Abstract

Despite the widely held view that men are funnier than women, research supporting this view is inconsistent. Instead, the view that men are funnier than women may be a stereotype rather than a reflection of real differences in humor. Considering a previously found source memory bias in the attribution of funnier captions to men and less funny captions to women, this stereotype may be working to further perpetuate this mistaken belief. The current study aims to investigate this possible stereotype and further investigate an attribution bias arising from this stereotype. Two-hundred and twenty-eight participants from three countries (Britain, Canada, and Australia) rated the funniness of male and female-authored cartoon captions while blind to the gender of the caption authors. Participants were then asked to guess the gender of the caption authors and were also asked which gender they believe to be the funniest. Participants both male and female believed men are the funniest gender. However, this belief was not reflected in their ratings of the funniness of the cartoon captions. Support was found for a bias in attributing male authorship to the funniest cartoon captions, and female authorship to the least funny cartoon captions. This bias cannot not be attributed to source memory. It was suggested this stereotype may be self-fulfilling in nature and additional mechanisms maintaining this stereotype are proposed.

Keywords: Humor; Gender Stereotype; Jokes

Are Men Funnier Than Women, Or Do We Just Think They Are?

Have you heard the one about…? Being funny provides many benefits. Humor can function as a coping mechanism for the elderly (Berk, 2015), improve the engagement and performance of students when expressed by their instructors (Goodboy, Booth-Butterfield, Bolkan & Griffin, 2015), and facilitate social bonding among strangers (Graham, 1995). Yet despite its benefits, there is also the suggestion humor is regarded as a predominately masculine trait (e.g. Brodzinsky & Rubien, 1976; Stillion & White, 1987; Ziv, 1981). Stand-up comedians make their living being funny. From Lenny Bruce to Eddie Murphy to Louis C.K., almost all the top comedians have been men. In an early study of non-professional humorists, Ziv (1981) found that humorous adolescent boys were seen by their peers to be funnier than humorous adolescent girls, and adolescent girls seen as funny rated themselves on a self-concept scale as more masculine, as "more 'like boys'… sure of themselves, strong, quick and courageous" (p. 195).

Ziv's (1981) study was conducted over 30 years ago. In the intervening three decades, much has changed. The feminist movement and changing social norms have dispelled many but not all of Western's society's gendered perceptions and inequalities. Despite these advancements, Mickes, Walker, Parris, Mankoff and Christenfeld (2011) found evidence supporting the view that men remain the kings of comedy. When Mickes et al. asked a sample of American undergraduate students which gender they believed is the funniest, an overwhelming 89% of women and 94% of men chose men.

If there are sex differences in being funny, those differences may have evolutionary roots. Greengross and Miller (2011) suggest men use humor to enhance their mating success. Men produce more humor while women laugh more (Mehu & Dunbar, 2008; Provine, 1993); women prefer men who are funny while men prefer women who appreciate their sense of humor (Bressler, Martin & Balshine, 2006). However, while women may prefer more

amusing men and amusing men may appreciate the female attention, it does not necessarily follow that men *are* funnier than women. Men may think they are funnier and women may go along with this thinking as part of mutual mating strategy by laughing to signal interest (Grammer, 1990; Lampert, 2014).

In order to answer the question who is indeed funnier: men or women, researchers have asked participants to rate cartoon captions authored by males or females. This research strategy has the advantage of concealing the gender of the caption writers from participants so that gender biases and other biases (e.g., attractiveness, expressiveness) can be controlled. Greengross and Miller (2011) asked males and females to create captions for cartoons that were then rated for funniness by a panel of six judges blind to the caption authors' gender. Male captions were rated as funnier than female written captions. Ruch, Beerman and Proyer (2009) found similar results when participants were asked to create funny captions, while Mickes et al. (2011) also found male written captions to be rated as funnier than female captions but the male advantage was far stronger among male raters. Howrigan and MacDonald (2008) found men produced funnier material than women over three experimental tasks: mock character profiles; a set of questions in which participants were asked to produce humorous responses such as "What do you think the world will be like in a hundred years?"; a drawing task in which participants were asked to draw in a funny manner animals such as giraffes and human characters such as politicians. Greengross (2014) has claimed that the statistically significant and "consistently robust" (p. 187) findings from this literature support the view that men are more adept in humor production.

