

**When laughing gets serious:
Gender Bias in Humor Perception**

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Abstract

This study explores a pervasive but largely unnoticed stereotype: women are not funny. This stereotype can be harmful for many reasons, including because perceptions of humor are linked to perceptions of other desirable traits, such as intelligence and likeability. Furthermore, traits such as humor and intelligence are often associated with general “humanness,” such that not attributing humor to a group can be dehumanizing. In the current study, participants read an excerpt from an autobiography in one of two conditions: the autobiography had either an implied-female author or an implied-male author. Although we predicted that participants would rate male authors as funnier and more intelligent than female authors, we found no main effects of gender on spontaneous trait attribution. We end by discussing limitations, implications, and future directions.

Background Research

... Being able to laugh and to be funny—those are really important human characteristics, and when we say that people don't have those characteristics, then we deny them their humanity.

-Maxine Hong Kingston (Fishkin, 1991)

Introduction

A Google search for “comedian” brings up millions of names—of men. Men dominate the comedy industry. Their success over females is often boiled down to one simple statement: men are funnier than women. Even if a woman manages to succeed in comedy, she still faces many barriers because of her gender. Companies assign them to more passive and stereotypic roles. *New York Times* writer Chris Smith describes comedienne Janene Garofalo during her stint at *Saturday Night Live*: “Garofalo looks like a forlorn child trapped at her parents’ dinner party.... Garofalo’s largely been stuck in dull, secondary wife and girlfriend roles” (Kohen, 2012, 242). Garofalo was on *SNL* from 1990-1995, when the show had its lowest female presence and its worse ratings ever, but also comedy superstars like Adam Sandler, Chris Farley and David Spade. Could the absence of female voices—or put differently, the presence of dominating male voices—have contributed to the decreased ratings? It’s not just *what* is being said that makes something funny, but *who* is saying it. CBS turned down sketches from Barbara

Gallagher, former comedienne and writer for *The Dick Van Dyke Show*, simply because they were written by a female. When she submitted the same sketches under a male-cowriter's name, the producers aired it and the audience loved it (Kohen, 2012, 85). SNL star John Belushi would purposely read women's scripts poorly when they were being pitched (Kohen, 2012, 104) so they would seem less funny and wouldn't be chosen. But the men in the room didn't need to read the script; they already decided the women were unfunny. Melanie Hutsell's reports on her SNL experience: "I would try to get in on [a joke] and say something, [the men] would all just get quiet and look at me like 'Oh'." (Kohen, 241). At this time, any SNL sketches that cast women in main, unsterotypical, and funny roles were solely written by females, but because there were far fewer female writers at the time and many male writer's with invested interested in female failure, there were significantly less roles for females (Kohen, 2012, 107).

This is not just an anomalous sexist ghost from SNL's past. The stereotype of the unfunny female pervades throughout culture and history. This is evidenced by this 1842 *Graham Magazine* quote, "there is a body and substance to true wit, with a reflectiveness rarely found apart from a masculine intellect. . . . The female character does not admit of it (Jenkins, 292)" all the way to a 2007 *Vanity Fair* article that asks:

Why are women, who have the whole male world at their mercy, not funny?
Please do not pretend not to know what I am talking about. All right — try it the other way (as the bishop said to the barmaid). Why are men, taken on average and as a whole, funnier than women? (Hitchens, 2007)

Humor's presence is often used to justify itself: namely, "I'm laughing, so it must be fine and it must be funny." It is also used to justify its absence: "I'm not laughing, so she must not be funny." This tautology makes overcoming stereotypes near impossible.

Why hasn't this been studied, and why study it?

When enjoying ourselves in our daily lives, our instinct is not to analyze our pleasure—our instinct is to enjoy! On the other hand, when facing a trying time, we tend to ruminate and reflect until the “problem” is solved. This attentional negativity-bias creates a dearth in research on positive psychology (Seligman & Csikszentmihalyi, 2000). The field of Positive Psychology emerged to fill this niche (Seligman, Nansook, Peterson and Steen, 2005). One finding of Positive Psychology is that people tend to embrace positive emotions and work to “broaden-and-build” them, while negative emotions typically require critical attention and problem-solving (Frederickson, 2004).

Because of this negativity bias, humor’s negative repercussions are understudied. The harms of *what* people find funny (for example, racist and sexist humor) are more obvious but no more serious than *who* people find funny. People seem comfortable admitting that humor signals wit and intelligence. At the same time, people hold the stereotype that men are funnier than women, but these two assumptions are rarely confronted simultaneously. The association of humor and intelligence and humor and maleness necessarily naturalizes the association of intelligence, maleness and other positive traits like likeability and creativity (Greengross and Miller, 2011; Kaufman, Kozbelt, Bromley, and Miller, 2008; Chang et al, 2015; Christensen, Silvia, Nusbaum, and Beaty, 2016). Cowens et al (2014) found that simply by decreasing the pitch of a comedian’s voice (thereby making it more male-sounding) people found the comedian

funnier. Blocking an entire population from the humor domain may have more serious implications than a cultural dearth of vagina jokes. A “humorless” stereotype may be a seemingly silly signal of a deeper dehumanization. As Maxine Hong-Kingston writes, “Being able to laugh and to be funny—those are really important human characteristics, and when we say that people don’t have those characteristics, then we deny them their humanity.” This study seeks to explore the stereotype of the humorless female (and conversely, the humorous male) and its effect on impression formation.

Humor: Social Functions

Humor has many positive and—in alignment with the “Broaden-And-Build” Theory—wide-reaching effects. Laughter amplifies one’s own positive affect for those hearing it, and “contagiously” spreads to make hearers laugh as well (Provine 1992, 1996). Laughter and humor more broadly have been shown to increase positive affect, group-cohesion, mate-attractiveness, and mental health (e.g., McGee and Shevlin, 2010; Cann, Cann and Jordan, 2016; Cowan and Little, 2013; Curry and Dunbar, 2013; McGraw, Carter, and Harman, 2016).

