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"Socializing is my *favourite*":
Analyzing the interplay between shyness, verbal irony use, and stereotype perception

BY

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ABSTRACT

This thesis investigates the relationship between levels of shyness, verbal irony use, and the presence and influence of associated stereotypes. Although recent studies of personality and figurative language have addressed varying research questions, there has been little direct exploration of the relationship between adult shyness and verbal irony production, with no examination of the existence and potential influence of an associated stereotype. This study begins research in this area, hypothesizing that shy individuals report higher verbal irony use than non-shy individuals, and that there is an associated stereotype which affects this relationship. Self-report surveys were used to measure verbal irony usage, shyness levels, and other cognitive variables, including personal and perceived cultural attitudes towards shyness and verbal irony, and the perception of a societal relationship. Participants' basic demographic and family, language, and cultural background were also collected. The results indicate a mixed stereotype perception; the correlation direction and significance between participants' self-reported shyness and verbal irony usage robustly matches those of their perceived societal relationship, suggesting a stereotype effect. No correlation was found between shyness and verbal irony for those reporting no societal relationship, nor in the sample population as a whole. This study's findings suggest an interaction between levels of shyness, verbal irony usage, and stereotype perception, providing new insight into verbal irony use as it relates to cognitive and social variables. The results allow further investigation of the stereotype effect's causal direction, motivations for shy adults' levels of verbal irony use, and what contributes to perceptions of a stereotype.

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CHAPTER 1. INTRODUCTION AND BACKGROUND

Verbal irony is a type of figurative language which is commonly used in day-to-day speech, particularly among friends (Gibbs, 1986, 2000). This form of indirect speech can have multiple uses within a social setting, including humour, emphasis, and expressing a negative opinion (Roberts & Kreuz, 1994). Since language often exists in a social context, as well as in the context of the individual interlocutors, multiple factors may affect its use such as personality differences and broader sociocultural factors. Multiple questions may therefore arise regarding verbal irony usage; for instance, do individuals with social difficulties such as shyness use this socially rich form of language to facilitate social interactions? Are they sensitive to social norms for figurative language use and/or their personality? The present study seeks to expand research on this topic, investigating the relationships between verbal irony use, shyness levels, and stereotype perceptions. The following sections include an overview of the relevant literature, followed by my specific research questions and hypotheses.

1.1 Verbal irony

1.1.1. Definition

Verbal irony has been described as language which is concurrently inappropriate and relevant to its context (Attardo, 2000), where a phrase is used with an intended figurative meaning which is oppositional to its literal meaning (Recchia et al., 2010; Wilson & Sperber, 1992). For example, one might say *What nice weather we have today* to complain about a cold, stormy day. Here, verbal irony is used to make an ironic criticism, where a positive statement describes a negative situation (Colston, 1997; Riloff et al. 2013). Additionally, verbal irony may

be used to make an ironic compliment, where a negative statement describes a positive situation (Dews et al., 1995). In this case, someone might say *That is the worst outfit I've ever seen* to communicate admiration for their friend's good style. In either case – ironic compliment or ironic criticism – specific prosody and blank facial expressions often accompany ironic utterances to cue their intended counterfactual meaning (Attardo et al., 2003), which may be used to aid comprehension in addition to contextual clues (Wang et al., 2006). While verbal irony may include other characteristics such as quotations (Wilson & Sperber, 1992) or more complex references which require multiple inferences (Zajączkowska & Abbott-Smith, 2020), this counterfactual "oppositeness" is verbal irony's main defining factor.

1.1.2 Discourse goals and pragmatic functions

Given its complexity, verbal irony has been described as an aspect of pragmatic competence, and it can be used to attain multiple social goals (Mewhort-Buist & Nilsen, 2013, 2017). In discourse, individuals may use verbal irony's counterfactual nature to echo the opposite meaning in a given context – which is typically a more desirable state of affairs – thereby expressing personal impressions and attitudes, or stance (Wilson, 2006; Wilson & Sperber, 1992). Other pragmatic properties of verbal irony include referring to shared knowledge and creating a connection between the speaker and hearer; this pragmatic information may be incorporated and used very early in verbal irony comprehension (Gibbs, 1986).

An overview of motivations for verbal irony usage found intentions to include humour, emphasis, clarification, and display of negative emotion (Roberts & Kreuz, 1994). Colston (2015) further distilled these goals to observe that verbal irony is used primarily for negativity management. Verbal irony has also been found to have a face-saving function, where it can help

a speaker seem less rude, offensive, or unfair (Dews et al., 1995; Jorgensen, 1996), though its humour level notably does not seem to contribute to this face-saving ability (Jorgensen, 1996). As a result, verbal irony is often used when criticizing or complaining to friends or other familiar interlocutors (Gibbs, 2000; Jorgensen, 1996; Zhu & Wang, 2020). Similarly, Szymaniak & Kałowski (2020) found that verbal irony is often used to indirectly express aggression, though it is more cognitively demanding to produce.

Given these multiple potential motivations, verbal irony has been explained as both potentially pro-social, such as when softening a criticism or demonstrating emotional control (Bowes & Katz, 2011; Dews et al., 1995; Jorgensen, 1996) and as anti-social, such as when enhancing condemnation or sharpening an insult (Bowes & Katz, 2011; Colston, 1997; Dews et al., 1995, Harris & Pexman, 2003; Mewhort-Buist et al., 2020; Mewhort-Buist & Nilsen, 2017). Further, Dews et al. (1995) found that the social uses and consequences of using verbal irony may differ depending on its type: ironic compliments were rated as more insulting than literal compliments, while ironic criticisms were rated as less insulting than literal criticisms. Both ironic compliments and criticisms were found to be rated as funnier and more amusing than their literal equivalents, though ironic criticisms were considered to be funnier than ironic compliments.