However, these findings may not be as consistent or as robust as Greengross (2014) claims. Both Feingold and Mazzella (1991), and Köhler and Ruch (1996) found no differences in ratings of cartoon captions authored by men and women. Edwards and Martin (2010) found no difference in funniness ratings for male and female authors over two tasks: a

cartoon caption task and a task to create a humorous response to a frustrating situation. With school children aged 10 to 14 years, Masten (1986) found no differences between boys and girls for funniness in the production of cartoon captions or the creation of funny cartoon titles. Using an alternative measure of humor production, Martin and Lefcourt (1983) asked one set of their participants to verbally describe random objects in a humourous manner and another set of participants to create humorous narratives of films. Both these descriptions and narratives were tape recorded and then rated by independent judges. No differences in funniness ratings were found between men and women for either task. Saroglou and Jaspard (2001) found responses to a spontaneous humor creation task yielded funnier ratings for male over female participants, but this male advantage was only observed for those participants first exposed to humorous stimuli. Finally, Brodzinsky and Rubien (1976) found male captions were rated funnier for sexual or aggressive stimuli but not for neutral stimuli.

Considering the inconsistencies in the literature, it is premature to conclude as Greengross (2014) did that males are the funnier sex. An alternative explanation to for the view of male superiority in humor despite the lack of concrete evidence for such is through the role of stereotypes. Some evidence for the influence this humor stereotype may have comes from the study by Mickes et al. (2011). Participants were shown the twenty cartoons and captions rated by previous participants as most funny, and twenty cartoon and captions rated least funny. Cartoons and captions were labeled for the gender of their creators. Participants were then shown the same cartoons and captions a second time with the gender labels removed and were asked to recall whether the author of each cartoon was female or male. Participants showed a tendency to mis-recall the funniest captions as male authored and the least funny captions as female authored. Mickes et al. attributed this misattribution to a source memory bias driven by the belief that men are funnier than women. Mickes et al. also included a set of cartoon captions in which they did not identify the gender of the cartoon

caption authors'. For these captions without gender identification, Mickes et al. found

captions rated as most funny were attributed to men, but they did not find captions rated as

least funny were attributed to women. That this bias in attribution of funnier material to men

occurred without the need for participants to be first made aware of the caption author's

gender, suggests mechanisms other than a memory source bias may be involved in the

maintenance of the stereotype.

Given gender stereotypes have been shown to affect the performance of women in a

variety of domains (e.g., math performance; Spencer, Steele & Quinn, 1999), finding a

misattribution of greater funniness to males would not be unexpected. Furthermore,

misattributions can become self-fulfilling prophecies. As Cann, Davis and Zapata, (2011)

point out, if women's humor is not encouraged, this lack of encouragement may inhibit

further attempts at humor. However, the Mickes et al. (2011) study is the first and only study

to date to investigate if there is a stereotype that men are funnier than women. Further

research is needed to replicate the Mickes et al. study as well as to assess whether their results

generalize to other samples (e.g., non-American) and to non-memory tasks. Therefore the

aim of the present study is to investigate further the stereotype that men are funnier.

Specifically, the authors of the present study sought to determine if this stereotype is found in

Canadian, British, and Australian samples, and if male authored cartoon captions are judged

indeed to be funnier than female authored cartoon captions.

Method

Participants

Participants were 228 university students (31% males and 69% females) from Britain

($n = 15$ males; $n = 56$ females), Canada ($n = 41$ males; $n = 61$ females), and Australia ($n = 14$

males; $n = 41$ females). Their mean age across all three samples was 20.8 years ($SD = 4.70$;

ranging from 17 to 48 years). All participants had a good command of the English language.

