

DETECTING FEMALE AND MALE LANGUAGE FEATURES IN FACEBOOK COMMENTS BY MALAYSIAN MILLENNIAL USERS

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Abstract

This study examines gendered language use in Facebook comments by Malaysian millennial users. Textual analysis was conducted on 260 Facebook comments collected from 11 Facebook social pages. Sixty participants' reasons for identifying the gender of the writers of 14 Facebook comments were also analyzed. The results showed that half of the participants could correctly guess the writers' gender. The Facebook comments showed more frequent use of male than female language features. The male millennial users were inclined towards using Sexual References, Insults/Profanities, Directive/Autonomy, Strong Assertion, and Rhetorical Questions. The females, however, were inclined towards using Hedges, Polite and Emotionally Expressive Words, Interpersonally Orientation/Supportiveness, Questions, and Experience Sharing. From the participants' perspective, male writing is short, direct, rude, negative, and crude, while female writing is lengthy, tentative, polite, positive, emotional, and reflects concern for others. The non-gender specific language features identified from textual analysis are Information Orientation, Apologies, Tag Questions, and Aligned Orientation, but different features were given by the participants (Questions, Rhetorical Questions, and Strong Assertion). The study also shows that Information Orientation, Self-Promotion, Sexual Reference, Opposed Orientation, Hedges, Apologies and Tag Questions may be falling into disuse among Malaysian millennials in Facebook comments. The findings suggest that language patterns used by Malaysian millennials deviate from conventional norms, with some comments displaying cross-gender language patterns. This indicates a blurring of conventional gender language norms in online interactions.

Keywords: gendered language features, Malaysian millennials, Facebook communication

ISO 639-3 codes: msa

1 Introduction

The way messages are written often reveals a writer's gender identity (Hyland & Tse 2009; Nasri et al. 2018), but with the onset of social media communication, the boundaries between female and male language may be changing. Social media communication may be between people who have never met face-to-face. This provides opportunities for social media users to use discourse features differently from their offline selves in their online representation. Users on social networking sites can decide what public information to display on their profiles. Communication in Facebook is primarily textual which means that social media users can hide or fake their gender identity. There is an increase of malicious Facebook communication (Bogolyubova et al. 2018). Research on gender identification is important with the rise in the number of impersonations by adults

who target children using social networking (Cheng et al. 2011). In Malaysia, cyberbullying is prevalent in the online community, and it is not restricted to only one gender (Balakrishnan 2015). Studies on gendered language features in digital texts can help to predict the gender of communicants (Hills 2000) and advance the accuracy of detecting cyberbullies (Dadvar et al. 2012).

Researchers (Herring 1993, 1994; Soler & Wanner 2016; van Deursen & van Dijk 2014; Yates 1997) have shown that there are gender-distinctive linguistic patterns. For example, Ahmed (2021) finds that in Pakistan universities, males use more initials, clippings, and subtitles, while females use more icons, letters, and number homophones when texting SMS. The question is whether gendered language features in face-to-face communication are carried into online communication. Herring (2013) states that social phenomena such as gender styles are likely to be more resistant to technological reshaping. Hills (2000:12) theorises that if an individual's "maleness" or "femaleness" is prevalent in offline communication, it may become even more noticeable in online discourse. As reported in the study by Herring (1993), males are inclined to use strong assertion and authoritative tones of communication, whereas females prefer intimate ways of maintaining online relationships. However, Morris (2013) finds that males tend to be more information-oriented when using social networking sites to look for or share information. In some studies, men have also been found to use profanities and insults (Herring 1994; Thomson & Murachver 2001) and engage in self-promoting (Herring 2003; Thomson & Murachver 2001). Additionally, males also tend to make more explicit sexual references (Subrahmanyam et al. 2006) and use authoritative and directive mannerisms of male communication (Guiller & Durndell 2007). Based on the study by Guiller and Durndell (2006), females tend to maintain relationships by showing supportiveness, being interpersonally connected with others, and sharing personal experiences. Herring (2003) also indicates that females are more likely to apologize online as well, which reflects stereotypical female features to maintain relationships. Nevertheless, these variations of language features between male and female users may be influenced by factors such as topics, discourse genres and socio-cultural norms of a specific community. For example, Herring and Paolillo (2006) report difficulty identifying blog 'writers' gender through the language use in their blog entries.

Earlier studies on gendered language features in online communication have prompted researchers to investigate their relevance in the current context of generational differences and social media advancement. In the study involving close to 20,000 Twitter users, Coats (2021) investigated gender differences in the use of profanity in Nordic languages and English. Their findings show that while males use more swear words in Nordic languages, the gender difference is not as apparent for English-speaking males. Coats's (2021) results show that both genders used more profanities when tweeting to individuals of the same gender. Salam (2021), on the other hand, analyzed 300 Facebook posts of Pakistani men between ages of 18 and 30, and noted that the men deviated from the norms of conservative Pakistani culture and shared their emotional side with their audience. Fosch-Villaronga et al. (2021) used textual sentiment analysis of tweets by 109 participants to assess the accuracy identifying the Twitter users' gender identities. Their inferential analytics demonstrated the existing problems in gender stereotyping in which 19% of participants were misgendered. The findings from the aforementioned studies point towards the need to re-examine the representation of female and male language in online settings due to the changes in generational and societal views on how females and males communicate.

In the context of Malaysia, studies that analyzed gendered language features on social media are still scarce. Lubis (2016) analyzed how Malaysian women presented arguments in tweets but did not investigate gendered language features. The few studies on gendered language features in blog posts show a tendency of females to use intensifiers (Amir et al. 2012; Sapuan 2014), hedges (Amir et al. 2012), experience sharing, expressive and polite words as well as first-person pronouns (Bustan & Alakrash 2020). Male bloggers are more straightforward (Bustan & Alakrash 2020) but are similar to females in their use of empty adjectives and tag questions (Amir et al. 2012). However, their sample size was small. Furthermore, the content on personal websites and platforms with many users like Facebook and Twitter differ (Gusiff 2019), which may influence communicative style. More importantly, the findings on gendered language features in these studies have been based on the researchers' perspective and analysis of language samples without gathering feedback directly from social media users. It is also worth noting that most of the previous studies focused on analyzing individual social media postings and were not in the form of threaded replies or comments. By examining threaded replies, it allows researchers to contextualize language use rather than treating each post as an independent specimen for analysis, which in turn could impede the interpretation of results.