1.1.3 Risks

Despite this vast array of possibilities, using verbal irony also carries potential drawbacks: verbal irony is considered risky, as it is not always identified or understood by addressees due to its subtlety (Tree et al., 2020; Wilson & Sperber, 1992). While speakers may be more likely to use verbal irony to express offense, they have also been found to be less likely

to use ironic criticisms than literal criticisms, possibly due to this risk of misunderstanding (Zhu & Wang, 2020). Further, although verbal irony can lessen negativity as mentioned above, it can sometimes enhance it (Bowes & Katz, 2011). In fact, associations have been found between trait anger and self-reported verbal irony use, though no correlation was found on a response choice task (Szymaniak & Kałowski, 2020). In an argument, verbal irony may be seen as more victimizing and more relationally aggressive, though people rate it as more humorous and less aggressive when they take the perspective of the aggressor instead of the victim (Bowes & Katz, 2011). Consequently, while verbal irony has many possible functions due to its complexity, that complexity may also lend it to be risky, as its effectiveness requires correct understanding of its counterfactual nature.

1.1.4 Individual differences

Several individual factors have been identified which may influence verbal irony use and interpretation. Firstly, studies have found theory-of-mind abilities to aid adults' verbal irony interpretation (Zhu & Wang, 2020), which has been corroborated by evidence from neuroimaging studies (Bohrn et al., 2012). Contrastively, research involving children has found mixed evidence for theory-of-mind effects on verbal irony comprehension (Panzeri et al., 2020; Zajączkowska & Abbott-Smith, 2020), with cognitive flexibility suggested as a better predictor (Zajączkowska & Abbott-Smith, 2020). Regarding use, theory-of-mind has been found to be negatively correlated with verbal irony use overall; specifically, adults with low theory of mind were more likely to use aggressive verbal irony (Zhu & Wang, 2020). Despite this, however, adults with high theory-of-mind abilities were likely to use verbal irony to diffuse tension in a delicate context and when an interlocutor was less likely to be provoked (Zhu & Wang, 2020),

suggesting that higher theory-of-mind may be associated with a better understanding of or desire to use verbal irony for its prosocial pragmatic functions.

Age has also been found to affect verbal irony comprehension. Older children display greater understanding of verbal irony and its meaning than younger children (Recchia et al., 2010). Children's understanding of verbal irony as potentially negative develops first, followed by their understanding of verbal irony as humour which continues developing beyond middle childhood (Harris & Pexman, 2003). Changes in verbal irony interpretation continue into adulthood, however, where older adults rate ironic criticism as friendlier compared to literal criticism (Rothermich, 2020). Older adults also displayed lower accuracy in determining a phrase as literal or non-literal in comparison to younger and middle-aged adults.

Other studies have found gender differences in verbal irony use, where males were more likely to use verbal irony than females, both for children (Mewhort-Buist et al., 2020) and adults (Colston & Lee, 2004; Zhu & Wang, 2020). Similarly, a study on family verbal irony usage found that mothers only used verbal irony in conflict, while fathers used verbal irony in both positive and conflictive settings (Recchia et al., 2010). However, another study found that while males reported higher verbal irony use than females, they did not exhibit higher use when speaking (Bowes & Katz, 2011). Consequently, the extent to which gender influences verbal irony use remains unclear.

1.2 Shyness

1.2.1 Definition

Shyness is a personality trait often characterized by tension, anxiety, and inhibition in a social setting (Cheek & Buss, 1981), particularly when in a situation that is new or perceived as

socially evaluative (Coplan & Arbeau, 2008; Rapee & Heimberg, 1997). For instance, Schlenker & Leary (1982) explain social anxiety as occurring when individuals want to make a positive impression but instead perceive or imagine a negative reaction from an audience; in general, individuals with social anxiety are likely to perceive themselves and their performance more negatively than non-anxious individuals (Rapee & Heimberg, 1997). Further, Wallace & Alden (1991) found that socially anxious men perceive themselves as falling short of or unable to meet social expectations for their behaviour. While social anxiety may occasionally be associated with interpersonal aggression as an outlet, it most commonly results in shy inhibited behaviour (Kashdan & McKnight, 2010).

1.2.2 Shyness, pragmatic language, and social adjustment

Because of their difficulty with forging social bonds, shy individuals may often experience loneliness (Fitts et al., 2009). And, while shyness has been found to be at least somewhat separate from sociability (Cheek & Buss, 1981), shy children have also been found to have difficulty mentalizing in social contexts, further adding to their difficulty with social skills (Mewhort-Buist & Nilsen, 2013). This can lead to self-conflict, as shy individuals desire social connection but tend to avoid it due to their social anxiety (Asendorpf, 1990). Research suggests that humour can help mediate the relationship between shyness and loneliness, particularly humour forms that are considered to be interpersonally beneficial (Fitts et al., 2009), though Markovic & Bowker (2015) only found humour to correlate with increased social acceptance for socially anxious girls, not boys. Coplan & Weeks (2009) similarly found pragmatic language ability to help shy children's socioemotional adjustment in school. In contrast, however, Mewhort-Buist & Nilsen (2019) found that shy children with better verbal irony comprehension

(which is an aspect of pragmatic language ability – see section 1.1.2) experienced increased socioemotional difficulties, particularly for shy girls; this difficulty was explained as possibly due to a heightened realization of their perceived social shortcomings.