Materials and Procedure

Twenty cartoons with two captions, one male authored and one female authored, were drawn from the *New Yorker* magazine caption competition website (www.newyorker.com/humor/caption). Cartoons and captions were chosen based on four criteria: 1) Of the three caption winners for each cartoon listed on the site, at least one winner was a man and another winner a woman; 2) Easy of identification of the caption author's gender (i.e., where names were obviously male or female to avoid ambiguity); 3) Avoidance of potentially offensive material (i.e., no religious or strong sexual content); 4) Ease of joke understanding (i.e., complicated jokes or those that required specific cultural knowledge were avoided). Of the cartoon captions chosen, 14 of the male captions were ranked first place in the *New Yorker* caption competition and six received second place. Of the female captions chosen, six were first place winners, 12 were second placed winners, and two were ranked third. This imbalance was due to the availability of captions that fulfilled the above criteria. Cartoons and captions were placed into a test booklet with gender identifying information removed.

Cartoons were presented one per page, with both the male and female captions presented below their corresponding cartoons. Order of presentation for *captions* was kept in the order of competition ranking from the *New Yorker*. For the 20 cartoons, this resulted in 14 male captions appearing first of the two captions, and six female captions appearing first. Order of *cartoons* was chosen randomly, and cartoons and captions were presented in the same order for each participant.

All cartoons and captions were presented a first time with a likert scale anchored from 1 = *not funny at all* to 5 = *very funny*. After rating all cartoons for their humor, the cartoons were presented as a set to participants a second time. For the second presentation, participants were asked to identify whether each cartoon caption was believed to be written by a man or a

woman. Participants were then asked one final question --- whether they believed that apart from this study, men or women are funnier, or whether both genders are equally funny.

Participants were presented with the booklet either in paper form or online using the website Survey Monkey. The Australian sample completed the survey online. Ethical approval for the study was obtained from all participating institutions, and APA ethical guidelines were observed throughout.

Results

Descriptive statistics for funniness ratings of male captions and female captions overall, by participant gender and country are displayed in Table 1. A 2 (gender of participant) x 2 (gender of caption writer) x 3 (country) mixed model ANOVA was conducted to examine ratings of caption funniness with gender of caption writer being a within subject variable There was no statistically significant effect for participant gender $F(1,220) = 0.02$, $p = .900$, $\eta_p^2 = 0.00$. Male ($M = 2.62$) and female participants ($M = 2.61$) did not differ in their ratings of the funniness of the captions. There was a marginal effect for caption writer gender, $F(1,220) = 3.52$, $p = .062$, $\eta_p^2 = 0.016$. Unexpectedly, captions written by men ($M = 2.63$) were rated as somewhat less funny than captions written by women ($M = 2.68$). A statistically significant main effect for country was also found, $F(2,220) = 4.76$, $p = .010$, $\eta_p^2 = 0.041$. Post-hoc tests with Bonferroni correction ($p < .02$) found the Canadian sample ($M = 2.80$) rated captions as funnier than both the Australian ($M = 2.53$) and British samples ($M = 2.53$). The one interaction between the variables that approached statistical significance was between the gender of the caption writer and country, $F (2, 220) = 2.07$, $p < .13$, $\eta_p^2 = 0.018$. An interaction contrast (Jaccard & Guilamo-Ramos, 2002) attributed this interaction to the British sample rating the female authored captions ($M = 2.57$) as somewhat funnier than the male authored captions ($M = 2.48$) while the Canadian sample did not distinguish male ($M = 2.81$) and female authored captions ($M = 2.79$), $t (220) = 1.49$, $p < .14$.

The same pattern of findings was found for Australian versus Canadian ratings of male and female authored caption although that interaction contrast did not approach statistical significance ($p < .23$).

Of the 214 participants who answered the final question as to which gender they believed to be the funniest, 133 (62.1%) chose men and 72 (33.6%) regarded the two genders to be equally funny. Only nine participants (4.2%) picked females to be the funnier gender. No difference was found between females and males with regard to the perception of which gender is funnier, $X^2 (2) = 2.38$, $p = .304$. The majority of males ($n = 37$; 56.1%) and females ($n = 96$; 64.9%) selected males as funnier, or the two genders were equally funny ($n = 27$ (40.9%) of males; $n = 45$ (30.4%) of females). Only a small number of males ($n = 7$; 4.7%) and females ($n = 2$; 3.0%) thought females were funnier. For those participants who believed one gender was funnier than the other, the proportion choosing males over females was statistically significant, $X^2 (1) = 108.28$, $p < .001$.