Hence, this study aimed at examining gendered language features in Facebook comments written by male and female millennial users in Malaysia. The specific objectives of the study were the following.

- (1) compare frequency of male and female language features in Facebook comments;
- (2) describe the characteristics of gendered language features in Facebook comments;
- (3) to determine Facebook users' accuracy in identifying the gender of Facebook comment writers.

In this paper, we show how language features in social media communication could unveil the gender of writers and reveal language features that are currently used by both genders.

2 Method of study

This descriptive study on gendered language features focused on millennials because the most active Facebook users are aged 25-34 (Brack & Kelly 2012). The selection criteria for the Facebook comments were as follows: 1) the Facebook users in this study displayed their birthdate and birthplace publicly; 2) comments were made on Facebook pages that cover general news, and 3) comments were written in Malay or English, while comments in Chinese and other languages were excluded. These comments were collected from 11 public pages on Facebook. These Facebook pages were selected as they post common issues and topics which are not too biased to a specific gender and have more or less equal distribution of male and female followers (e.g., motherhood-related pages tend to have more female followers, while car restoration pages tend to have more male followers). These pages are all owned by Malaysian organisations, and the topics were largely current news and happenings in Malaysia. In total, 260 comments written by 227 Malaysian millennials (96 or 42.3% female; 131 or 57.7% male) were collected during the period from October 2019 to April 2020. Some participants posted more than once on the same posting, resulting in a slightly larger number of comments retrieved.

In addressing the privacy concern of the collected comments, Facebook's privacy policy was referred to. The policy stated that published content with the "everyone" setting allows the public to view the information posted by users (Moreno et al., 2013). Kosinski et al. (2015) stated that the use of public data in social media research does not require the consent of users when the data are knowingly made public by the users.

An analysis framework of gendered language features adapted from Fung et al. (2020) was used to identify whether the Facebook comments showed male or female features. Table 1 shows the related studies forming the basis for the definitions of the 16 gendered language features. The analysis focused on both the content and language. For instance, information orientation and sexual references are related to the content of the comments, whereas hedging and emotionally expressive words are related to the language features.

Content analysis was employed in analyzing the collected data. Each comment was categorized into male and female language features based on the framework in Table 1. This process was done thoroughly with cross-checking between two researchers so as to ensure that each comment was consistently coded. The unit of analysis was at the sentence level, in which each sentence was coded according to the framework. Comments with all sentences coded as "male language features" were counted under the male category, while comments that contained only sentences coded as female language features were added to the female category. However, the preliminary analysis revealed that some comments had a combination of male and female language features, and the category of "combined language features" was created. Specifically, comments that contain a mix of male and female language features were counted as "combined language features". There were also comments which could not be classified into male or female language features based on past research (Table 1), and these were categorized as "neutral language features". Frequencies and percentages were computed for the four categories of gendered language features.

Furthermore, we retained the original Facebook comments for analysis even though some have grammatical errors. The meanings of comments written in Malay were analyzed, and semantic categories were determined. However, English translations for those Malay comments are given in this paper for the convenience of readers.

Table 1: Framework of gendered language features

Gendered Language Features	Definitions	Previous Studies Showing Presence of Gendered Language Features
MALE LANGUAGE FEATURES		
M1 Information Orientation	¹ Engage in informative activities	Bond (2009), Cameron (2010)*, Guadagno et al. (2011), Jackson et al. (2001), Morris (2013)
M2 Self-promotion	² Focus attention on themselves [e.g., boasting]	Herring (1993), Thomson and Murachver (2001)
M3 Sexual References	Mention sexual themes	Herring (1996a), Subrahmanyam et al. (2006)
M4 Insults/Profanities	³ Use crude language	Herring (2000), Thomson and Murachver (2001)
M5 Directive/ Autonomy	⁴ State explicit and unambiguous statement of the opinion of a sender, or when it was forceful, independent, directive, or explicitly reactive [reflected in the use of imperatives and booster modal verbs and focuses on factual information]	Postmes and Spears (2002)
M6 Rhetorical Questions	⁵ Use assertive question not meant to be taken literally	Guiller and Durdell (2006), Herring (1993), Mulac et al. (1990)
M7 Opposed Orientation	⁵ Make explicit statement of disagreement [to disagree with other views]	Coates (2015)*, Guiller and Durdell (2006), Herring (2003)
M8 Strong assertion	⁵ Use absolute and exceptionless adverbials [usually emotional comments, and adverbs such as “only”]	Guiller and Durdell (2006), Herring (1994)
FEMALE LANGUAGE FEATURES		
F1 Interpersonal orientation/ Supportiveness	Build rapport ¹ Engage in more communal activities/ ² Express appreciation, thanking, and community-building activities that make other participants feel accepted and welcome.	Guadagno et al. (2011), Guiller and Durdell (2006), Herring (1994), Morris (2013)
F2 Hedges	⁶ Express doubt or soften speaker’s utterance	Amir et al. (2012), Basow (2008), Bonvillian (2000)*, Herring (1993), Walker (2008)*
F3 Apologies	Use “sorry” and other expressions to apologize	Herring (2003), Holmes (1989), Walker (2008)*
F4 Polite and emotionally expressive words	⁷ Use expressive, tentative, and polite language	Basow (2008), Basow and Rubinfeld (2003)
F5 Questions	Ask questions	Basow (2008), Cameron (2010)*, Herring (1993)
F6 Tag Questions	⁶ Make a statement followed by an interrogative clause or tag	Amir et al. (2012), Cameron (2010), Holmes (1989), Lakoff (1975)*
F7 Aligned Orientation	⁵ Make explicit statement of agreement; respond positively	Coates (2015)*, Guiller and Durdell (2007), Herring (2003)
F8 Experience Sharing	⁸ Contribute ideas in the form of suggestions; ⁵ Refer to one’s own experience	Guiller and Durdell (2007), Herring (1994)