1.2.3 Shyness and verbal irony

While verbal irony and shyness have been extensively studied independently, little research has investigated them together. Of this research, most has focused on the relationship between shyness levels and verbal irony comprehension. Mewhort-Buist & Nilsen (2017) found that shy adults rate verbal irony as more negative than non-shy adults, specifically regarding ironic compliments. Similarly, shy children have been found to interpret verbal irony as more threatening than non-shy children, which is explained as relating to shy-negative affect – shy individuals' tendency to interpret ambiguous stimuli as negative (Mewhort-Buist & Nilsen, 2013). Crucially, there was no relationship found between shyness and the *ability* to comprehend verbal irony. Instead, the difference was in shy children's *construal* of the social meaning of verbal irony.

Regarding shyness and verbal irony use, even less research has been conducted. Recently, Mewhort-Buist et al. (2020) found shy children to be less likely to use verbal irony than non-shy children. However, a study on adults found shy males to be more likely than non-shy males to use aggressive humour (within which verbal irony was included), though there was no difference found for females (Hampes, 2006); this gender difference was explained as possibly due to social norms for expression of social frustration. A direct investigation of shy adults' levels of verbal irony usage is clearly warranted.

1.3 Stereotypes

In addition to individual factors, stereotypes – societal beliefs regarding characteristics of specific people or groups – have also been found to have a relationship with language. Maass (1999) outlines the role of language in transmitting and maintaining stereotypes, as language is used to communicate those stereotypes between individuals. Additionally, Gibbs (1986) found that verbal irony which echoes an explicitly mentioned stereotype or norm is understood and remembered better than verbal irony which does not, suggesting that stereotypes may be interrelated with verbal irony.

Regarding stereotype influence on individuals' language comprehension, research has found that age, gender, race, and occupation stereotypes all may provide listeners with context for interpreting speech and explaining behaviour (Cocco & Ervas, 2012). Specifically, gender stereotypes have been found to affect verbal irony comprehension, where verbal irony is considered to be more "male-like", and men find verbal irony funnier than women (Cocco & Ervas, 2012). Occupation stereotypes have also been found to affect verbal irony interpretation: Contreras et al. (2011) and Pexman & Olineck (2002) found that stereotypes for comedians cued recognition of their intended verbal irony when minimal context was present. This suggests that stereotypes are integrated in the process of recognizing and comprehending potentially ironic speech, including information such as a speaker's perceived tendencies to be humorous, critical, or sincere (Pexman & Olineck, 2002). Despite this evidence, however, stereotypes have not yet been considered in the investigation of shyness and verbal irony.

1.4 Research questions

As previously mentioned, the purpose of this study is to expand the existing research on shyness and verbal irony use, including the potential influence of stereotype perception. Within this area of inquiry, two research questions were posed: 1) is verbal irony use related to shyness levels in adults?, and 2) is this relationship affected by perceived stereotypes? Regarding research question 1, I hypothesize that shy adults will report greater verbal irony use than non-shy adults. While shy children seem to be less likely to use verbal irony (Mewhort-Buist et al., 2020), it is possible that shy adults may use more verbal irony due to a greater understanding of its pragmatic effects and social benefits, particularly its ability to create verbal interaction while maintaining interpersonal distance (Haverkate, 1990). Regarding research question 2, I hypothesize that this relationship will indeed be affected by an associated stereotype, where shy individuals are seen as using more verbal irony than non-shy individuals in the general public.

CHAPTER 2. METHODS

2.1 Participants

Eighty participants were recruited from an online subject pool consisting of undergraduate students enrolled in an introductory linguistics class. Thirty-four participants were native English speakers, and forty-six were nonnative English speakers. Participant ages ranged from 17 to 30 years with three who chose not to answer; gender distribution was fifty-one female (64%), twenty-two male (27%), three non-binary (4%), and four who chose not to answer (5%). Participants received course credit as compensation for participating.

2.2 Materials

All data were collected using five online self-report questionnaires distributed through Google Forms. Questionnaires 1-4 were specifically developed for this study. Each questionnaire included questions related to one variable or approximate variable category. The questionnaires were titled as follows: "1. Personality Characteristics", "2. Sarcasm", "3. General Views", "4. Background", and "5. Personality Characteristics Part 2".

Questionnaire 1 assessed the personality characteristic of shyness, including direct and indirect questions. Four Likert scale questions with a range from 1 to 7, one yes/no question, and one short answer question were used, for a total of six questions. Questionnaire 2 focused on verbal irony usage. A definition and two examples of verbal irony were included at the beginning of the questionnaire to ensure participants correctly understood the term "sarcasm[1]". Seven questions were used, including three Likert scales ranging from 1 to 7, one yes/no question, one

[1] While the term "sarcasm" was used for the study posting and the questionnaire, the definition used was a more general description of verbal irony.

multiple-choice question, and two short answer questions. Questionnaire 3 assessed personal views of verbal irony and shyness and the perception of a relationship between verbal irony and shyness in the general public. Two Likert scales with a range from 1 to 7, one multiple-choice question, one yes/no question, and four short answer questions were used, for a total of eight questions. Questionnaire 4 assessed family background, native language and culture, perceived cultural views of verbal irony and shyness, and age and gender demographic. Nine questions were included: five Likert scale questions with a range from 1 to 7 and four short answer questions. Questionnaire 5 further assessed shyness levels using McCroskey and Richmond's (2013) Shyness Scale. The Shyness Scale consists of fourteen Likert scale questions with a range from 1 to 5; the accompanying instructions were included at the beginning of the questionnaire form. The full set of questionnaires can be found in Appendix A.

2.3 Procedure

After receiving ethics approval from a University of Alberta Research Ethics Board, two study advertisements were posted on a university website: one for native English speakers and one for nonnative English speakers. After participants chose and signed up for the study (titled "Personality and Sarcasm"), they received a link to a consent form, which linked to the first questionnaire upon completion. The study was described as investigating sarcasm use as it relates to personality. Participants completed the five questionnaires remotely and independently on personal computers prior to a deadline. They were asked to complete the entire study in one sitting in a distraction-free environment. All participants received the same questionnaires presented in the same order from 1-5; each questionnaire provided a link to the next upon completion. A link to an experiment debriefing form was provided at the end of the study.