There was a relationship between country and the view one gender was funnier, $\chi^2 (4) = 10.99$, $p < .027$, Cramer's $V = .160$. Specifically, 49 (70.0%) of the British participants, 21 (47.7%) of Australian participants, and 63 of the Canadian participants thought men were funnier than women. Smaller numbers thought the genders were equally funny: Australians ($n = 23$, 52.3%), British ($n = 17$, 24.3%), Canadians ($n = 32$; 32.0%). Less than six percent of participants from all three countries thought women were funnier than men. Thus, while Australians were split as to whether men were funnier or the genders were equally funny, Canadian and British participants overwhelmingly viewed men as the funnier gender. Participants' accuracy in determining whether a particular cartoon caption was written by a male or female author was assessed by the coding of each judgment as '1' for a correct response and '0' for an incorrect response. The summing of these scores for each participant resulted in an accuracy score out of 40 (the total number of captions). The mean accuracy rate

for correct attributions of gender to captions was calculated at 56% (M = 22.30 out of 40, SD = 3.97), an accuracy rating above that expected by chance, $t(202) = 8.27$, $p < .001$, $d = 0.58$.

To test for a bias in attribution of gender to captions based on their funniness, an examination was made of the attributions participants gave to the six highest rated cartoon captions (coincidentally, three male authored and three female authored), and the six lowest rated cartoon captions (also coincidentally, three male authored and three female authored). The ratings of three highest rated male authored cartoon captions (M = 3.26, SD = 0.83) and the three highest rated female authored cartoon captions (M = 3.29, SD = 0.89) were compared using a pairwise t-test to check for differences in funniness; no difference was found between the male and female authored highest rated cartoon captions, $t(219) = 0.47$. p = .64, $d = 0.03$. The same procedure was applied to the lowest rated three male authored cartoon captions (M = 2.15, SD = 0.80) and three lowest rated female authored cartoon captions (M = 2.20, SD = 0.78); once again, no difference was found between male and female lowest rated cartoon captions, $t(222) = 0.97$, p = .335, $d = 0.06$.

After establishing that the highest and lowest rated male and female authored cartoon captions did not differ in ratings of humor, the attributions participants made regarding these cartoon captions to male or female authors was assessed through a chi-square test of independence. This analysis showed a statistically significant deviation from frequencies that would be expected if the variables were independent of each other $X^2(1) = 42.58$, $p < .001$, Cramer's $V = 0.129$. Participants attributed male authorship to the six top ranked captions more frequently than would be expected by chance (expected = 626, observed = 708) and attributed female authorship to the six top ranked captions less frequently than would be expected by chance (expected = 653, observed = 570). Conversely, the bottom six captions were attributed more frequently to female authorship than would be expected by chance (expected = 654, observed = 736) and less frequently to male authorship than would be

expected by chance (expected = 627, observed = 544). Figure 1 displays the attributions of cartoon captions to male and female authorship for the funniest and least funny cartoons. For both male and female participants, the same pattern emerged when collapsed across participant gender, although the effect appeared stronger for the male participants than the female participants (male participants, X^2 (1) = 31.99, $p < .001$, Cramer's $V = 0.201$; female participants, X^2 (1) = 16.54, $p < .001$, Cramer's $V = 0.097$).

Discussion

Men and women from Canada, Britain, and Australia who participated in our study overwhelmingly regarded men to be funnier than women. This male-favored view is consistent with the findings reported by Mickes et al. (2011) albeit to a lesser degree. About 90% of the Mickes et al. participants reported believing men are funnier than women compared to the 62% of participants in the current study. The lower figure in the present study might be attributed to participants being given the option in the present study to express the view that men and women are equally funny. About a third of our sample endorsed the equality option.

Yet when ratings of the cartoon captions for humor were examined, it was female authored cartoon captions that were rated as funnier by both male and female participants. Although some previous studies have found male captions to be rated as funnier than female captions (e.g. Greengross & Miller, 2011; Mickes et al., 2011; Ruch et al., 2009), other studies have found no difference (e.g. Edwards & Martin, 2010; Feingold & Mazzella, 1991; Kohler & Ruch, 1996). Our sample had a large number of female participants, thus our finding in favor of females might be attributed to greater statistical power than present in other studies. Most of the other studies used small panels of independent judges as raters. One exception was Mickes et al. (2011) whose sample of 81 participants rating the captions was evenly distributed (34 males; 47 females).