Laughter does not always mend and transcend social boundaries. People are more likely to laugh when they heard in-group laughter, as opposed to out-group laughter (Platow, 2005). Robert Lynch (2010) tested participants’ implicit biases and then had them watch a stand-up comedian. Participants responded more positively to the comedians who matched their implicit biases (Lynch, 2010). People prefer to be around people who show extraversion and affiliative humor as opposed to introversion or

aggressive humor (Mendiburo-Seguel, Paez, Martinez-Sanches, 2015). Some psychologies have asserted that, in a sexual selection model, humor signals other desirable traits. Because of this, people can spontaneously attribute other positive characteristics to someone with a sense of humor. Humor is associated with wit and intelligence (e.g. Greengross and Miller, 2011; Kaufman, Kozbelt, Bromley, and Miller, 2008; Chang et al, 2015) and creativity (Christensen, Silvia, Nusbaum, and Beaty, 2016). These associations can happen both consciously and unconsciously.

Funniness and Gender: Differences in humor styles, or social norms?

Some humor psychologists posit that humor serves as a sexual fitness indicator (rather than a survival tool) (Miller, 1998, 2000, 2001; Bressler, Martin and Balshine, 2006). Sexual selection theory asserts that the “choosy sex”, most often, females, select mates from the opposite sex, who compete with one another. In most species, humans included, females are the choosy sex. Males compete for the attention of the female, often by displaying traits that demonstrate their reproductive fitness (Hoskin, 2010). From this perspective, humor can be understood as a signifier of fitness, specifically mental fitness (Greengross, 2014). Greengross and Miller (2011) found that humor production is higher in males and humor appreciation is higher in females (Greengross and Miller, 2011; Bressler et al 2006). Men rate themselves as funnier than females rate themselves (Liu, 2012). Some studies have found that women prefer a man who would make them laugh and men prefer women who will laugh at their jokes (Bressler and Balshine, 2006).

Studies like those in the paragraph above test just a single humor style, but there are many. Different types of humor that serve different functions: for example, *aggressive* humor and *affiliative* humor. Aggressive humor has a lower-status “other” as the target and includes racist, sexist, ethnic, or violent jokes. Absurdist humor highlights disparities in reality, rather than targeting people. Previous studies suggest that males engage more in aggressive and putdown humor (Martin, Puhlik-doris, Larsen, Gray and Weir, 2003; Terrion and Ashforth, 2002). Females prefer absurdist humor above sexist (Brodzinsky, Barnet and Aiello, 1981) and dark humor (Aillaud and Piolat, 2012). The purpose of humor seems to shift between genders. Men use humor as a tool to reinforce social order, whereas women tend to use humor to build social affiliation. Jenkins (1985) observed that men engage more in self-aggrandizement and put-down humor, whereas women engage more in self-deprecating humor to create rapport and intimacy. Both sexes change their humor styles when people of the opposite gender are present. When amongst males, male participants use more aggressive humor and sarcasm but in mixed-gender company, they made more self-directed jokes. Females used less self-directed humor and teased others (primarily males) more when males were present (Lampert and Ervin-Tripp, 2006). There are also correlations between humor and status: members of equal or higher-status are more likely to use humor than lower-status groups (Dubar, Banas, Rodriguez, Lie, and Abra, 2012). In general, female seem to use more context-specific and affiliative humor to promote social cohesion; males engage in more context-independent (i.e. “canned” humor, such as jokes) and humor that reinforces social hierarchy (e.g. Jenkins, 1985; Crawford, 2003; Hay, 2000).

Women are generally more expressive than men. Women report crying and smiling more than men. This number increases in social settings that emphasize gender roles (Fischer, 2014). Priming participants with traditional gender roles also increases this difference (LaFrance, Paulick, Hecht, 2003). Women even laugh at sexist jokes they find offensive and unfunny (LaFrance and Woodzicka, 1998). People are quicker to associate females with happy faces and males with angry faces than vice versa, suggesting that the stereotype of females as “emotional” does not apply to all emotions (Smith, 2015). Even women who don’t endorse traditional gender roles may display normative “female” behaviors to avoid being misperceived (LaFrance, 2016).

These gender and humor-style differences could explain the contradictory and complicated psychology research on humor. Some experimenters have found that both male and female participants laugh more when females (as opposed to males) are the butt of jokes (Cantor, 1976). Cowens et al. (2014) actually found that people rated a joke as funnier when the pitch of an audio clip was decreased (deeper sounded more masculine, higher sounded more feminine) (Cowens et al., 2014). Other studies have found that females prefer sarcastic remarks made by females with male targets. Men also enjoyed sarcasm more when directed towards men regardless of speaker’s gender (Drucker, Giroa, Fein, and Bergerbest, 2014), suggesting that jokes that target females aren’t universally funnier, and that funniness may depend on situation, type of humor, and medium. Zillman and Bryant (1974) concluded that overall jokes are found funniest when they reach “retaliatory equity”: the jokes aren’t too harsh but also not too soft with respect to the target’s merit. In sum, there are pervasive differences in humor styles and

preferences that are hard to measure and control for and must be considered when making normative claims about gender-humor hierarchy.

Ramifications of an “Unfunny” Stereotype

Background: Stereotypes and Dehumanization

Stereotypes

Stereotypes can preemptively warp people’s perceptions. People may simplify, skew or even misinterpret a target’s behavior so that it fits in with one’s biases. This happens on a small scale: people merely primed with motivation words performed better on a word-search task than the control (Bargh and Chartrand, 1996). But this also has more serious manifestation: participants were quicker to say a black man was holding a gun (stereotype-accordant) rather than a tool than they were to say so for a white man (stereotype-discordant) (Correll, 2002). Pervasive stereotypes start at a young age; six- and ten-year-old children show the same levels of biases on a test measuring implicit (Dunham, Baron, Banaji, 2008.).