CHAPTER 3. RESULTS

Data analysis was conducted at multiple levels using Microsoft Excel, including means, t-tests, Pearson correlations, and chi-squared tests. All analyses involving shyness used responses to the 7-point Likert scale question *How much do you agree with this statement: "I am shy"*. Participants who rated themselves as 5, 6, or 7 were categorized as high shy, and participants who rated themselves as 1, 2, or 3 were categorized as low shy. These two categories were then verified with the tallied and scored McCroskey Shyness Scale responses. Since the McCroskey scale is divided into low, moderate, and high shyness, all moderate-scored participants were divided into low-moderate and high-moderate groups around the middle value in the moderate category. The percentage of agreeance between high shy responses and those scored as McCroskey high or high-moderate was 73%, and the percentage of agreeance between low shy responses and those scored as McCroskey low or low-moderate was 79%. Notably, for both the high shy and low shy groups, only one individual was scored in the direct opposite McCroskey category (i.e., a high shy participant scored as McCroskey low); the remaining disagreements were within the moderate-scored group.

3.1 Mean responses to quantitative questions

Table 1 presents mean responses to scalar personality questions in high shy and low shy groups. The differences between the two groups tend in the expected directions: high shy participants rate themselves as quieter, less likely to talk with a stranger, less outgoing, and more shy than low shy participants. Given the straightforward nature of these responses, and the McCroskey Shyness Scale verification, no t-tests were conducted.

Question	High Shy	Low Shy
How would other people describe you on average? (1 = very quiet, 7 = very loud)	3.2	4.4
In general, how likely are you to talk with a stranger? (1 = very unlikely, 7 = very likely)	2.9	4.6
How much do you agree with this statement: "I am outgoing"? (1 = strongly disagree, 7 = strongly agree)	3.2	5.1
How much do you agree with this statement: "I am shy"? (1 = strongly disagree, 7 = strongly agree)	5.7	2.4

Table 1: Mean responses to personality questions in high shy and low shy groups

Mean responses to questions assessing verbal irony usage were also calculated, as shown in Table 2. Little difference was observed between high shy and low shy groups for all scalar questions, and t-tests were not conducted since the differences were less than 1. Interestingly, low shy participants reported higher verbal irony use for the short answer question. A t-test (two tailed, equal variance) was conducted, and the result was marginally not significant. One outlier in the low shy group was omitted in both the mean calculation and the t-test. Based on these results, reported verbal irony use does not seem to differ between high and low shy groups. However, further research with a larger sample may find a difference since the t-test result was marginally not significant.

Question	High Shy	Low Shy
How much do you agree with this statement: "I am sarcastic"? (1 = strongly disagree, 7 = strongly agree)	4.1	4.7
On average, how many times per day do you say something sarcastic? (short answer)	4.4	7.7
In general, how likely are you to use sarcasm with someone you just met? (1 = very unlikely, 7 = very likely)	2.7	3.0
In general, how likely are you to use sarcasm with your best friend? (1 = very unlikely, 7 = very likely)	5.5	5.4
Think of someone you know who is shy. How sarcastic are they? (1 = not at all sarcastic, 7 = very sarcastic)	3.1	3.3
Think of someone you know who is outgoing. How sarcastic are they? (1 = not at all sarcastic, 7 = very sarcastic)	4.7	4.9

Table 2: Mean responses to verbal irony questions in high shy and low shy groups

Note: Boldface = t-test was conducted

A final set of means were calculated for responses to scalar questions on family and cultural background, as presented in Table 3. No t-tests were conducted as no question had a difference greater than 1 between the two groups. High shy and low shy participants' ratings of their family and cultural background therefore do not seem to differ based on these results.

Question	High Shy	Low Shy
On average, how would you describe your family? (1 = very shy, 7 = very outgoing)	4.3	5.2
On average, how sarcastic is your family? (1 = not at all sarcastic, 7 = very sarcastic)	4.0	4.3
In general, how is sarcasm viewed in your native culture? (1 = very unacceptable, 7 = very acceptable)	4.7	5.3
In general, how is shy behaviour viewed in your native culture? (1 = very unacceptable, 7 = very acceptable)	4.6	4.5
In general, how is outgoing behaviour viewed in your native culture? (1 = very unacceptable, 7 = very acceptable)	5.5	5.6

Table 3: Mean responses to background questions in high shy and low shy groups

3.2 Pearson correlations

The data were then divided into seven groups for correlational analysis according to the following variables: personal definitions of shyness, gender identity, family shyness, family verbal irony use, perceived cultural views of shyness, perceived cultural views of verbal irony, and perception of a societal relationship between shyness and verbal irony (perception of a stereotype). For each of the above variable groups, two-tailed Pearson correlations were calculated between participants' directly reported shyness level and their answers to five questions assessing verbal irony use. The questions included were as follows: Question 1 = *How much do you agree with this statement: "I am sarcastic"*, Question 2 = *Would your friends describe you as sarcastic*, Question 3 = *On average, how many times per day do you say something sarcastic*, Question 4 = *In general, how likely are you to use sarcasm with someone you just met*, Question 5 = *In general, how likely are you to use sarcasm with your best friend*. Questions 1, 3, 4, and 5 were 7-point Likert scale questions, and Question 2 was a yes/no question, where "yes" was coded as 1 and "no" was coded as 0.

3.2.1 Sample as a whole

Table 4 presents correlations between self-reported shyness and verbal irony use for the entire sample. Correlations were calculated at the .05 level of significance; all results were not significant, suggesting that there is no general relationship between self-reported levels of shyness and verbal irony use. This lack of a correlation is supported by the similarity of mean responses by high shy and low shy groups presented in Table 2.