The present study used cartoon captions taken from winners of the *New Yorker* caption competition rather than asking participants to generate their own humorous captions. This difference may have influenced our results in a number of ways. By creating captions outside of a laboratory environment, the authors of our captions are not subject to the same pressures participants face creating them in an experimental setting. In previous studies, participants were given between 10 to 40 minutes to spontaneously produce funny material. Some of these participants were told others would later rate their creative efforts, frequently without assurances of anonymity. As Brodzinsky and Rubien (1976) suggested, women may be less practiced at producing humor spontaneously and therefore may find the task of generating humor more challenging than do men. If women feel more comfortable producing humor in more private settings, gender differences in funniness of captions may be minimized and that might have led to the modest female advantage found in the current study. Furthermore, the women creating cartoon captions for a competition may be more adept or confident in producing written humor than women in student samples. However, this advantage would also be true for the male caption authors, perhaps leveling the playing field for humor production between the genders.

While men were not found to write funnier captions than women in the present study, participants overwhelmingly regarded men to be funnier than women. Furthermore, participants attributed the funniest cartoon captions more often to men and the least funny cartoon captions more often to women. This bias towards males being seen as funnier cannot be attributed to memory in the present study. Mickes et al.'s (2011) participants were made aware who produced the majority of their cartoon captions prior to being asked to attribute the cartoon captions to one gender. In the present study, participants were never told the authorship of the cartoon captions, and therefore the bias observed in the current study cannot be due to a source memory bias. Our results also cannot be attributed to guessing the gender

of the authors of the cartoon captions. Participants in our study were slightly more accurate than expected by chance in guessing whether a caption was written by a man or a woman, this finding implies some elements of cartoon captions give some insight into the author's gender in some cases, but this difference was only slightly above chance.

We regard the belief that women are less funny than men to be a stereotype. One mechanism to sustain and support stereotypes is *stereotype threat*. Stereotype threat is the idea that negative societal beliefs about a target group cause members of that target group to fear judgments contingent on these beliefs, affecting subsequent behaviors (Spencer et al., 1999). Well-documented examples of stereotype threat include Blacks perform less well on intelligence tests and women perform less well on math tests after being Black, or a woman is highlighted (for a review of the literature, see Aronson & Dee, 2012). Furthermore, if stereotype threat operates for women in the context of humor, women may be less funny because of the threat, thus creating a self-fulfilling prophecy. Assuming this stereotype of women being seen as less funny than men extends beyond the experimental context, its implications could range from everyday humor use to the professional context: limiting women in an ever expanding lucrative business via the media and popular culture (e.g. see Lockyer & Pickering, 2008).

The Canadian sample rated the cartoon captions as funnier than did the British and Australian samples. Vernon et al.(2008) found the style of humor in Canada and the United States to be more similar than that of Britain, reflecting the influence of the larger American culture (e.g., television) on the neighboring and small country. The cartoons and captions were derived from the American based *New Yorker* magazine and thus the Canadian sample may have served as a surrogate for an American sample of participants. Conversely, Baughman et al. (2012) found an Australian twin sample produced results similar to those found in Britain in their study of self-report humor styles. While both Canada and Australia

are members of the Commonwealth and citizens of both countries swear allegiance to the British Queen, Canada's proximity to the United States and Australia's relative geographical isolation may explain why Australian participants' ratings of humor are more similar to British participants than to Canadian participants.

One limitation to the current study was the relatively low funniness ratings for captions. Although this is fairly common for experimental studies of humor creation, it does call into question the representativeness of findings outside of the study environment. Using ratings of cartoon captions was consistent with previous research, while also allowing for the gender of the humor producer to be kept hidden from the participants. Creating cartoon captions as a method of rating funniness is fairly contrived although not without parallels in the real world (e.g., captioning images and videos in Facebook). Some studies have demonstrated differences in styles and motivations between men and women's humor use across different situations (Crawford & Gressley, 1991). Cartoon captioning may not capture the complex nature of humor, its role in social interactions, and the various styles of humor that may exist (Lampert & Ervin-Tripp, 1998). Future research is needed to replicate and extend the findings of the current study, especially with regard to the stereotyping of women as less funny. To investigate the role stereotype threat may play in humor, cartoon caption creation studies with the inclusion of a stereotype threat manipulation could be conducted. Following research by Franceschini, Galli, Chiesi and Primi (2014), stereotype threat could be manipulated by increasing the salience of gender identity prior to the completion of a task. Reduction of stereotype threat by techniques such as self-affirmation might also be explored (see Martens, Johns, Greenburg & Schimel 2006).

