of some language forms, some utterance categories were combined for analyses and interpretation.

Results showed that verbal irony was used in most blogs, and that there was variation in the relative frequency of the different ironic forms. Instances of novel hyperbole, lexicalised hyperbole and understatement were much more common than the instances of rhetorical question, and rhetorical question was in turn much more common than the instances of sarcasm and jocularity. This is consistent with the results of previous studies on different written forms (Kreuz et al. 1996, Whalen et al. 2009) which reported frequent use of hyperbole. As with the formal literary texts examined by Kreuz et al., blogs are asynchronous and asymmetrical and are commonly used as an outlet for personal expression. The emails examined by Whalen et al. and the current blog sample also share similarities that would encourage the use of similar language forms: they are both electronic, both widely used and both offer a face-saving feature that might encourage certain forms of expression by the author (Nowson 2006).

The probable reasons for the relatively lower frequencies of the remaining forms are varied. First, rhetorical question is sometimes used to give the author control over the flow of the discourse (Roberts and Kreuz 1994). This function is somewhat less relevant in the context of a personal blog since the asynchronous and asymmetrical nature of the medium provides the author with full, or close to full, control of the discourse from the outset. When used, however, rhetorical question was likely employed as a device to draw the audience into the discussion. The remaining forms, jocularity and sarcasm, are more critical forms of verbal irony and are, therefore, more risky to employ. Given that the audience is wide, and cues to speaker intent are few, the author might simply avoid the use of these forms to diminish the chance that their intentions would be misinterpreted.

Among the topics examined, the most frequently addressed with verbal irony were hobbies and outings, whereas irony was used less frequently in the discussions of family and friends and health and beauty. Our prediction that verbal irony would be used most often in discussions of work and school was not upheld; although bloggers did use the blogs as an outlet for frustrations from time to time, the topic of those frustrations was not often work or school obligations and involvement. Discussion of hobbies and outings might lend itself to verbal irony use for a few reasons. This category encompassed things like food and drink, sex and dating, parties, road trips, movies and music. First, each of these are things the writer themselves are likely to be very personally involved in, more so than the discussion of politics or philosophy, which could be more abstract. The level of personal involvement might encourage the writer to express opinions about these things and to feel safe in doing so since they themselves were involved in the situation. Secondly, each of these subjects might invite clever discourse about failed expectations. In particular, since hobbies and social gatherings are designed to be enjoyable endeavours, there is an implicit expectation that things will proceed in a positive manner. When things did not unfold as planned, ironic language provided the blogger with a way to comment on the discrepancy.

As predicted, use of verbal irony was significantly less common in the discussion of family and friends than in the discussion of hobbies and outings. This is likely due to the relative risk of using ambiguous language in the discussion of family and friends when
those are the very people who would be most likely to read your blog. It is one thing to use ironic language to discuss hobbies and outings that might involve family and friends in some way, and quite another thing to use verbal irony to discuss family and friends specifically where there is a risk for offence and more serious social consequences.

Our results also showed that verbal irony was used less often in the discussion of health, illness and beauty than in the discussion of hobbies and outings. The health, illness and beauty category involved the discussion of physical health, emotional state of mind and feelings, personal grooming and vanity. It is likely the case that writers use less ironic language in the discussion of these topics in order to ensure they are not misunderstood. For instance, using a blog entry as an outlet for your emotional state and feelings would be pointless if none of the audience members accurately detected your true emotion. The cathartic effect of writing about ones' feelings comes from having them accurately perceived.

We predicted that verbal irony would be used to convey negative intent more often than it would be used to convey positive intent. This prediction was not upheld; bloggers were just as likely to use ironic language that conveyed positive or neutral emotional valence as they were to use ironic language that conveyed negative emotional valence. When employing verbal irony for negative intent speakers were likely commenting on failed expectations for positive outcomes, which, as suggested by Pexman (2008), is a common characteristic of ironic language. However, when employing verbal irony for positive or neutral intent, the bloggers may have been emphasising particular thoughts and ideas, such as with the use of hyperbole, or were merely documenting neutrally valenced details of their daily lives. This notion also fits with the idea that blogs offer an outlet for emotional expression, the way that personal diaries do (Herring et al. 2005), but are also used to document chronological life details.

In the present study, we observed relationships between ironic utterance type and emotional valence. When verbal irony was used for positive or neutral intent, hyperbole and understatement were more common than either rhetorical question or sarcasm and jocularity. Similarly, when verbal irony was used with negative intent, hyperbole and understatement were more common than rhetorical question, sarcasm and jocularity. This may simply be attributable to the fact that hyperbole and understatement were much more common overall. It seems that, regardless of emotional valence, hyperbole and understatement are more widely used in blogs than are the other forms of ironic language.