Sample Population	**Pearson Correlation Coefficients: Self-Reported Shyness and Verbal Irony Use**				
	Question 1	**Question 2**	**Question 3**	**Question 4**	**Question 5**
N = 80	-0.069	-0.128	-0.188	-0.135	0.028

Table 4: Correlations between self-reported shyness and verbal irony in the entire sample

3.2.2 Personal factors

Table 5 presents correlation coefficients when participants were divided according to gender identity and definitions of shyness. Since shyness was not defined in the questionnaire, a preliminary analysis was conducted comparing participants who consider shyness and introversion as the same with participants who consider shyness and introversion as different. While the group which reported that shyness and introversion are the same had higher correlations, no significant correlations were found at the .05 level of significance for either definition. It appears, then, that individual definitions of shyness did not affect correlations between reported levels of shyness and verbal irony. A second analysis with the sample divided according to participants' gender found no significant correlation between reported shyness and verbal irony use for either gender at the .05 level. This lack of a significant correlation for either

gender is specifically of note: these results are contrary to Hampes (2006), who found shy males to be more likely to use aggressive humour, which included verbal irony.

Population Subgroup	Pearson Correlation Coefficients: Self-Reported Shyness and Verbal Irony Use				
	Question 1	Question 2	Question 3	Question 4	Question 5
Definitions of Shyness and Introversion					
Same (N = 32)	-0.154	-0.274	-0.251	-0.281	-0.107
Different (N =48)	0.022	-0.006	-0.217	-0.023	0.140
Gender					
Female (N = 51)	-0.057	-0.227	-0.068	-0.081	0.037
Male (N = 22)	-0.075	0.075	-0.190	-0.143	-0.081

Table 5: Correlations between shyness and verbal irony when grouped according to personal factors

3.2.3 Family and cultural background

The sample was then grouped according to family levels and perceived cultural acceptability of shyness and verbal irony. Table 6 presents the correlations between shyness and verbal irony for each of these groups. No significant correlations were found at the .05 level, suggesting that family shyness, family verbal irony, and perceived cultural views had no influence on the relationship between reported levels of shyness and verbal irony. However, some correlations in each family shyness group and in the verbal irony as culturally unacceptable group were close to significance; additional research with a larger sample size may yield significant results.

Population Subgroup	Pearson Correlation Coefficients: Self-Reported Shyness and Verbal Irony Use				
	Question 1	**Question 2**	**Question 3**	**Question 4**	**Question 5**
			Family Background		
High Shy Family (N = 13)	0.441	0.158	0.284	0.343	0.492
Low Shy Family (N = 45)	-0.161	-0.080	-0.219	-0.270	-0.106
High Family Verbal Irony (N = 35)	-0.016	-0.060	-0.201	-0.174	0.285
Low Family Verbal Irony (N = 34)	-0.025	-0.113	-0.088	0.042	-0.005
			Cultural Acceptability		
Shyness: Acceptable (N = 43)	-0.128	-0.109	-0.172	-0.139	-0.063
Shyness: Unacceptable (N = 22)	0.177	-0.005	-0.262	-0.080	0.418
Verbal Irony: Acceptable (N = 49)	-0.143	-0.162	-0.224	-0.142	0.067
Verbal Irony: Unacceptable (N = 14)	0.432	-0.032	0.163	-0.019	0.254

Table 6: Correlations between shyness and verbal irony when grouped according to family and cultural background

3.2.4 Stereotype perception

Next, correlations were calculated between shyness and verbal irony when grouped for stereotype perception, as seen in Table 7. Multiple significant correlations were found at the .05, .02, and .01 levels of significance. Interestingly, the correlation direction and significance between shyness and verbal irony use matches those of the perceived societal relationship: participants who report their belief that shy people use *more* verbal irony in the

general public themselves display a *positive* correlation between their personal shyness and reported level of verbal irony use (Question 1: r = +0.695, n = 12, p < .02, two tails; Question 3: r = +0.724, n = 12, p < .01, two tails; Question 5: r = +0.615, n = 12, p < .05, two tails). Similarly, participants who report their belief that shy people use *less* verbal irony in the general public themselves display a *negative* correlation between their levels of shyness and verbal irony use (Question 1: r = -0.557, n = 34, p < .01, two tails; Question 2: r = -0.543, n = 34, p < .01, two tails; Question 3: r = -0.521, n = 34, p < .01, two tails; Question 4: r = -0.398, n = 34, p < .02, two tails). Additionally, participants who report no relationship between shyness and verbal irony usage themselves display no correlation between their personal shyness and reported verbal irony usage. These findings suggest that there may be a relationship between stereotype perception and personal language use according to personality. However, it must be noted that the causal direction of this relationship cannot be determined with the data collected in this study, as will be explored in Chapter 4.

Perceived Stereotype	**Pearson Correlation Coefficients: Self-Reported Shyness and Verbal Irony Use**				
	Question 1	**Question 2**	**Question 3**	**Question 4**	**Question 5**
Positive Correlation (N = 12)	0.695**	0.547	0.724***	0.524	0.615*
Negative Correlation (N = 34)	-0.557***	-0.543***	-0.521***	-0.398**	-0.302
No Correlation (N = 34)	-0.036	-0.029	-0.260	-0.230	0.108

Table 7: Correlations between shyness and verbal irony use when grouped according to stereotype perception

Note. * = significant at .05 level, ** = significant at .02 level, *** = significant at .01 level

Given the variety of perceived stereotypes reported in Table 7, two chi-squared tests were conducted to investigate stereotype perception according to participants' country of origin. The distributions per country are included in Table 8, excluding countries listed by less than 5 individuals in total. The first test included Canada and China as individual countries with the highest number of individuals at 29 (36%) and 23 (29%), respectively. When analyzed for stereotypes reported by participants from each country, the result was not significant. A second chi-squared test added East/Southeast Asian countries other than China as a third group, including the Philippines (8 individuals), Korea/South Korea (3 individuals), Japan (2 individuals), Vietnam (1 individual), and Taiwan (1 individual), for a total of 15 (19%). The second result was also not significant. Based on these results, there is no clear cultural divide for which stereotype is perceived within this sample.