Confirmation bias occurs when “information is searched for, interpreted, and remembered in such a way that it systematically impedes the possibility that the hypothesis could be rejected-- that is, it fosters the immunity of the hypothesis” (Oswald and Grosjean, 2004, p. 79). This skews perceptions of facts, events and people. For

example, when forming an impression of someone, people tend to ignore information that does not support their preconceptions of that person (Hastie, 1980; Heider et al, 2006). In general, people give greater weight to stereotype-accordant behavior than facts or perceptions that work against such beliefs (Baron, 1991). New perceptions form around pre-existing organizations, thereby skewing memory encoding, judgment and retrieval (e.g. Taylor, 1981). People attribute an “other’s” behavior to their disposition rather than their situation if that behavior is in accordance with a stereotype (Gilbert and Malone, 1995). For example, participants found a target’s high anxiety was caused by circumstance if the target was male, while a female target was seen to be an anxious person. When primed with a stereotype, participants interpreted a target’s behavior to be accordant with this stereotype (Srull and Wyer, 1979). Stereotypes work automatically but have long-lasting effects. Participants who were shown a picture of someone for either 100ms or no time limit showed no difference in evaluation of the target (Willis and Todorov, 2006). When people are not made aware that they should be forming an impression about someone, they are worse at remembering specific things about that person (Hamilton, Katz and Leirir, 1981), suggesting that preconceptions can allow stereotypes to work automatically in impression formation without need for attending to behavior. Simultaneously, participants unconsciously primed with impression formation were more likely to make dispositional (as opposed to situational) inferences about a target (McCulloch et al, 2007).

Stereotypes can act as “self-fulfilling prophecies” via a negative feedback loop. A person with stereotypes of a certain group may treat a member of that group in accordance with those stereotypes, and the target may react and mold to this treatment,

thereby confirming the stereotype (Chen and Bargh, 1997; Ambady, Shih, Kim, and Pittinsky 2001; Stone, Sjomeling, Lynch, and Darley, 1999). Stereotypes may operate in clusters. Activating power, for example, also activates sexual goals (Kipnis, 1972; Bargh and Raymond, 1995). Awareness of one stereotype may detract from another stereotype. People who were allowed to disagree with a sexist/racist comment were more likely to exhibit sexist/racist behaviors later, suggesting that a sort of limited “moral bank account” (Monin and Miller, 2001). Because female humorlessness is a stereotype not immediately activated or obviously harmful, this bias may continue unchecked even in individuals who make an effort not to be sexist in other more widely accepted way.

Dehumanization

Stereotypes are a step towards dehumanization. *Dehumanization* is defined as “process of depriving a person or group of positive human qualities.” Nick Haslam provides two dehumanization tactics, which he calls “mechanistic” and “animalistic”, situating humans between machine and animal. “Mechanistic” dehumanization denies an individual or group qualities that signify “human nature”, such as emotional responsiveness, interpersonal warmth, cognitive openness, agency, individuality and depth (Haslam, 1995). “Animalistic” dehumanization denies qualities of “human uniqueness”, like civility, refinement, moral sensibility, rationality, logic and maturity (Haslam, 1995). Barret et al (2011) proposed a similar binary of *agency*, or “to act, plan and exert self-control”, and *experience*, or “the capacity to feel pain, pleasure and emotions.” Agency attribution is often linked with mind-perception (Gray, Gray and Wegner, 2007). Complex mental-state attribution, then, negatively correlates with agency

attribution, and this feedback loop can be a cause or manifestation of cognitive bias.

“Dehumanization” may occur both *a posteriori* as well as *a priori*, through a fundamental reconfiguration of how one perceives others.

Agency is considered human’s defining characteristic. It can be understood to have four sub-components: intentionality, forethought, self-reactiveness, and self-reflectiveness (Bandura, 2006), all of which are associated with wit and humor. Stigmatized groups have such ‘agency’ removed both in academic and cultural realms. They are described as lacking qualities associated with producing wit and humor: self-control, culture, morality, and cognitive capacity (Jahoda, 1999). “Othered” groups remain psychologically distant, leading people to understand othered-group-members in a “simple and impoverished way.” People attribute others’ behavior to abstract traits rather than “specific beliefs, motives and intentions” (Trope, 2003). Because people perceive the Other as non-agentic, they see them as potential passive tools for themselves. People in higher positions of power approach members of lower-status in terms of the target’s usefulness with respect to the approacher’s goals (Gruenfeld, 2008).

Un-funny as un-human? Gender and the Double Bind of Dehumanization

The cultural objectification of women chronically dehumanizes women, such that even women take a third-person perspective on their own bodies (Fredrickson and Roberts, 1997). Loughann and Haslam (2009) found that sexual objectification of targets diminished complex mental state attributions. Women who felt themselves being objectified (i.e. the target of a man’s desiring gaze) perform worse on cognitive tasks

such as math exams (Bernard, Gervais, Allen Campomizzi, Klein, 2012). The process of objectification simultaneously encourages cultural associations of females as emotional, less rational and less exemplary of uniquely human characteristics (Citrin, Roberts and Fredrickson, 2004; Ortner, 1974). Ortner (1974) and Fredrickson (2004) look at cultural and psychological literature to theorize that, with respect to gender, women are seen as less “transcendental of nature” and further from “civility” and closer to nature, animality, childlikeness, and emotional control than men. Women often are characterized as “emotional”. When people view a man and a woman expressing the same emotion, they attribute that emotion to a female’s disposition and a male’s situation (Feldman-Barrett, 2009). When a woman expresses anger in a professional setting, they were accorded lower-status, lower-wages, and less competence than angry men or unemotional women (Brescoll, 2008). These women were seen to be “out of control”, unless they offered some external explanation for their anger; this was not the case for men (Brescoll, 2008.) A woman lacking the stereotypic emotionality is seen as competent but not warm. Even when occupying the same position as men, women are perceived to occupy fewer roles involving agency, aggressiveness, independence and decisiveness (Brands, 2014). In line with this, Laurie Rudman found that women who demonstrate confidence in their ability and promote themselves are seen as competent but are less liked and hired less (Rudman, 1998).