Correlations between verbal irony use and LIWC variables demonstrated that when bloggers use a greater proportion of verbal irony they also tend to use more words relating to humans. In contrast, irony use was negatively correlated with the use of words relating to family. Words within the human category are those that discuss people without being specific to family, friends or other close relationships, whereas words within the family category pinpoint particular family relationships, such as father or sister. One might expect the two correlations relating to human and family words to be in the same direction, but the conflict between the increased use of verbal irony in blogs where human words are used and the decreased use of verbal irony when family words are used is consistent with a claim we made previously. Using ironic language in blogs that might be read by family members is a reliable way for the blogger to convey their attitude about a topic; the closeness shared by family members would allow the ironic intent to be detected. However, using verbal irony frequently in blogs when the blogger is also using words that refer to family members specifically might be too risky, as those family members might feel targeted by the critical language. Likewise, the use of verbal irony was lower in blogs where there was relatively more use of words relating to leisure activities and the home. This is likely due to the fact that bloggers include close friends and family members in the discussion of those topics and may need to avoid the use of verbal irony so that friends and family reading the blogs are not offended. Not surprisingly, there was a positive relationship between verbal irony use and negative emotion words, indicating that blogs containing more negative emotion also contained more ironic language. This finding is consistent with the claim that verbal irony is used to comment on the disappointment felt when things do not turn out as expected or hoped (Pexman 2008).

There are a number of limitations to our present analysis. Many of the limitations stem from the subjective nature of blog writing and interpretation. Although our inter-rater agreement was high, it can be challenging to identify and classify ironic remarks (see Kreuz et al. 1996, Whalen et al. 2009 for further discussion of this issue). In addition, the blogs used in the present analyses were personal blogs provided by the individuals who each blogged with varying frequency, to varied audiences, and with varied purposes. Future analyses of verbal irony use in blogs ought to examine other types of blogs to determine how topic, intended audience and actual audience affect the use of ironic language in blog writing. For instance, one might expect verbal irony use to differ in blogs constructed for broad audiences than in blogs
constructed for a small, specific friend group or for family members. Likewise, differences in verbal irony use might be expected in professional blogs versus personal blogs, or in blogs constructed to discuss a specific hobby (such as a cooking or photography blog) versus those written to document a wide variety of daily events.

In the present study, we outlined the forms of verbal irony being used by bloggers and described the possible functions of using verbal irony to discuss particular topics in blogs. In future research, it would be useful to expand the analysis to compare ironic language use in blogs to that in other forms of electronic media, such as Facebook, Twitter or message boards. It is possible that verbal irony use is uniform across these media, but it is likely that some differences do exist in irony use depending on the privacy and access of these media forms, the degree of anonymity, the topics under discussion and other factors. Future studies of verbal irony use in computer-mediated settings will need to explore these cross-media differences more specifically.

5. Conclusions

The present study offered what is, to our knowledge, the first examination of verbal irony use in blog texts. An examination of this sort is important, because it demonstrates how blog writers behave when they discuss particular topics. Ironic language creates potential for misunderstanding in a variety of contexts, but particularly so in CMC environments. The risk with being misunderstood in CMC is due in part to the lack of paralinguistic cues that are present. With personal blogs, the risk is also exacerbated by the fact that the readers can comprise a wide and varied audience. Ensuring one’s message is appropriately interpreted is likely much more difficult when many readers, from many backgrounds, read your blog. Despite these risks, bloggers in the present study used five different forms of ironic language and did so in the discussion of a variety of topics. The results of the present study provide new clues about why and how bloggers write, and further elucidate the functions served by the use of verbal irony in CMC.

Acknowledgements

The authors thank Jeremy Johnson, Gemma Leonard and Devon McConnachie for their assistance in coding the blog materials. Portions of this research were presented at the May 2009 meeting of the International Communication Society meeting in Chicago, IL. This research was supported by the Social Sciences and Humanities Research Council of Canada, in the form of a Canada Graduate Scholarship to Juanita M. Whalen and a Standard Research Grant to Penny M. Pexman, a Région de Bourgogne (France) FABER Postdoctoral Fellowship (05512AA 0682469) and an Economic and Social Research Council (UK) Postgraduate Research Studentship (R00429934162) to Alastair J. Gill, and was supported by funding from the Economic and Social Research Council (UK) to Scott Nowson.

References

Appendix 1. Sample ironic utterances

**Lexicalised hyperbole**

**Positive:** I can’t wait for our roadtrip.

**Negative:** If nothing else, it means that you get to blast the music of your choice whenever you choose, knowing you have tons of ammo should they choose to confront you.

**Novel hyperbole**

**Positive:** People have been buying shares of my blog.

**Negative:** I have a phobia relating to Mr. Spader.

**Understatement**

**Positive:** I actually LIKED this book.

**Negative:** I’m crazy competitive too – not the best combination.

**Rhetorical question**

**Positive:** What is it that makes the ‘cereal dust’ at the bottom of a packet of cereal always taste 1000% better than the rest of it?

**Negative:** Am I mad?

**Sarcasm**

**Positive:** I don’t partake in illegal urban caving, I hasten to add.

**Negative:** Turned too sharply while going top speed and dug up some of the lawn, haha, that’ll be a nice surprise for him later.

**Jocularity**

**Positive:** I am obviously psychic. I should be their business advisor- I am obviously cheaper than whoever they have at the moment.

**Negative:** . . . and half wondering if I killed them could I have their place.

Note: Each statement is reprinted here exactly as it appears in the original blog entries, with no grammatical or spelling corrections made.