Sources for the definitions: ¹Guadagno et al. (2011), ²Herring (1993), ³Herring (2000), ⁴Postmes and Spears (2002), ⁵Guiller and Durdell (2006), ⁶Amir et al. (2012), ⁷Basow and Rubinfeld (2003), ⁸Herring (1994)

*Descriptions of gendered language features based on empirical data involving face-to-face interactions

The next phase of the study was on Facebook users' accuracy in guessing the gender of commenters. For this, the participants were 60 Malaysian millennial Facebook users (30 males and 30 females). The instrument was an online questionnaire, which elicited demographic information (gender, place of origin, birth year and frequency of accessing and commenting on Facebook). The questionnaire contained 14 Facebook comments (8 females and 6 males) for the participants to read, and they were required to state whether a writer was male or female. These comments were selected from the pool of collected comments for the content analysis in the previous phase. The number of incorrect guesses were computed to find out the overall accuracy in ability of millennial Facebook users in guessing the gender of a Facebook commenter. The reasons given to justify their gender guesses were analyzed to find out why they correctly or wrongly guessed a commenter's gender.

3 Results and Discussion

In this section, the results for the three objectives of the study are presented. The male language features are referred to as M1 to M8 and the female language features are referred to as F1 to F8. The term "Facebook commenter" is used to refer to the writer of a Facebook comment shown to participants for them to guess the gender of the writer.

3.1 Frequency of coded comments according to language features

Table 2 provides an overview of the coded comments as analyzed in this study. There were more comments coded with exclusively male language features (61.9% of 260 comments) than those with female language features only (21.9%). Comments with a combination of male and female features made up about 13% of the total. There were eight unclassifiable comments.

Table 2: Frequency and percentage of coded comments by language features (N=260)

Coded Comments	Frequency	Percentage (%)
Only male language features	161	61.9
Only female language features	57	21.9
Combined language features	34	13.1
Unclassifiable	8	3.1
Total Comments	260	100

3.2 Breakdown of male and female language features in Facebook comments

Table 3 shows that the 260 Facebook comments contained 344 gendered language features. The percentages were computed out of the total of 344 features. The combined language features were analyzed separately as male and female language features here.

Seven out of eight male language features were used more by male commenters than by female commenters, as much as three times more frequently. The four most frequently used male language features (used by males) are Insults/Profanities (M4, 17.2%), Directive/Autonomy (M5, 12.8%), Strong Assertions (M8, 6.7%), and Rhetorical Questions (M6, 5.2%). The percentages for female commenters were 6.4% (M4), 4.6% (M5), 4.6% (M8) and 2.6% (M6) respectively. The percentages for the other male language features were less than 3% each for both male and female commenters.

The only male language feature that was used more by female commenters was Information Orientation (M1) (female, 2.9%; male, 2.3%). Female comments were also information-laden. The results suggest that Information Orientation may no longer be an exclusively male characteristic, contrary to past findings (Bond 2009; Cameron 2010; Guadagno et al. 2011; Jackson et al. 2001; Morris 2013).

Next, Table 3 shows that five out of eight female language features were used by female commenters more than male commenters, namely, Hedges (F2), Polite and Emotionally Expressive Words (F4), Interpersonally Orientation/Supportiveness (F1), Questions (F5), and Experience Sharing (F8), in descending order of percentages. In fact, Hedges (F2) was the only feature solely used by female commenters, showing that a similar early finding of Lakoff (1975) is still applicable in social media communication and the digital era.

Table 3: Frequency and percentage of gendered language features by male and female Facebook commenters (N=344)

Language Features	Used by male commenters		Used by female commenters	
	Frequency	%	Frequency	%
M1 - Information Orientation	8	2.3	10	2.9
M2 - Self-Promotion	2	0.6	1	0.3
M3 - Sexual Reference	7	2.0	2	0.6
M4 - Insults/Profanities	59	17.2	22	6.4
M5 - Directive/Autonomy	44	12.8	16	4.6
M6 - Rhetorical Question	18	5.2	9	2.6
M7 - Opposed Orientation	4	1.2	1	0.3
M8 - Strong Assertion	23	6.7	16	4.6
Total	165	48.0	77	22.4
F1 - Interpersonal Orientation/Supportiveness	6	1.7	17	4.9
F2 – Hedges	0	0	4	1.2
F3 – Apologies	5	1.4	1	0.3
F4 - Polite and Emotionally Expressive Words	2	0.6	11	3.2
F5 - Questions	4	1.2	10	2.9
F6 - Tag Questions	3	0.9	1	0.3
F7 - Aligned Orientation	12	3.5	2	0.6
F8 - Experience Sharing	9	2.6	15	4.4
Total	41	11.9	61	17.7

Note: M1-M8 are male language features and F1-F8 are female language features

Interestingly, three female language features were used by more male commenters. These features were used three to six times more frequently by males than females, namely, Apologies (F3; male, 1.4%; female, 1%), Tag Questions (F6; male, 0.9%; female, 0.3%), and Aligned Orientation (F7; male, 3.5%; female, 0.6%). These results suggest a change in gendered language features.

A comparison with past findings (Table 1) shows that some features were not common among the millennial Facebook users in this study, namely, Self-promotion (M2), Opposed Orientation (M7), Aligned Orientation (F7), Questions (F5), Tag Questions (F6) and Rhetorical Questions (M6). The topics of the postings selected from this study were about current issues happening in Malaysia during the data-collection period. Some of the topics were likely controversial to some users, but the lower frequency. However, the lower frequency of Opposed Orientation (M7), compared to Aligned Orientation (F7), showed that millennial users were not openly confrontational and preferred to show agreement. The tendency to agree is reflective of the liberal use of the Like emoticon. Over 80% of these two features were found in comments written by males. This finding could also be linked to the cultural norm of Malaysians in avoiding unnecessary conflict.

Male and female participants differed in their directness of giving views: males being direct, females being indirect. Directive/Autonomy (M5) comments ranked second in frequency, and a majority were from males. However, the direct expression of views was tempered by Experience Sharing (F8) which ranked third. Experience sharing is an indirect way of agreeing or disagreeing with views. Experience Sharing is still largely a female language feature, although males are moving away from the information-oriented communication. Some participants used different types of questions to give views indirectly.