This puts women in a double bind. To escape the “emotional” stereotype, women must assert their capacity for uniquely human traits, but in so doing, they become further dehumanized (Haslam, 1995; Haslam, 2005). This social and cognitive blockade to the traits of intelligence, rationality and agency follow women into academia as well. Leslie,

Cimpian, Meyer and Freedhand (2015) found that women are underrepresented in academic fields associated with concepts of brilliance, raw talent, and genius, and are disproportionately represented in more humanistic fields. What's more, students describe male professors with more adjectives related to inherent genius, while female professors, even in the same field, are not accorded such "inherent brilliance". General intelligence can be accurately ascertained from a photograph of a man, but is underestimated in women (Kleisner, Chvatalova, Flegel, 2014). The connections between these stereotypes, humor and dehumanization are subtle but important. In naturalizing intelligence to humor and humor to males, we may be barring women from accessing humor, intelligence and humanness.

Current Study

So far, the stereotypes of the humorless and irrational female have been studied separately. This current study chooses to explore potential ramifications that denying a group the ability to produce humor may have. Building on the idea in Cowens et al. (2014), in which they presented the same content with either increased or decreased pitch to imply female or male speaker, we had participants read a humorous passage written in first-person. They are subtly told the author is either male or female. Then, participants rate the target on various dimensions (i.e. intelligence, creativity, aggressiveness, likeability, etc.) Based off the common stereotypes of females and the associations humor has with other positive attributes, we predict that participants will rate males as funnier and spontaneously attribute more positive characteristics to funny males. We look at

three main traits: funniness, intelligence and emotionality. We predict that males will be rated higher in funniness and intelligence, females will be seen as more emotional. In essence, that funniness will be positively correlated with intelligence and inversely correlated with emotionality. We also look at several other descriptors that we do not have as strong predictions about: aggressive, competent, easygoing, reserved, anxious, compassionate and likeable.

Study

1. Methods

1.1 Participants

Participants were users of Amazon Mechanical Turk (MTurk). We excluded any participants who failed the attention-check question or who accurately guessed what we were manipulating. This left data from 114 males and 75 females. The mean age was 36.54 years, with a standard deviation of 11.966 years and a range from 21-81. MTurk participants were paid 75 cents for participation.

1.2 Materials

Participants were shown snippets from comedians and comedy writer's autobiographies. Autobiographies use first-person and this eliminates any gender indicators that might be present in third person accounts. The passages were selected for brevity, self-containment, humorousness and identity ambiguity. We avoided any passages that hinted at the writer's identity, or that gave too strong suggestions about the demographic of the writer (i.e. "I got my period" makes apparent that the author is female.) The participants were told nothing about the author, not even that he/she was in fact a writer or comedian, to avoid creating any expectation of "good writing" or

“funniness.” Each participant saw just one short excerpt, and selection was random. Passages from two male and two female authors were chosen: Trevor Noah’s *Born a Crime*, David Sedaris *Me Talk Pretty One Day*, Tina Fey’s *Bossypants* and Issa Rae’s *The Misadventures of Awkward Black Girl*. See Appendix A for full text.

1.3 Procedure

Participants were informed that they were going to read an excerpt from someone’s autobiography, and then asked some questions about their impressions of the author. Participants were randomly assigned to one of four passages (we used an equal number of passages from female and male writers), and to either an implied-male author or an implied-female author condition. Specifically, the instructions used either the pronoun “him” or “her” to refer to the author, subtly stating the gender of the author (we did not use fabricated names to eliminate any potential biases).

Then, the participants were presented with a short (1 paragraph) excerpt. All four passages (whether written by a male or a female) were all used with both the male pronoun and female pronoun instructions. After reading, participants filled out a survey evaluating their impression of the author. They were asked to rank the author on a scale of 1 to 7 (“not at all” to “extremely”) on the following traits: funny, intelligent, and emotional. These are the three traits that we were most interested in exploring. Participants were then asked to evaluate the author on some traits we had less strong predictions about: aggressive, competent, easygoing, reserved, anxious, compassionate and likeable. An attention check was inserted at this point to ensure participants were

actually engaging in the survey. The attention check was another Likert scale for the trait “wise” and a scale from 1 (not at all) to 7 (extremely). Participants were told in the instructions to select 5 (“slightly”) on the scale, and any participant who didn’t was excluded from analysis. Participants were then given an opportunity to free-write any additional impressions. Lastly, participants were asked if they had any predictions what we were testing (note that participants were still paid regardless of their responses). We filtered out any participants who failed the attention check.

2. Results

2.1. Trait Likert Scores

We asked participants for ratings of ten personality traits. Three traits were of primary interest to us: funny, intelligent, and emotional. The other seven traits for future exploratory analyses: aggressive, competent, easygoing, reserved, anxious, likeable and compassionate).

For each of our three traits of primary interest, we ran a 2 (participant gender: female, male) x 2 (implied author gender: female, male) ANOVA. None of these produced significant effects. For intelligence, we found $F(3, 185) = .233, p = .873$. For funny, we found $F(3, 185) = .973, p = .407$. For emotional, we found $F(3, 185) = 1.516, p = .212$.

Despite the overall non-significant ANOVA for emotional, we note that there was a p-value less than .05 within the ANOVA: the interaction effect was $F(1, 185) = 4.032, p = .046$. The associated means were that female participants rated female authors’ emotionality on average 4.16 ($SD = 1.380$) and male authors 4.40 (1.184); male participants rated female authors 4.55 ($SD = 1.251$) and male authors 4.02 (1.286). If

these values were different from each other, they would indicate that participants rated cross-gender authors as more emotional than same-gender authors.