Evolutionary theory may dictate that humor has evolved as part of a mating strategy, but it does not follow that men are better humor producers in all situations. Humor might be better likened to the performance of a courtship dance, with roles for both genders to play. If

women do indeed feel explicitly or implicitly that their humor is not as appreciated or

accepted in society, or fearful of exacerbating this stereotype, this may in turn discourage

public use, perpetuating a stereotype that is not true.

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Table 1

Funniness Ratings of Cartoon Captions by Participant Gender, Caption Writer Gender, and Country of Participant

Participant Country and Gender	Male Captions		Female Captions	
	M	*SD*	*M*	*SD*
British				
Male	2.46	0.81	2.52	0.70
Female	2.50	0.56	2.63	0.59
Australian				
Male	2.57	0.70	2.66	0.67
Female	2.43	0.63	2.49	0.66
Canadian				
Male	2.80	0.58	2.75	0.57
Female	2.82	0.59	2.82	0.63
Totals	2.63	0.63	2.68	0.63

Note. British Male $n = 15$; British Female $n = 56$; Australian Male $n = 14$; Australian Female $n = 39$; Canadian Male $n = 41$; Canadian Female $n = 61$.
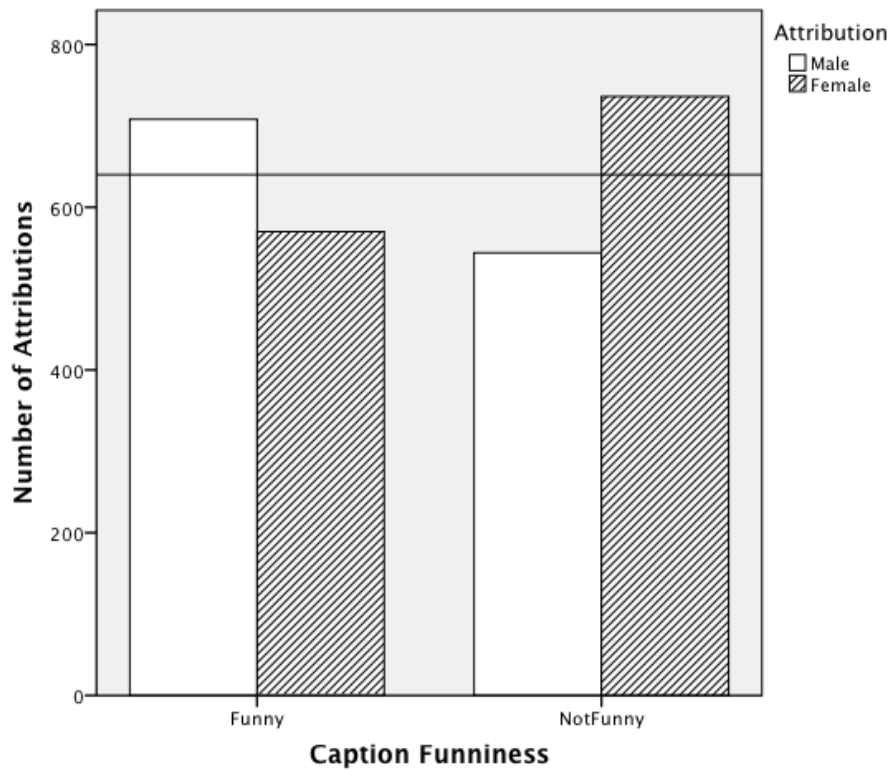
Figure 2. *Frequency Participants Assigned Male And Female Authorship To The Top Rated 6 Captions (Funny), And The Bottom Rated 6 Captions (NotFunny).*

Note. The reference line on the *y*-axis shows the value of expected frequencies were variables (funniness of caption and gender attribution) independent of one another.