3.3 Gendered language features in Facebook comments

This section presents results of the characteristics of gendered language features with excerpts. In the figures, the actual names of Facebook commenters have been replaced by 'FBUsername' to ensure anonymity. The texts for each comment were copied verbatim, and for comments with Malay content or phrases, English translations are provided.

3.3.1 Male language features

Altogether eight male language features were identified from past studies (Table 1). Figure 1 shows an information-oriented message (M1) which is usually factual. Here, the male commenter has copied and pasted an extract from an official document on consequences of submitting a false report on citizens and elected members of the parliament such as a longer prison sentence and no chance of pardon.

Figure 1: Information Oriented Comment (M1)

FBUsername: Undang-undang memperuntukkan bahawa seseorang yang membuat laporan palsu boleh didakwa mengikut Seksyen 182 Kanun Keseksaan yang memperuntukkan hukuman penjara sehingga 6 bulan atau denda sehingga RM2,000 atau kedua-duanya sekali. Mengikut Perlembagaan Persekutuan, Perkara 48 menyatakan seseorang boleh hilang kelayakannya sebagai Ahli Parlimen jika dia disabitkan atas suatu kesalahan oleh sesuatu mahkamah di Persekutuan dan dihukum dengan dipenjarakan selama tempoh tidak kurang daripada satu tahun atau denda tidak kurang daripada satu tahun atau denda tidak kurang daripada RM2,000 dan dia tidak mendapat pengampunan bebas.

Translation in English: The law states that any individual that makes a false report will be charged according to Section 182 of the Penal Code and will be punished by a prison term not exceeding six months or a fine of up to RM2,000 or both. According to the Federal Constitution of Malaysia, Section 48 states that a person is disqualified for being a member of either House of Parliament if convicted of an offence by a court of law in the Federation and sentenced to imprisonment for a term of not less than one year or to a fine of not less RM2,000 and will not receive a free pardon.

Figure 2 shows an example of a comment with self-promotion (M2), where the commenter drew attention to himself. The conversation was about the new no-smoking rule in restaurants. He “boasted” that he did not smoke, and implied that he was free of the danger of being fined while smokers were courting trouble.

Figure 2: Comment with Self Promotion (M2)

FBUsername: Nasib baik aku ni tak isap rokok...lantak jelah.

Translation in English: Thank God I don't smoke.. Well whatever..

In addition, males often make sexual references (M3) in their messages. Figure 3 shows how the length of one's sole is used to indicate the length of a male's genitals. References to length often imply male genitalia, whereas references to size often imply female sexual organs.

Figure 3: Comment with Sexual References (M3)

FBUsername: I think it's not about same long. But it (is) like hypothesis. The bigger sole, the longer pen.

The fourth feature of male language is Insults/Profanities (M4). Figure 4 shows a commenter talking about the size of female breasts, but this is not considered sexual reference (M3) because the intended use was to insult using coarse language rather than making an implicit sexual reference. The Facebook commenter used the word *kopek*; the literal meaning is to peel off the skin of a fruit, but it is also a popular slang term for breast. In this context, the Facebook commenter insulted women with big breasts (*berkopek besar*).

Figure 4: Comment with Insults/Profanities (M4)

FBUsername: Lepas ni kene buang kopek2 wahai perempuan yang berkopek besar.

Translation in English: After this, please throw away your breasts fellow large breasted ladies.

The fifth male language feature is Directive/Autonomy (M5). Figure 5 shows a strong opinion phrased using imperatives (“Close the playground section”). This is followed by the booster modal verb to assert the need for more security in the park (“CCTV is a must”). This Facebook commenter forcefully said that people who did not have brains (“*tiada otak*”) need to be fined on the spot to teach them a lesson. Directive/Autonomy comments are usually focused on factual information and do not focus on a commenter’s feelings, which surfaces in strong assertion (M8).

Figure 5: Comment with Directive/Autonomy (M5)

FBUsername: Close the playground section. CCTV is a must. Staff patrol yang strict for each section gara-gara mau jaga pengguna yang tiada otak kasi denda fine on the spot for those pengguna yang langgar peraturan.

Translation in English: Close the playground section. CCTV is a must. Strict patrolling staff for each section to look out for brainless users. Impose fines on the spot for users who break rules.

Figure 6 shows the use of rhetorical questions (M6), which characterises male language use. The Facebook commenter used a series of rhetorical questions to show his disgust with the talk show host who had used the word “*santesh*”, easily recognised as an Indian name by Malaysians. She questioned whether only Indians were dark-skinned and implied that the host was racist.

Figure 6: Comment with Rhetorical Question (M6)

FBUsername: Why did he use the word *santesh* in the first place? *Ada orang nama santesh ke kat sana? Dia ni bodoh ke apa. So dia nak cakap jangan jadi mcm india la. Kalau gelap je india ke? Tak ada melayu yang gelap ke? Gelap kulit tak pe lagi dari gelap otak and gelap hati mcm Alif Syukri ni. Stupidest person on earth.*

Translation in English: Why did he use the word *santesh* in the first place? Is there anyone named *santesh* there? Is he stupid or what. So, he wants to say don’t become Indian. Only dark skinned people are Indians? There aren’t any Malays who are dark skinned? It’s better to be dark-skinned compared to being a dark hearted person like this Alif Syukri. Stupidest person on Earth.

Figure 7 illustrates an opposed orientation (M7). The Facebook commenter explicitly expressed his disagreement with the excessive importing of Bangladeshi workers as there was no workforce problem. The comment was a direct response to the posting made in the Facebook page regarding the increasing unemployment rate among Malaysians while the importing of foreign workers from countries such as Bangladesh and Indonesia continued to rise.

Figure 7: Comment with Opposed Orientation (M7)

FBUsername: Is about our government problems not our... Better we all work overseas. Leave all Bangla in Malaysia and become *banglasia*.

Finally, strong assertion (M8) is a typical male language feature. Strong assertion is different from opposed orientation (M7) because the assertion is merely an emotional comment, whereas opposed orientation is an explicit disagreement. In Figure 8, the commenter said that only weak males (“*jantan lemah*”) bullied girls, and the word “*jantan*” is derogatory as it is used to refer to males in the animal species and not to people who are rightly referred to as “*lelaki*”.