Perceived Stereotype	**Country of Origin**			**Total**
	Canada	**China**	**Other E/SE Asia**	
Positive Correlation (shy = use more verbal irony)	4	2	2	**8**
Negative Correlation (shy = use less verbal irony)	14	7	9	**30**
No Correlation	11	14	4	**29**
Total	**29**	**23**	**15**	**67**

Table 8: Number of people with different stereotype perceptions according to country of origin

3.3 Open-ended questions

Since shy individuals' levels of verbal irony use match their perceived stereotype despite the variation in stereotypes reported, open-ended responses were analyzed to try to determine why this matching might occur. Responses to four open-ended questions were coded and tallied for high shy and low shy groups. Two raters coded the responses independently; inter-rater reliability was greater than 85% for each question. One set of codes was used for Table 9 and Table 10, and another set of codes was used for Table 11 and Table 12. If responses fit into more than one category, they were coded accordingly.

3.3.1 Motivations for verbal irony use

Table 9 presents responses to *Why do you use sarcasm* for high shy and low shy groups. The majority of both groups reported a humorous intention. Interestingly, the high shy group reported an intention to be mean and to indirectly criticize more than the low shy group. However, a chi-squared test did not yield significant results, suggesting that the two groups do not differ in their reported motivations for using verbal irony.

Motivation	High Shy	Low Shy	Total
To be funny, as humour	27	21	**48**
To be mean, as an insult	7	1	**8**
Indirect criticism	8	1	**9**
Make conversation, reduce tension	3	5	**8**
Other	9	7	**16**
Total	**54**	**35**	**89**

Table 9: High shy and low shy responses to *Why do you use sarcasm?*

Responses to *Why do you think others use sarcasm* were then tallied and pooled as shown in Table 10, again comparing high shy and low shy groups. Similar to Table 9, a humorous intention was mentioned most. A chi-squared test also did not yield significant results, suggesting no difference in high shy and low shy groups' perceptions of others' motivations for verbal irony use.

Motivation	High Shy	Low Shy	Total
To be funny, as humour	18	17	**35**
To be mean, as an insult	5	6	**11**
Indirect criticism	8	5	**13**
Make conversation, reduce tension	3	3	**6**
Other	17	14	**31**
Total	**51**	**45**	**96**

Table 10: High shy and low shy responses to *Why do you think others use sarcasm?*

3.3.2 Reactions to verbal irony and shyness

Next, responses to *What is your reaction when you see someone being sarcastic* were tallied for high shy and low shy groups, as shown in Table 11. "Positive" included an explicitly positive response, an intention to make a connection, playing along, and empathizing. "Negative" included an explicitly negative response, difficulty with making a connection, feeling awkward, pitying, and actively trying to ignore the person. High shy and low shy groups demonstrate a similar pattern in their reactions. A chi-squared test did not produce significant results, reinforcing this similarity.

Reaction	High Shy	Low Shy	Total
Positive	25	20	**45**
Negative	14	12	**26**
No reaction	4	1	**5**
Other	2	2	**4**
Total	**45**	**35**	**80**

Table 11: High shy and low shy responses to *What is your reaction when you see someone being sarcastic?*

Finally, Table 12 presents high shy and low shy participants' responses to *What is your reaction when you see someone being shy*. "Positive" and "negative" were coded the same way as in Table 11. Again, high shy and low shy groups display a similar pattern, confirmed by chi-squared test results which were not significant.

Reaction	High Shy	Low Shy	Total
Positive	28	19	**47**
Negative	8	6	**14**
No reaction	2	5	**7**
Other	5	1	**6**
Total	**43**	**31**	**74**

Table 12: High shy and low shy responses to *What is your reaction when you see someone being shy?*

Based on these results, high shy and low shy participants do not seem to differ in their reported motivations for using verbal irony, their perceptions of others' motivations for using verbal irony, or their reactions to verbal irony or shyness. Therefore, these results cannot explain why shy individuals' levels of verbal irony use match the stereotypes they report.

CHAPTER 4. DISCUSSION

This study investigated whether verbal irony use is related to shyness levels, hypothesizing that shy adults would report higher verbal irony use than non-shy adults (hypothesis 1), and that this relationship would be affected by an associated stereotype, where shy individuals would be seen as using more verbal irony than non-shy individuals (hypothesis 2). When considering the sample as a whole, no relationship is found between levels of shyness and verbal irony use, nor are there significant differences in mean responses to verbal irony questions between high shy and low shy groups. Therefore, no support is found for hypothesis 1. This lack of a pattern continues when the results are analyzed according to gender, family background, and cultural background. The implications of these results are relatively straightforward: there appears to be no relationship between overall levels of shyness and verbal irony usage, even when accounting for possible differences due to gender, family background, and cultural acceptability. However, further study with a larger sample is needed as some results were marginally not significant.

The lack of effect for participant gender is particularly of note, given that previous studies have found boys (Mewhort-Buist et al., 2020), men (Cocco & Ervas, 2012; Colston & Lee, 2004; Zhu & Wang, 2020), and shy men (Hampes, 2006) to be more likely than women and girls to use verbal irony. There does not seem to be a clear reason for the lack of replication for gender differences; due to the recency of two of these studies, it is not likely that there has been a shift in gender norms. Consequently, further study is needed to assess whether gender does or does not affect verbal irony use by shy individuals.