Finally, we note that there were correlations amongst all three traits. Intelligence and funniness were the most strongly correlated, $r(191) = .507^{**}$, $p < .01$. Intelligence and emotional were also positively correlated, $r(191) = .314^{**}$, $p < .01$ as were funny and emotional, $r(191) = .326^{**}$, $p < .01$.

2.2. Free Responses

Participants had an opportunity to write any additional impressions of the author in a free-write section. For some of these responses, see Appendix B. Whereas the Likert ratings were used for pre-planned statistical analyses, the free responses were looked at for general trends that might inspire future research. There were indeed some interesting differences between author-gender conditions.

Overall, male-authors were described with more positive adjectives. For most conditions (besides David Sedaris's excerpt), we have more feedback submissions for male-authors, and more participants were in that condition. I will discuss each excerpt independently because the comments are very specific to the particular passage (see appendix for each specific passage). Trevor Noah's passage described his mother chasing him around to discipline him. Both male- and female-author conditions commented on sense of humor, abuse, and sadness. Participants in the male-author conditions referenced the author's down-to-earth nature, and speculated at his thought process:

Although his mom seems to be short-tempered and aggressive, I felt that she loved him a lot and wanted the best for him. She wanted him to be tough and ready to face any difficulties in life. He

also seemed to understand his mom's approach towards raising him and has learned to handle his mom in the best possible manner, without hurting anyone or getting too emotional.”

These comments acknowledged the extremity of the described scenarios, but never described the author as “emotional”. Participants speculated less at the female-author’s thought process and described her as “emotional”. For example: “The author seemed highly emotional and the writing and grammar was wanting in this essay.” Also:

very sincere is what struck me.. There was elements of humor and sadness but most of all I felt a brutal level of sincerity to the point where the author wasnt afraid to tell a somewhat dark/twisted family secret that was part of childhood.

David Sedaris’s reviews were exceptional in that there were more participants and more feedback for the female-condition. The only negative comment in the male author condition was: “They were just trying to be funny.” The rest of the comments describe the author as funny and/or fun. Participants described a female-author as funny as well. In addition to this, these participants described her as intelligent and smart more often than those in the male-author condition.

The Tina Fey reviews are more positive in the male-condition and describe the author as funny more often. Female-author descriptions include ‘observant’, ‘not afraid to voice her opinion’, ‘gentle’, ‘caring’ and ‘keen at her job’. The male-author reviews mention the author’s sense of humor (seven mention humor, eight appeal to intelligence and cognitive skill, some comments combine the two). For example: “He has a very blunt/dry sense of humor, which I actually enjoyed. It's hard to make that kind of humor work, but

he did, so I imagine he is a pretty intelligent person”; and “I found the excerpt to be amusing, insightful, and well-written. The writer seems likable, and I'd probably read more from this section of the autobiography.”

For the Issa Rae reviews, the female-author conditions are mixed descriptions. None mention humor or related comments, and only one is overtly positive (i.e. “She seems easy-going, creative, and curious”). The negative comments are more extreme: “Just a piece of garbage in general”; “I don't have much respect for her. She states she's embarrassed, but I think she's rather proud of her ability to do what she did”; Male-author comments have a higher ratio of positive comments, and none as negatively valenced as female-author comments. Some participants did make negative inferences about “his” actions, but didn't attribute it to his personhood: “I feel like he was kind of a bad buy yet still likable” (male condition) vs. “She seems like the type who could be interesting to read because i enjoy trolling and catfishing but she likely is not a good person”(female condition).

Discussion

Summary

In this study, we at whether the implied-gender of an author effected readers' ratings of that author on given traits, particularly funniness, intelligence and emotionality. We also looked at seven other traits that we had less strong predictors about: aggressiveness,

competence, easygoing, reserved, anxious, compassionate and likeable. Participants read a passage from an autobiography and were asked to report their impression of the author on the above traits. We used a seven-point Likert scale, from 1 (“not at all”) to 7 (“extremely”). We did not find any significant effects for author-gender on trait-attribution for our three main traits (funniness, intelligence, and emotionality). The qualitative data from the open-ended reports demonstrate some difference in perceptions and inferences about the author between gender conditions. Implications, limitations and future directions are discussed below.

Implications

If we assume that our design was an accurate measure for gender bias and humor, our quantitative results would suggest that the gender of the author does not influence ratings of funniness. This would suggest our participants were not influenced by a stereotype that females are less funny than men. Importantly, “absence of evidence is not evidence of absence,” and we discuss several limitations of our study below.

We found a correlation between intelligence and funniness. This supports and/or reflects cultural assumptions linking the two traits. Perhaps finding someone funny has a positive effect on your overall perception of that person, and enhances positive qualities. There were also less strong but still positive correlations between emotionality and funniness, and emotionality and intelligence. Perhaps finding someone funny has a positive effect on your overall perception of that person, and enhances positive qualities (intelligence being more positive than emotionality). This correlation may be due to the

personal nature of some of the passages. The authors may come across as emotional just because of the content of the passages, and then funniness and intelligence are independently positively correlated.

While our quantitative rating scales did not show any signs of bias, some qualitative data do suggest that there is different processing going on for authors of different perceived genders. Male-authors received more positive reviews overall, and were more often described as funny and intelligent. These results are merely speculative considering the greater number of submissions in the male-author condition. Also, not every participant chose to fill the open-ended section, and so it is quite possible that only those with stronger impressions responded. Nonetheless, responses suggest that male authors were perceived as funnier, more intelligent, and having “coped” with whatever the excerpt referred to. Though there were many comments describing female-authors as funny, there were many that also referenced her emotionality. These qualitative results are interesting in contrast with the quantitative data. One explanation could be that on average, people do not perceive humor differently between the genders, but those who do have a gender-bias have a stronger one (and thus were more likely to complete the open-ended section). Some studies have measured participants’ gender bias before performing a task, and that information could have been useful here to check gender-bias against ratings and open-ended responses.