Figure 8: Comment with Strong Assertion (M8)

FBUsername: Hanya *jantan lemah* je akan buli pompuan.

Translation in English: Only weak males would bully girls.

3.3.2 Female language features

The literature shows eight female language features. The first female language feature is interpersonal orientation/supportiveness (F1) as shown in Figure 9. The female commenter gave assurance that a girl with a dark skin tone is beautiful. She shared her personal experiences to establish an interpersonal relationship and to assuage her insecurities.

Figure 9: Comment with Interpersonal Orientation/Supportiveness (F1)

FBUsername: Your skin tone in beautiful my dear...I am the kind of girl who spends my time at the beach and love getting tanned while some my my friends stay under the tree because its hot. I am sorry you grew up feeling like that but you need to know you are beautiful. *Xoxo.*

Next, hedging (M2) is a female language feature (Figure 10), which tones down the certainty of statements. The female commenter was not sure if her friend would find the post enjoyable, and hedging was marked by “assume” and “might”.

Figure 10: Comment with Hedges (F2)

FBUsername: Babe, I assume you might enjoy this one. Remember coco?

The third female language feature is apologising (F3), which seems to pre-empt criticisms. Figure 11 shows a male commenter saying “sorry” before making a strong assertion. He apologised for not watching the show and reiterated this by asking whether the person in the topic (Aliff) had done the unacceptable act in the show, which he called “Gegarwhatever”. The term “whatever” is dismissive, used here and also later to refer to the talk show host, and he did not bother to learn his name (Aliffwhatever). He was put off by the host and implied that he should be sued. This comment contains more than one code, and for this instance, it is used to show an example for apologising.

Figure 11: Comment with Apologies (F3)

FBUsername: Assssssshole! WTF I just watched? Sorry, I don't watch *gegarwhatever*. He really did that? I hope any lawyer can approach the girl and provide free service to *saman malu* to *aliffwhatever*...

Translation in English: Assssssshole! WTF I just watched? Sorry, I don't watch *gegarwhatever*. He really did that? I hope any lawyer can approach the girl and provide free service to file a defamation suit to *aliffwhatever*...

The fourth language feature characteristic of females is polite and emotionally expressive words (F4) (Figure 12). The female commenter was talking about the deplorable condition of the public library, and she used emotionally expressive words such as “sad”, “havoc”, “irresponsible” and “*sedih*” (sad). In her emotional outburst, she was still polite and only went to the extent of calling the parents and children “irresponsible”.

Figure 12: Comment with Polite and Emotionally Expressive Words (F4)

FBUsername: Sadd to hear this but I think it is the bet for the time being. I brough my children last Sunday and it was a mess, havoc because of irresponsible parents and children. *Part menconteng tu paling sedih la...*

Translation in English: Sad to hear this but I think it is the bet for the time being. I brought my children last Sunday and it was a mess, havoc because of irresponsible parents and children. The scribbling/drawing is the saddest part.

The fifth female language feature is questioning (F5), as illustrated in Figure 13. The Facebook comment was about parents who accompany children to the library. On the surface, the question is a request for information, but it is an indirect criticism of the lack of facilities.

Figure 13: Comment with Questions (F5)

FBUsername: Where should parents accompanying younger children sit?

The sixth female language feature is a tag question (F6) to solicit agreement. Tag questions in Malay can be expressed with “*kan*” which is a short form for “*bukan*” (Aris 2011), like “no” said with a questioning tone. Figure 14 shows a commenter asking “Vaping is not a problem, isn’t it?” to get assurance that vaping is okay.

Figure 14: Comment with Tag Questions (F6)

FBUsername: Vape tak pe kan??? Aku bukan perokok And baru nak start hisap vape hahaha umur 23 ni baru rasa ketagih nak berhisap2 segala bende ni. hahahah

Translation in English: Vaping is not a problem, is it??? I’m not a smoker. And I just started vaping hahaha I only feel the addiction of vaping by the age of 23 hahaha

The seventh language feature associated with females is aligned orientation (F7) or explicit agreement. In Figure 15, the female commenter signalled her agreement that the song was catchy using the phrase “I agree”.

Figure 15: Comment with Aligned Orientation (F7)

FBUsername: I agree that this song catchy, we need another singers to sing it tho, perhaps a cover. P.s. mkcik do a purple glitter eyeshadow next time pliss...

Translation in English: I agree that this song catchy, we need other singers to sing it though, perhaps a cover. Ps: auntie does a purple glitter eyeshadow next time please.

Finally, experience sharing is also a female language feature, apparently used as a precursor to a criticism. Figure 16 shows a response to a comment shown in Figure 13, where the commenter asked where adults accompanying children should sit. Here, this commenter supported the implicit view of the lack of facilities. He talked about his experience in a book shop in Penang before criticizing the idea.

Figure 16: Comment with Experience Sharing (F8)

FBUsername: I’ve visited BookXcess in Penang. In the kids section, only beautiful child friendly tables and chairs is provided but not playground. Majority of the bookshops never provide playground for kids. We’ve enough playground outside the area especially in the park. There’s nothing necessary to build.

3.4 Accuracy of Participants’ Identification of Facebook Commenters’ Gender

In the study, the participants were shown 14 Facebook comments, which were selected randomly selected from the pool of gathered comments for content analysis. Based on the participants’ responses, Table 4 shows only 7 comments (50%) were accurately identified according to each writer’s gender. It is interesting to note that although a majority of the respondents seem to be able to identify male language features (4 out of 7 correctly labelled comments) more easily, there was also an equal number of comments written by female users that were thought to be by male users (4 out of 7 wrongly labelled comments).

The rest of this section shows why the gender of some commenters were more easily identified, and reasons given by the participants for justifying their guesses were used to explain the patterns of results. For ease of comparison, the comments were grouped according to language feature.