However, support was found for hypothesis 2: while no single stereotype emerged, shy individuals' levels of verbal irony use matched the stereotype they perceived. For the group which reported a stereotype that shy people use more verbal irony, a positive correlation was found between their levels of shyness and verbal irony use. Similarly, for the group which reported a stereotype that shy people use less verbal irony, a negative correlation was found between their levels of shyness and verbal irony use. Finally, for the group which reported no stereotypical relationship between shyness and verbal irony, no correlation was found between their levels of shyness and verbal irony use. This relationship between stereotype perception and individual verbal irony use appears to be robust, since correlations were found which remain significant at the .01 level. Therefore, although hypothesis 1 was not supported, this study's findings suggest an interaction between verbal irony usage levels, shyness levels, and perceived stereotypes.

It is crucial to mention, though, that the causal direction of the relationship between stereotype perception and shy individuals' verbal irony usage is not clear based on these results. As will be explored below, there appear to be two possibilities for this relationship. First, individuals may adjust their verbal irony use to match the absorbed stereotype associated with their personality: a shy person who believes that shy people use more verbal irony in the general public themself may use more verbal irony to match that stereotype. Second, projections from individuals' personal verbal irony usage may affect the stereotype they perceive; in this case, a shy person may observe themself using less verbal irony than others, and then associate shyness with using less verbal irony in general. In sum, the main outstanding question is whether an individual's bias affects their language use, or if their language use affects their bias.

The first possibility appears to be a typical example of a self-fulfilling bias, where people's perceptions of a phenomenon in turn produce that phenomenon (Merton, 1948). In this case, an individual's level of verbal irony use does not depend on their personality per se, but rather on their idea of how society thinks someone with their personality uses language. This effect could be related to a desire to conform to social expectations: shy individuals may be highly sensitive to these expectations due to social anxiety (Wallace & Alden, 1991), resulting in an adjustment of their personal language use to conform to these perceived norms. In essence, they would adjust their language use out of a desire to fit in.

However, if the stereotype does indeed affect individuals' verbal irony use, it is unclear why there is such variance in which stereotype is perceived. Within the current sample, there is no evidence that this variance is due to cultural differences, as shown by the insignificant chi-squared test results comparing stereotypes reported per cultural background. Therefore, a second possibility for the causal relationship works in the opposite direction: individuals' observations of their personal language use may affect their perception of how society expects shy individuals to use language. This effect may also relate to a high sensitivity to social expectations: out of a desire for conformity, shy individuals may project from their personal level of verbal irony use to create a perceived norm which matches their behaviour. In this circumstance, their stereotype perception, not their language use, would be affected by the desire to fit in.

Regardless of the direction of the causal relationship, both of the above-mentioned options can be explained as related to sensitivity to social expectations. Although there was no difference found in shy individuals' motivations for verbal irony use in general, this study's results may still provide possible insight into shy individuals' social motivations for increased or decreased verbal irony use. Explaining either possibility as resulting from shy individuals' desire

to conform to a stereotype implies a pro-social motivation for using more or less verbal irony. As outlined in Chapter 1, verbal irony itself has been explained as both potentially pro-social (Bowes & Katz, 2011; Dews et al., 1995; Jorgensen, 1996) and anti-social (Bowes & Katz, 2011; Colston, 1997; Dews et al., 1995, Harris & Pexman, 2003; Mewhort-Buist et al., 2020; Mewhort-Buist & Nilsen, 2017). Therefore, it is possible that increased or decreased verbal irony use can stem from a pro-social desire of conforming to social expectations: individuals may use more verbal irony for pro-social outcomes, or they may use less to avoid anti-social outcomes. Further direct investigation of shy individuals' motivations for verbal irony usage is needed to gain a better understanding of this relationship between stereotypes and personal language use.

A comparison of this study's results with those involving children may also provide insight into the development of shy individuals. As was mentioned in Chapter 1, previous research has found shy children to be overall less likely to use verbal irony than non-shy children, although the significance was marginal (Mewhort-Buist et al., 2020). In contrast, the present study found variation in shy individuals' levels of verbal irony usage which matches their stereotype perception. This difference suggests a shift in awareness of and/or sensitivity to stereotypes as shy people age; this shift could be related to adults' higher exposure to or greater experience with social norms, as well as the consequences of conforming or not conforming to these norms. A direct comparison between adults and children including stereotype perceptions in both age groups is thus needed to fully explore this issue.

As with all research, this study is not without limitations. While the overall sample size of 80 participants was reasonable, potential power problems were introduced when the sample was divided into analysis groups. Additionally, the study used self-report questionnaires, which bring issues such as differing question interpretations, biased question prompts, and effects of

social desirability. However, since no previous research has combined the variables of shyness and verbal irony use with the macrosocial factors of stereotypes and cultural norms, self-report questionnaires provided a practical method to collect participants' subjective perceptions and begin study in this area of investigation.

Expanding from this study, further investigation is clearly needed regarding the causal direction of the relationship between shy individuals' stereotype perceptions and levels of verbal irony usage. A comparison of motivations for verbal irony use by shy and non-shy individuals may contribute to knowledge on this issue, in addition to exploring whether any specific factors exist which contribute to the absorption of one stereotype over another. Further, a direct comparison of shy children and adults which includes stereotype perception and awareness may provide deeper insight into developmental changes. Additional study including participants' gender identity is also warranted, given this study's lack of replication for findings of gender differences in verbal irony usage.