Limitations

There are many different explanations for our null results. Firstly, some of the open-ended reports (see Appendix B) suggest that our manipulation was too subtle. Several participants used the wrong pronoun to refer to the author. Future studies should be sure to strengthen this manipulation, for example by repeating the associated pronoun at every step, or by providing a picture. The open-ended reports also suggest that some of the passages were non-optimal for this study. For example, Trevor Noah's passage was about his mother chasing and disciplining him as a child. Many participants reported concern for him (or, as some were led to believe, her). Similarly, Tina Fey alluded to a man admiring a pretty woman. Participants described this author as creepy or perverted when in the male-author condition. In other words, social norms, such as family dynamics or gender roles, can confound author-impressions and interfere with pure humor perception. Passages that fit our criteria (first-person, unidentifiable, isolatable) were difficult to find, and it would have been even more difficult to avoid any passages with these normative confounds. One experimenter searched through many comedians' autobiographies to find and select the passages. The experimenter knew who had written all the passages and in what context. This could have also lead to some sort of selection bias. There was no pre-test to see what impressions the excerpts made when the author's identity and the excerpt's context was unknown. Future studies can try to refine their search to excavate more "experimentally pure" excerpts.

This leads us into another huge limitation: the online medium. Amazon Mechanical Turk is not made for humor. Firstly, the cold, impersonal online interface eliminates a lot of humor's social components. Written humor must be context-independent, and this eliminates the entire realm of context-dependent humor. The

passages themselves may have been limited in the sense/styles of humor. Firstly, comedians who write autobiographies and people who enjoy written comedy may have a more intellectual, word-based sense of humor. I (E.S.) tried to control for this when selecting the passages, in that I included some more “slap-stick” descriptions, but the written medium itself remains a barrier. Again, I was the only one who selected the passages, and so what I find “funny” or what I think is universally “funny” may have biased the stimuli. I could imagine this study coming out much differently if a slap-stick performance, performed by a man and performed by a woman, was chosen instead of a written excerpt.

Another limitation of the online medium is the uncontrolled and unknown environmental state of the participants. Amazon Turk workers likely are not primed for humor, as they likely have been spending time going through more mechanical studies. Humor depends strongly on the state of the audience. It is impossible to know what environment or affective state the participants were in. They may have been in a more perfunctory mood and not ready for (and thus able to find) humor. Indeed, many participants seemed not to have been paying attention. Several failed the attention check questions, and others wrote the wrong pronoun or information in the open-ended portion to refer to the author. Future studies should attempt to test in more natural and engaging settings, especially since so much of humor is paying close attention.

Future Directions

The present study looked at autobiographical excerpts work. Future studies should incorporate other mediums, such as video clips, stand-up, pictures or natural social contexts. I believe the latter demands the most immediate attention, primarily because of all the confounds in studying the “comedy industry.” For example, several comedy theorists claim that stand-up is an inherently male medium, and studies showing male preference and aptitude for non-context-specific humor supports this. Women also need to deal other factors that men do not need to deal with when trying to appease a mass audience, the most obvious being appearance. To “make it” in the industry, females compromise their comedy content to become palatable to a wide audience (Kohen, 2012; Walker, 1998; Wagner, 2011). The treatment of women in American comedy tradition is a bottom-up manifestation of the treatment of women in day-to-day life and humor interactions. Thus, future studies should focus on more ground level and natural contexts. What day-to-day interactions lead both men and women alike to find men more capable of humor? In-person studies would reflect more realistic situations and social norms, and so may provide stronger results.

It is also essential for future studies to better parse *what* is being said from *who* is saying it. This study attempted to target spontaneous observations of humor (e.g. by not telling participants the excerpts were written by comedians), to see if merely knowing someone is male makes people more receptive to humor. As discussed, the online medium made difficult controlling the environment of the participants (and thus how nurturing of humor those environments are). Simply knowing something is supposed to

be funny colors how one's perceptions. Future studies should combine gender-priming and humor-priming effects on participants.

More work can be done studying women who are widely considered funny, and compare them to average and unknown women. This area of exploration speaks again to *who* is allowed to joke. People widely do not anticipate women to be funny, and thus go into social situations with a confirmation bias; but perhaps by opening up the possibility for a woman to be funny (i.e. knowing she is a successful comedian with cultural merit) deconstructs this bias. I would imagine that people would perceive a woman with comedic merit (i.e. Tina Fey) as funnier than an unknown woman doing the same thing. Long-term effects of encouraging female humor should also be explored. In mixed-gendered company, females don't just joke less; they speak less altogether (LaFrance, 2016; Karpowitx, Mendelberg, and Shaker, 2012). This is a combination of females taking a more passive roles and men claiming the conversational and attentional space. Encouraging females to be more confident take more active roles in groups has proven to increase performance in cognitive tasks (Estes and Felker, 2011; Kay and Shipman, 2014). Future studies should explore similar initiatives in encouraging women to be more funny and more confident. These initiative's effects on males should also be studied; namely, to what extent do males in an environment that encourages and endorses female humor find females and female-humor funnier? What effect does this have on the distribution of attention? Simultaneously, a cross-cultural study looking at gender's effect on humor perception in single-sex vs. coeducational schools could offer insight into the socialization of *who* and *what* can be funny.

Conclusion

Humor is a powerful tool for establishing group bonds, trust and empathy, but it also can be used to put down, suppress, ridicule and dehumanize people. This study explores humor and gender in a more light-hearted but not any less serious way. We found no significant quantitative effect on ratings of funniness, intelligence and emotionality with respect to gender. We did find a correlation between intelligence and funniness, and a less strong correlation between intelligence and emotionality, and emotionality and funniness. The qualitative results are more suggestive of gender bias in perceptions of humor. Our null results do not erase the huge gender disparity in comedy, nor change the pervasive stereotype of women as the “unfunny sex.” Nor does it change the power of humor. Humor transcends and mends social boundaries. Think of any time that you and a stranger saw something you both found funny. Your joint laughter may have erased cognitive and personal distance to the point where the stranger felt just a little more human. Much more research can be done on gender and humor, and even more research on humor and humanizing. To quote Maxine Hong Kingston again: “what we need to do is to be able to imagine the possibility of a playful, peaceful, nurturing, mothering man, and we need to imagine the possibilities of a powerful, nonviolent woman and the possibilities of harmonious communities—and if we can imagine them, that would be the first step towards building and becoming them.”