Table 4: Frequency and percentage of participants correctly identifying the commenters' gender

Comment Number/ Gender of Facebook Commenter	Gendered language features	Number of participants guessing the gender as Male (%)	Number of participants guessing the gender as Female (%)	Correctness of majority choice*
1/Female	Directive/Autonomy (M5)	16 (26.7%)	44 (73.3%)	Female
6/Male	Directive/Autonomy (M5)	41 (68.3%)	19 (31.7%)	Male
2/Male	Insults/Profanities (M4)	54 (90%)	6 (10%)	Male
12/Female	Insults/Profanities (M4)	47 (78.3%)	13 (21.7%)	Male*
3/Male	Insults/Profanities (M4) Rhetorical Questions (M6) Interpersonal Orientation/ Supportiveness (F1)	34 (56.7%)	26 (43.3%)	Male
4/Male	Insults/Profanities (M4) Apologies (F3) Questions (F5)	32 (53.3%)	28 (46.7%)	Male
10/Female	Insults/Profanities (M4) Directive/Autonomy (M5)	51 (85%)	9 (15%)	Male*
9/Male	Sexual References (M3)	26 (43.3%)	34 (56.7%)	Female*
11/Female	Polite and Emotionally Expressive words (F4) Interpersonal Orientation/ Supportiveness (F1)	35 (41.7%)	24 (58.3%)	Female
13/Female	Polite and Emotionally Expressive Words (F4) Experience Sharing (F8)	43 (71.7%)	17 (28.3%)	Male*
14/Female	Polite and Emotionally Expressive words (F4) Experience Sharing (F8) Hedges (F2)	48 (80%)	12 (20%)	Male*
5/Female	Strong Assertion (M8) Information Orientation (M1)	18 (31.7%)	42 (68.3%)	Female
7/Male	Strong assertion (M8) Directive/Autonomy (M5) Experience Sharing (F8)	25 (41.7%)	35 (58.3%)	Female*
8/Female	Strong assertion (M8) Interpersonal Orientation/ Supportiveness (F1)	33 (55%)	27 (45%)	Male*

Note: *wrong guesses by majority

The comparison of results for Comments 1 and 6 shows that despite Directive/Autonomy (M5) being a male language feature, the participants somehow regarded Comment 1 as not written by a male. This is because Comment 1 seems to use imperatives to direct it personally at the audience. Comment 1 came across as a polite advice, formulated using tentative words.

“belajar berkata benda baik2... blajar sebut perkataan positif.. Puasa sebut perkataan negatif. atur tiap kata sebelum berkata-kata.. tapis perkataan2 yg nk digunakan.. tak boleh main hembur je..” (Comment 1)

Translation in English: Learn how to say good things... Learn how to say positive words.. Fasting from saying negative words.. Arrange every word before speaking.. Filter words that you are using.. Don't spill out everything..

Comment 6 also had Directive/Autonomy features (M5) but was written by a male. Comment 6 is a direct criticism, almost like a curse on people who cheat others in business. To the participants, Commenter 6 exhibited male language features, including that he was rude, negative and judgmental, aggressive, outspoken, and direct.

“Bodohlah cara market macam tu aibkan org.... Org mcm ni yg aku nak tengok dia jatuh miskin...”
(Comment 6)

Translation in English: This marketing tactic to disgrace someone is stupid. I want to see this kind of person become poor...

The next pair of comments had Insults/Profanities (M4) written by a male (Comment 2) and a female (Comment 12). A majority of the participants correctly guessed the gender of the writers, although Insults/Profanities are associated with males. Comment 2 was a typical male writing, with dirty words and animal references which made the commenter look rude. One participant wrote, “males tend to use the word ‘anjing’ [dog] more than females”. The participants also noticed that the comment was short, straightforward and direct. In contrast, Comment 12 is milder, labelling the irresponsible people as “uncivic-minded” for messing up the public library. The reasons the participants gave for identifying the commenter as female were the topic, good language, and the care and strictness reflected in the content of the comment. In both Comments 2 and 12, the insults/profanities refer to features of human character and not physical features.

“anjing pun xmcm dorg Jan” (Comment 2)

Translation in English: Even dogs aren't like them Jan

“We were happy for the bean bags but then I see some roughing them up until contents spilled all over the place. Would be really sad if library decided to remove them because of a small group of uncivic-minded people.” (Comment 12)

Next, in association with Insults/Profanities (M4), there were two comments with a mixture of male and female language features (Comments 3 and 4). The results are interesting because they indicate which cues the participants respond to when identifying the gender of a commenter, but Table 4 shows that only a marginal majority correctly guessed the writers as male. Comment 3 was highlighting hypocrisy in politics, and the male features were Insults/Profanities (M4) and Rhetorical Questions (M6), while the female feature was Interpersonal orientation/Supportiveness (F1).

“Beginikah imej yang ditunjukkan oleh pihak yang melaungkan perjuangan utk ummah? Malu..Seharusnya menjadi pengajaran pada pru-14 supaya ubah sikap kepada lebih baik.Tak hairan lah kalau ini puak2 yang makan minun [sic, minum] hasil yang syubhah sebab terbukti dari imej yang dibawa” (Comment 3)

Translation in English: Is this the image of someone who strives for communal unity? Shame.. This should be a lesson to PRU-14 (14th General Election) to improve their behaviour to be better. It's not strange if these are the people who eat and drink from suspicious sources as proven from the image they are displaying.

There was no explicit offensive labelling of the politicians (Insults/Profanities, M4), but the description of their behaviour profiled them as religious hypocrites. Similarly, the Interpersonal orientation/Supportiveness (F1) was shown in the commenter's diversion to community-building efforts though the main topic was politicians who were using misappropriated funds (definition in Table 1). However, what the participants noticed was the aggressive and opinionated style characteristic of men talking about politics. One of the participants wrote, “Female seldom talk about politics”. Other participants identified the writer of Comment 3 as female because it was lengthy, had an advising tone, and the writer was concerned with image.