CHAPTER 5. CONCLUSION

This study sought to investigate the relationship between verbal irony use, the cognitive factor of personality, and sociocultural factors including stereotype perception and cultural background. Using data from online self-report questionnaires, the results found an interaction between levels of shyness, levels of verbal irony, and stereotype perception, where correlations between shyness and verbal irony use match the stereotype one perceives. For example, a shy person who believes that shy people use more verbal irony themself reports higher verbal irony use than others. Likewise, a shy person who believes that shy people use less verbal irony themself reports less verbal irony use than others. And, a shy person who sees no general relationship between shyness and verbal irony does not tend one way or another in their personal verbal irony use. While there was no singular trend across the entire sample, strong correlations were found within each group. These findings provide possible insight into shy individuals' language use, social motivations, and development, and provide new directions for future inquiry.

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APPENDIX A: Questionnaires

Questionnaires 1-5 were formatted and administered using Google Forms.

A.1: Questionnaire 1 ("Personality Characteristics")

1. How would other people describe you on average?
    a. 7-point Likert scale, 1 = very quiet, 7 = very loud

2. In general, how likely are you to talk with a stranger?
    a. 7-point Likert scale, 1 = very unlikely, 7 = very likely

3. Do you enjoy making new friends?
    a. Yes/no

4. How much do you agree with this statement: "I am outgoing"?
    a. 7-point Likert scale, 1 = strongly disagree, 7 = strongly agree

5. How much do you agree with this statement: "I am shy"?
    a. 7-point Likert scale, 1 = strongly disagree, 7 = strongly agree

6. What would you consider to be an ideal social setting?
    a. Short answer

A.2: Questionnaire 2 ("Sarcasm")

Participant instructions: Sarcasm is a type of figurative language, where one says something with an underlying meaning that is the opposite of the literal meaning of the phrase. Some examples of sarcasm are: saying "nice weather today" during a bad storm, or saying "that went terribly" to describe something that went very well.

1. How much do you agree with this statement: "I am sarcastic"?
    a. 7-point Likert scale, 1 = strongly disagree, 7 = strongly agree

2. How would you describe yourself in relation to others?
    a. Multiple-choice: more sarcastic than most people, less sarcastic than most people, similarly sarcastic to most people

3. Would your friends describe you as sarcastic?
    a. Yes/no

4. On average, how many times per day do you say something sarcastic? Please enter the number only.
    a. Short answer

5. In general, how likely are you to use sarcasm with someone you just met?
    a. 7-point Likert scale, 1 = very unlikely, 7 = very likely

6. In general, how likely are you to use sarcasm with your best friend?
    a. 7-point Likert scale, 1 = very unlikely, 7 = very likely

7. Why do you use sarcasm? List one or two reasons.
    a. Short answer

A.3: Questionnaire 3 ("General Views")

1. Think of someone you know who is shy. How sarcastic are they?
    a. 7-point Likert scale, 1 = not at all sarcastic, 7 = very sarcastic

2. Think of someone you know who is outgoing. How sarcastic are they?
    a. 7-point Likert scale, 1 = not at all sarcastic, 7 = very sarcastic

3. Do you consider shyness and introversion to be the same thing?
    a. Yes/no

4. If you answered "no" to the previous question, please explain.
    a. Short answer

5. What is your reaction when you see someone being sarcastic?
    a. Short answer

6. What is your reaction when you see someone being shy?
    a. Short answer

7. Why do you think people use sarcasm?
    a. Short answer

8. In the general public, do you think there is a relationship between shyness and sarcasm?
    a. Multiple choice: yes: positive relationship (shy people are more sarcastic), yes: negative relationship (shy people are less sarcastic), no relationship

A.4: Questionnaire 4 ("Background")

1. On average, how would you describe your family?
    a. 7-point Likert scale, 1 = very shy, 7 = very outgoing

2. On average, how sarcastic is your family?
    a. 7-point Likert scale, 1 = not at all sarcastic, 7 = very sarcastic

3. What is your native language?
    a. Short answer

4. What is your native country/culture?
    a. Short answer

5. In general, how is sarcasm viewed in your native culture?
    a. 7-point Likert scale, 1 = very unacceptable, 7 = very acceptable

6. In general, how is shy behaviour viewed in your native culture?
    a. 7-point Likert scale, 1 = very unacceptable, 7 = very acceptable

7. In general, how is outgoing behaviour viewed in your native culture?
    a. 7-point Likert scale, 1 = very unacceptable, 7 = very acceptable

8. What is your age? (If you feel uncomfortable disclosing this information, please answer "prefer not to say")
    a. Short answer

9. What is your gender identity? (If you feel uncomfortable disclosing this information, please answer "prefer not to say"
    a. Short answer

A.5: Questionnaire 5 ("Personality Characteristics Part 2")

The following questionnaire consists of McCroskey & Richmond's (2013) Shyness Scale, including the participant instructions and scoring instructions. All questions were accompanied by a 5-point Likert scale.

Participant instructions: Below are fourteen statements that people sometimes make about themselves. Please indicate whether or not you believe each statement applies to you by marking whether you: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

1. I am a shy person
2. Other people think I talk a lot
3. I am a very talkative person
4. Other people think I am shy
5. I talk a lot
6. I tend to be very quiet in class
7. I don't talk much
8. I talk more than most people
9. I am a quiet person

10. I talk more in a small group (3-6 people) than others do
11. Most people talk more than I do
12. Other people think I am very quiet
13. I talk more in class than most people do
14. Most people are more shy than I am

Please score your responses as follows:

Step 1. Add the scores for items 1, 4, 6, 7, 9, 11, and 12.
Step 2. Add the scores for items 2, 3, 5, 8, 10, 13, and 14.
Step 3. Complete the following formula: Shyness = 42 plus Total of Step 1 minus Total of Step 2.

Your score should be between 14 and 20. Scores above 52 indicate a high level of shyness. Scores below 32 indicate a low level of shyness. Scores between 32 and 52 indicate a moderate level of shyness.