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Appendix A: Excerpts

Trevor Noah (from *Born a Crime*)

As a child, I attended a private Catholic school known as Maryvale College. I was the champion of the Maryvale sports day every single year, and my mother won the moms' trophy every single year. Why? Because she was always chasing me to kick my ass, and I was always running not to get my ass kicked. Nobody ran like me and my mom. She wasn't one of those "Come over here and get your hiding" type moms. She'd deliver it to you free of charge. She was a thrower, too.

Whatever was next to her was coming at you. If it was something breakable, I had to catch it and put it down. If it broke, that would be my fault, too, and the ass-kicking would be that much worse. If she threw a vase at me, I'd have to catch it, put it down, and then run. In a split second, I'd have to think, Is it valuable? Yes. Is it breakable? Yes. Catch it, put it down, now run.

David Sedaris (from *Me Talk Pretty One Day*)

On my fifth trip to France I limited myself to the words and phrases that people actually use. From the dog owners I learned 'Lie down,' 'Shut up,' and 'Who shit on this carpet?' The couple across the road taught me to ask questions correctly, and the grocer taught me to count. Things began to come together, and I went

from speaking like an evil baby to speaking like a hillbilly. "Is them the thoughts of cows?" I'd ask the butcher, pointing to the calves' brains displayed in the front window. "I want me some lamb chop with handles on 'em."

Tina Fey (from *Bossypants*)

I worked many years with actors, and learned many things. One key lesson: figure out if there is something you're asking the actor to do that's making him or her uncomfortable. Is the actor being asked to bare his or her midriff, or make out with a Dick Cheney look-alike? (For the record, I have asked actors to do both, and they were completely game.) Rather than say, "I'm uncomfortable breast-feeding a grown man whom I just met today," the actor may speak in code and say something like "I don't think my character would do that." Or "I've hurt my back and I'm not coming out of my dressing room." You have to remember that actors are human beings. Which is hard sometimes, because they look so much better than human beings. Is there someone in the room the actor is trying to impress? This is a big one and should not be overlooked. If a male actor is giving you a hard time about something, immediately scan the area for pretty interns.

Issa Rae (from *Misadventures of an Awkward Black Girl*)

At only eleven years of age, I was a cyber fiend. Looking back, I'm embarrassed. For me. For my parents. But oddly enough, my cyber social debauchery is

indirectly correlated with my current status as a so-called internet pioneer. It all started when I began catfishing—creating characters and transmitting them over the internet—though back then people just called it “lying.” Had my father not signed my entire family up with America Online accounts for the computer in our modest Potomac, Maryland, home I don’t know that I’d have had the tools to exploit the early ages of the internet.

Appendix B: Open-Ended Responses

Responses that were blank or unsubstantial (e.g. “none” or “not really”) were not included. We also do not show responses that reported the wrong gender of the author or any responses that were about the survey and not the other (e.g. “nice task”).

Trevor Noah

Reported Female	Reported Male
The author's mom sounds like an abusive person.	I'd like to know who wrote this. Interesting tone. Please let me know.
The author seemed highly emotional and the writing and grammar was wanting in this essay.	My stronger impressions are about the child-rearing techniques than about the author, from which I don't infer much after reading only a single paragraph.
She has a great sense of humor.	I thought the author is very down to earth.
Inappropriate	seems to have a good attitude
very sincere is what struck me.. There was elements of humor and sadness but most of all I felt a brutal level of sincerity to the point where the author wasn't afraid to tell a somewhat dark/twisted family secret that was part of childhood.	It sounds to me that the author had to face many challenges from his mom who seemed to be trying to keep him on the straight and narrow.
Seemed resilient.	They are very direct and to the point. They love to play on the reader's emotions.
They seem grounded and aware of themselves.	a witty person who has family issues.
She's steady and determined. And probably way too people pleasing.	It almost seems like the author is using sarcasm in his writing to talk about a painful time in his childhood.
I think they are funny and they had a mother that liked discipline	He kept me entertained and wanting to read more
Funny	Although his mom seems to be short-tempered and aggressive, I felt that she loved him a lot and wanted the best for him. She wanted him to be tough and ready to face any difficulties in life. He also seemed to understand his mom's approach towards raising him and has learned to handle his mom in the best possible manner, without hurting anyone or getting too emotional.
Good writer.	He seems to have had a rough childhood, but he doesn't understand fully that it was bad.
Shes funny. I grew up around people like that so I have nothing but a good impression.	I thought he did a great job at making a sad story seem a little humorous.
	He seemed older, like he grew up in a time when it was okay to bear your kids. He also seemed very athletic.
	pretentious
	they're fun
	I think he seems like a person who has learned to turn a negative into a positive. It couldn't have been funny at the time to deal with a mother like that.