Next, Comment 4 (Figure 11) was written by a male and had Insults/Profanities and two female language features (Apologies F3, Questions F5). The mixture of male and female features resulted in a marginal percentage of participants correctly guessing Commenter 4 writer as male. Comment 4 was about the insulting comment about a girl made by a talk show host, “Aliffwhatever” of “Gegarwhatever”. The term “whatever” is dismissive, and one of the participants commented that “Whateverrrrr used more often by female”, and another

wrote, “I think girls would more likely use sssssss”. In addition, the impulsive comment, the emotional issue and the concern for others led some participants to conclude that the commenter was female. However, there were slightly more participants who thought that the commenter was male, and the cues they responded to were the rudeness and the use of “cuss words” (“Asssssshole!”), a term that females may not often use. The presence of indirectness associated with females (Apologies F3, Questions F5) was not brought up by the participants because the insults/profanities were overpowering. The apologies were merely openers for launching the criticisms, as seen in Comment 4 written by a male. Apologies were operationalized by using the word “sorry” and other expressions to apologize (Table 1), and the analysis was based on surface form so as not to read too much into the expressions as this would lead to subjectivity in analysis. The criticism that follows may take the form of Directive/Autonomy statements (M5), Opposed Orientation (M7) and Strong Assertion (M8).

Based on the results on Comments 2, 3 and 4 which have Insults/Profanities, it seems that the male crude language overshadowed the female language features, and led participants to think that the comment was written by a male. More supporting evidence linking Insults/Profanities (M4) to males can be seen in the results for Comment 10. The writer was a female, but a majority of the participants believed that the writer was male because there was an additional male language feature, that is, Directive/Autonomy (M5). The female commenter directly criticized the person for hanging out in the mosque, an unacceptable act, and booed him. Facebook Commenter 10 was perceived as rude and condescending, and the statements were straightforward and short. When the Insults/Profanities were mild like in Comment 12, the participants could detect the writer was female.

“kau p lepak masjid la kalau macam ni PON tak boleh. Boooo. Nerdnerdnerdnerd” (Comment 10)

Translation in English: You should loiter in the mosque if this isn’t even allowed. *Boooo. Nerdnerdnerdnerd*

Interestingly, over half of the participants wrongly guessed the gender of the writer of Comment 9 with Sexual References (M3) to be female. Males are known to talk about sex more frequently than females. In the case of Comment 9, the reference to sex was light, and the participants were convinced that the writer was female because of the topic (marriage), the expression “Dear ladies”, and the advice tone. These features overshadowed the direct and outspoken statement that some participants associated with males. Although Sexual Reference (M3) attracted the participants’ attention and helped them to identify the gender of the Facebook commenters, there were only nine occurrences in the dataset analyzed.

“Dear ladies, you know what happen when your bf agrees to have sex after marriage.” (Comment 9)

Next, the results pinpoint certain language features which were identified as female language in the literature (Table 1) and also by the participants, that is, Polite and Emotionally Expressive words (F4), Experience Sharing (F8) and Hedges (F2). Comments 11, 13 and 14 which contained these features were correctly identified as being written by females. Comment 11 was about skin color and beauty, and the participants mostly used two features to identify the writer as female, namely, expressions (“oh my God”) and supportiveness (“encouraging others online is female attribute”).

“Oh my god! From your profile, I can see that you have worked for good companies. and you are an engineer. That is something to be proud of. Takpe lah, kulit tanned ke apa. Janji duit gaji masuk banyak! Kudos to u!” (Comment 11)

Translation in English: Oh my god! From your profile, I can see that you have worked for good companies. and you are an engineer. That is something to be proud of. It’s alright, tanned skinned or whatever. As long as the salary you receive is plentiful! Kudos to u!

Comments 13 and 14 were on the mess in the public library. For Comment 13, again, the participants responded to the well-written sentence and the maternal concern reflected in the wish to have children accompanied by adults in the library, which made them certain that the writer was female.

“Would be nice that only teenagers and adults accompanying children are allowed in for safety reasons.” (Comment 13)

“Sad to hear this but I think it is the best for the time being. I brought my children last Sunday and it was a mess, havoc because of irresponsible parents and children. *Part menconteng tu paling sedih la...*” (Comment 14)

Translation in English: Sad to hear this but I think it is the best for the time being. I brought my children last Sunday and it was a mess, havoc because of irresponsible parents and children. The scribbling part is the most depressing...

Finally, the results of the three comments with a mixture of Strong Assertion (M8) and other gendered language features are presented. In Comment 5, Strong Assertion (M8) was accompanied by another male language feature, Information Orientation (M1). Despite the presence of two male language features, the participants could guess that the writer of Comment 5 was female because she was talking about stereotypical ideas of beauty. “*Menyampah dgn mentality mcmni*” (hate such mentality). In addition, the seemingly male tendency to give informative comments was overshadowed by the female inclination to use absolute and exceptionless adverbials. The results also call into question whether Information Orientation (M1) is still viewed as a male language feature by the millennial participants in the present day.

“*Masalah org Malaysia dan negara2 jiran (asia la senang cerita). Definisi cantik tu mestilah putih cerah kurus mantop tinggi. Menyampah dgn mentaliti mcmni.*” (Comment 5)

Translation in English: The problem with Malaysians and those in neighbouring countries (Asians simply). The definition of beautiful, must be fair, thin and tall. Hate such mentality.

Next, Comment 7 was about a fatal accident due to drunk driving written by a male, but over half of the participants identified the writer as a female. It seems that Strong assertion (M8) and Directive/Autonomy (M5), when accompanied by obviously female language features like Experience Sharing (F8), led participants to conclude that the writer was female. In other words, females are seen as equally capable of making Strong Assertion (M8) as males. Some participants believed that the writer was male because the comment was on the public issue of safety and consisted of rational statements. But more participants believed that the writer was female because of the lengthy comment, fancy words and emotion (“female understand people hearts easily”).

“Deepest condolence to the family... What I can say is the govt need to impose very high penalties and punishment to whoever drunk n drive and also taking drugs and drive. When the govt fix very high punishment then only we can stop this kinda of issue. No matter who but end of the day the other get the impact l, such not fair at all...” (Comment 7)

Finally, Comment 8 is also about the fatal accident due to drink driving, written by a female but identified as male. Comment 8 had Strong Assertion (M8) and Interpersonal Orientation/Supportiveness (F1). The features cueing some participants to identify the writer as female was the positiveness of the comment reflected in heartfelt concern for the grieving family (e.g., “Girls have a [more] sensitive heart than boys”). However, more participants believed the writer was male because of the straightforward comment and expressions like “fella”. What is considered “emotional” is subjective.