David Sedaris

Reported Female	Reported Male
The author is funny and has a good sense of humor	I feel like the author is someone who likes to have fun, take risks, and is not afraid to live.
It was humorous way of putting it. Seems they are open to new experiences.	I thought that the excerpt was ridiculous.
she was nice	Seems fun to hang out with. Easy going.
Witty, Friendly	not much else except probably well-rounded, curious, and cosmopolitan
I just felt that it was rambling and hard to understand the author.	He likes to have fun with life.
I thought the author was a little childish.	He seems somewhat happy go lucky. He learned from other people and used those teachings to communicate with others.
sounds like an interesting person	I think his goal is to be funny but I can't be totally sure.
The author seems to be inquisitive and intelligent, and a bit humorous.	The author was a bit quirky and unconventional. In my mind the author is a skinny and tall 30 something white guy from southern United States.
They are quirky, smart, see things other people don't and aren't afraid of new things and people.	I think they are a sensitive deep thinker.
I think the author is candid. She seems to be writing from the gut. I like stories that speak to reality.	They were just trying to be funny.
I think the author is an open minded person.	Funny guy.
She seem like she tried hard but failed lol	very funny. well traveled
I thought it was an interesting style and very unique	The story was interesting, I found myself snickering to myself. Amusing way to put a situation into words.
They seem like someone who knows how to have fun, and I'd guess they're rather intelligent.	
The author seems like someone who blends in with their surroundings easily. By that I mean they get along very well with others and have no problems being social.	
I thought it was disappointing that it was the author's fifth trip to France and that's all the author could say.	
Funny	
Witty	
sarcastic and quick witted	

Tina Fey

Reported Female	Reported Male
The general impressions of the author is very good at all	The author sounds like a creep.
Flexible in thinking, able to look beyond external 'apparent' things and examine the psyche of a person, creative, gentle, caring, a natural at knowing a persons motive for doing something.	Funny, easy-going
The author seems very observant and isn't afraid to voice their opinion. They are very candid and frank but also notices a great amount of details.	I just thought the author was hilarious. The author is also clearly very witty.
She seemed to be very keen at her job	Author seems to write about actors in his own thoughts
	He might not really be an expert in what he is talking about as the piece seems fluffy.
	seems sarcastic
	Sounds like the author is capable of writing for understanding, it was not hard to understand what was being said.
	A bit vain.
	I thought that he or she was exceptionally perceptive, frank and pragmatic.
	I like the author's sense of humor.
	He seems like a funny person.
	He seems in command of his craft
	He sounded smart and laid back
	Is very great writer
	They have a large ego and and very confident.
	He has great ideas!
	He has a very blunt/dry sense of humor, which I actually enjoyed. It's hard to make that kind of humor work, but he did, so I imagine he is a pretty intelligent person.
	I found the excerpt to be amusing, insightful, and well-written. The writer seems likable, and I'd probably read more from this section of the autobiography.

Issa Rae

Reported Female	Reported Male
Just a piece of garbage in general	Needed more parental attention.
They seem like someone that gets bored easily	I think the author seems similar to me in some ways
I found them to be similar to myself as that falls inline quite well with what I was doing at that age.	introverted
I don't have much respect for her. She states she's embarrassed, but I think she's rather proud of her ability to do what she did.	This guy seems pretty cool and someone I would want to hang out with (since my field is related to the cyber world as mentioned in his writing)
rather precocious and looking to blame others	The person has a nice vocabulary, and is probably well educated. It appears as if the author has regrets.
She seems easy-going, creative, and curious.	It is difficult to judge based on 1 paragraph, but I would guess the author has done well in life, is accomplished to a degree and is content with their life at this point.
The author seems repentent	The author seems remorseful.
She seems like the type who could be interesting to read because i enjoy trolling and catfishing but she likely is not a good person.	I thought he was kind of weird and his words made me uncomfortable.
The author seems like someone who is up to date on technology trends specifically the internet.	they seem very intelligent
	His writing gives me the impression that he is young at heart and always will be. I like his sense of humor. "creating characters and transmitting them over the internet" lol
	He blames his actions on his family, which I find cowardly
	He seemed like a smart and interesting person who probably has a lot of good stories to tell.
	He grew up in 90s.
	I think they are a good author with a lot of talent.
	I feel like he was kind of a bad buy yet still likable.
	he's probably more mature now than he used to be. he probably regrets a lot of his actions as a youth.
	On one hand he's somewhat forthcoming about the wrongs that he had done in his life, but at the end he tries to deflect blame to his parents for getting the internet. This makes me think he's not really contrite about things he's done.

Appendix C: Some Data

Figure 1: Averages for each trait by gender.

	Intelligent	Funny	Emotional	Aggressive	Competent	Easygoing	Reserved	Anxious	Compassionate	Likeable
Female-Author	5.034090909	4.659090909	4.204545455	3.534090909	5.181818182	4.784090909	2.863636364	3.125	4.056818182	4.784090909
Male-Author	5.048076923	4.711538462	4.317307692	3.663461538	5.115384615	5.086538462	3.221153846	3.365384615	4.182692308	4.846153846

Figure 2: Averages for each trait by excerpt and gender.

		Intelligent	Funny	Emotional	Aggressive	Competent	Easygoing	Reserved	Anxious	Compassionate	Likeable
Female-Author	O- Trevor Noah	4.904761905	4.761904762	4.952380952	4.333333333	5.095238095	4.095238095	3.238095238	3.666666667	4.619047619	5.095238095
	P- David Sedaris	4.733333333	5.033333333	3.933333333	2.6	4.9	5.233333333	2.5	2.8	3.9	4.666666667
	Q- Tina Fey	4.933333333	4.4	4.466666667	3.933333333	5.066666667	4.733333333	3.133333333	3.266666667	4.266666667	5
	R- Issa Rae	5.636363636	4.227272727	3.681818182	3.772727273	5.727272727	4.863636364	2.818181818	2.954545455	3.590909091	4.5
Male-Author	O- Trevor Noah	5	4.884615385	5.307692308	3.692307692	5.230769231	5.076923077	3.5	3.884615385	4.576923077	5.153846154
	P- David Sedaris	4.5	4.7	3.85	3.35	4.85	5.35	3.2	3.15	4.15	4.75
	Q- Tina Fey	5.074074074	5.074074074	3.925925926	4	5.222222222	5.333333333	2.592592593	2.888888889	4.518518519	5.222222222
	R- Issa Rae	5.419354839	4.258064516	4.129032258	3.548387097	5.096774194	4.709677419	3.548387097	3.483870968	3.580645161	4.322580645