“Rest In Peace Moey. I will pray you for the justice. My deep condolence to your family. Although the fella come for apologize already useless. He can’t return a son for the family.” (Comment 8)

In short, the results on cues used by the participants for identifying the gender of the Facebook commenter showed that certain opposites. Male writing was seen as short, direct, rude, negative, and crude language. Female writing was seen as lengthy, tentative, polite, positive, emotional, and inclined towards concern for others. Topic is a giveaway of gender with business and politics associated with males and beauty and values associated with females. Certain expressions are linked to males (e.g., fella, asshole), while others are linked

to females (e.g., dear). However, questions, rhetorical questions, apologies, information orientation, and strong assertions are not distinctively female or male.

4 Discussion

The study showed that Malaysian millennials on Facebook could identify gendered language features rather accurately, particularly male language features. Three findings are worthy of discussion. Firstly, Malaysian Facebook users detect gender based on topic, politeness of language and presence or absence of experience sharing. Facebook comments written by male users are generally perceived as rude and low on experience sharing, while polite language and experience sharing are associated with females. Male users are perceived to be actively using profanities and insults (Herring 1994; Thomson & Murachver 2001) as they are deemed to be more direct in their expression. In addition, the study identified seven gendered language features which are weak identifiers of gender because of low frequency of use, namely, Information Orientation (M1), Self-Promotion (M2), Sexual Reference (M3), Opposed orientation (M7), Hedges (F2), Apologies (F3), and Tag Questions (F6). One reason for this finding, as emphasized by Fosch-Villaronga et al. (2021), could be the absence of other more reliable parameters in classifying the language features according to gender.

Secondly, the study showed that Malaysian millennials are comfortable with positive information disclosure, regardless of gender. The relationship-building and interpersonal nature of Facebook comments came through, evident from the frequent Experience Sharing (F8), and infrequent use of Information Orientation (M1). An earlier study by Herring (1996b) demonstrated that both male and female users of two different mailing lists were engaged in information exchange, diverting from the stereotype that women preferred interpersonal interactions. This finding shows that the communication medium is playing its role in determining how users orientate their language use. In the case of this study, Facebook is a personal social network, which may influence its users to be more open to Experience Sharing (F8) regardless of their gender. The sharing of views is also inclined towards “likes” or agreements rather than disagreements, indicated by the low frequency of Opposed Orientation (M7) and Self-promotion (M2) versus higher frequency of Aligned Orientation (F7). The move among the millennials is also towards direct statements rather than hedged and indirect statements, evident from the low frequencies of Hedges (F2), Apologies (F3), and Tag Questions (F6), whether among males or females. This finding is backed up by the high frequencies of Directive/Autonomy (M5) and Strong Assertion (M8), which are statements of certainty. In this sense, the results are consistent in showing the millennials’ inclination towards sharing experiences in an agreeable but forthright manner in Facebook comments. Social media users tend to submit information that they regard as inoffensive, especially in a public domain such as the comments section of Facebook pages (Hogan 2010). Hayat et al. (2017), on the other hand, identified Strong Assertion to be more dominantly used among male users of social networking sites though it could be impacted by the topic of discussions, and societal views on accepted roles of each gender (Salam 2021).

Thirdly, the study identified Directive/Autonomy (M5) and Strong Assertion (M8) as possibly unisex features. The textual analysis showed that the male participants were more inclined towards using these male language features than females. However, the participants did not overwhelmingly view these as male language features. They viewed females as equally capable of being assertive in giving their opinions in a direct manner. This finding is a case of discrepancy between perceptions and actual use of language in Facebook comments. While Directive/Autonomy (M5) comments were clearly a male feature, Strong Assertion (M8) is moving towards a gender-neutral feature because the percentages for male and female use were 59% and 41% respectively. Linguistically, researchers differentiate between explicit directive statements (Postmes & Spears 2002) and use of absolute adverbials (Guiller & Durndell 2006; Herring 1994), but as non-linguistically informed Facebook users, the millennials might not be able to tell the difference between the two. This is because directive statements come across as assertive, whether imperatives and booster modal verbs or absolute adverbials are used. Our findings suggest that it may not be necessary to treat these Directive/Autonomy (M5) and Strong Assertion (M8) as separate in studies on gendered language use. Nevertheless, the actual use of M5 and M8 features could still differ according to context and communication channels. Hence, distinguishing these features may still be relevant for linguistic analyses.

5 Conclusion

This study has shown the gender of Facebook commenters can be detected rather accurately by Malaysian millennial users. Insults/profanities, according to Malaysian millennials, are a male language feature when the language is harsh and contains animal terms and other offensive expressions, while women make only mild insults. The Malaysian millennials on Facebook also agreed that sexual reference is a male language feature, whereas polite and emotionally expressive words, experience sharing, and hedges are female language features. The non-gender-specific features are information orientation, apologies, tag questions, and aligned orientation. Additionally, the finding revealed that female Facebook users in Malaysia are adopting a more masculine style in online communication and emerging as equals to their male counterparts when discussing matters on the platform as online communication. As reported in this study, male language features were notably present in many comments posted by female users, including the use of profanities (Coats 2021). Amir et al. (2012) also stated that “women are adapting to masculine roles and jobs while men seem to be adopting feminine characteristics in their life” (p. 106) and language stereotypes may be becoming inapplicable.

This study, though limited to the context of Malaysian millennial Facebook users, contributes to the understanding of how gendered language features are getting more challenging to be classified due to generational and societal shifts (Burrell et al. 2010). Joiner et al. (2014) noted a similar pattern among millennials in the United States, where gender differences in Facebook communication were relatively small. In relation to this study, Mcelhinny (2003) poses the right question, which is not “what are the gender differences?” anymore, but rather “why are gender language features constructed as they are now?”. Thus, the findings of the present study have indicated a blurring of the binary categorization of female and male language in Facebook communication. A limitation of the study is that the data were confined to Facebook comments in a small number of public pages. Further research should investigate the presence of gendered language features in other social networking platforms or among other groups of users.

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