
RESEARCH ARTICLE

A Gender-based Study on Differences on Linguistic Resources in Speech Opening

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ABSTRACT

This paper aims to unravel the disparity on the linguistic resources leveraged by female and male speakers to introduce opening remark in their speech. The paper collects data from TED talk by decoding 12 speeches (6 from female, 6 from male) from the perspective of linguistic resources to delve into the gender-based differences on language patterns in speech. It's found that female speakers utilize the linguistic resources associated with rapport building and emotional expressions while male speakers use the linguistic resources linked with objectivity and status establishment. This paper provide insights into the functional aspects and gendered aspects of the linguistic resources in speech opening.

KEYWORDS

Linguistic Resources, TED Talk, Speech Opening, Gendered Language

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1. Introduction

The term speech, also known as presentation, has an old-fashioned name: rhetoric, whose core meaning is “the art of speaking effectively” (Anderson, 2016). Speech refers to social practice of language exchange in which speakers clarify principles and express personal opinions by means of their eloquence and artistic use of language in specific settings, thereby inspiring and edifying the audience. Speech is language practice bearing the characteristics of both speaking and performing, thus emphasizing the collaborative application of artistic skills of language and body movement.

A good start of a speech is halfway through the course to seek for success. Opening plays a pivotal role in presenting a successful speech. It is this link that establishes emotional tone for the whole speech and leads into the topic. At the beginning of speech, speaker should reduce the sense of unfamiliarity to narrow the distance with the audience, capture their attention and build a trusting human bond with them (Anderson, 2016).

People bear their own intrinsic characteristics in language use due to the fact that different factors such as gender, social status and cultural background will exert influence on language use. Differences on language use between men and women are either biologically programmed or socially established and affect their topics of interest (Alhammadi, Rabab's ah and Alghazo, 2024). Woman and man distinguish each other in different forms of expression. In terms of lexical items, Lakoff (1973) suggested that women tend to use hedges, intensifiers, euphemisms and empty adjectives more frequently than man, and they are more inclined to avoid using slang, swearwords, vulgar and taboo words, which is the complicatedly binding outcome of social expectations and gender inequality. In the perspective of speaking style, women use indirect and polite language that makes them seem less competent, confident and self-assured while men's language shows masculine traits such as power and assertiveness (Tannen, 1995). Furthermore, men's and women's focus and interesting topics in communication vary greatly. Men are more likely to talk about economy, world politics, history and sports, and focus on hierarchy and social status. On the contrary, women prefer to talk about social relationship, personal interests and domesticity, expressing concerns about relative connection and rapport building (Tannen, 2016; Fishman, 1978). These differences are attributed to the social linguistic norms that children of both genders learned during childhood and adolescence while these linguistic norms conversely affect their social behaviour and shape their social gender role, telling them what to do to be a man or woman.

2. Literature Review

TED stands for Technology, Entertainment, Design. It is an intellectual conference where speakers who are specialists or scholars in certain field are able to disseminate ideas that worth spreading and discuss a deluge of topics covering technology, entertainment, design, business, science, history, sociology, psychology and global issues, etc. Speakers should condense the whole content into 18-minutes talk, making delicate use of language resources and speech techniques to convince, to appeal, to provide solution and to resonate with the audience. TED Talk has long been a hotbed nourishing English pedagogical researches and scientific researches relevant to linguistics. There have been tremendous interests in the pedagogical benefits of TED Talks to English education. Prior researches have analyzed TED Talks' impact on developing English teaching and learning in a broad sense (Hoang, 2024), improving students' presentation performance (Kacauni & Robo, 2024), enhancing their speaking proficiency (Alghmadi, 2024), developing their listening fluency (Gavenila, Wulandari & Renandya, 2021) and enriching their vocabulary bank for better writing and reading (Wang, 2024). In addition, the studies on the linguistic features and linguistic resources of TED Talk have been prolific in recent decades. For example, Kanovaeva and Nizamieva (2020) unraveled the stylistic devices such as simile, metaphor, personification and so on utilized in TED Talks and found that these stylistic devices can help speakers create expressive and emotional speech and emphasize the main idea of the speech. Corpus-based studies were conducted to explore the most frequently used hedges such as "just" and "could" in a certain amount of transcripts of TED Talks and their pragmatic functions in the speech were summarized as promoting intimacy, indicating the speaker's commentary and introducing a challenging effect through quantitative and qualitative methods. (Nuraniwati & Permatasari, 2021; Jovic, Kurtish and Alafnan, 2023) Masi (2023) conducted qualitative research on the multimodal ensembles consisting of visuals, words and gestures which jointly contribute to humour generation in various ways in TED Talks. The study identified the causes for humour and its varied functions within the talks, which comprises the management of interpersonal relations and development of the main topics of the talks.

The term linguistic resources is used in a rather loose sense, making the research infeasible. Therefore, this paper will elaborate what linguistic resources are. Three major aspects of linguistic resources are identified: verbal language, para-verbal language and body language strategies. Resources in terms of verbal language include lexical elements such as the use of pronouns, grammatical elements such as tag questions and rhetoric expressions like the application of humor, etc. All of these elements can serve as emotion trigger, rapport builder and eye-catcher in the opening of the speech. Para-verbal language refers to supra-linguistic elements such as intonation, speech speed, pauses, stress, rhythm, etc. These elements exist with language, not only conveying linguistic information, but also expressing the information beyond linguistic level such as the speaker's emotions, attitudes, personality, intentions, etc. Body language is a relatively broad in sense, with its content covering facial expression like smile and eye contact, gesture and posture, etc. Speakers can benefit tremendously from the valid use of these resources in their delivering a successful speech. These three linguistic resources are generally used as speech strategies. The gender-based difference on the application of these three resources in the speech opening and their functions form the focus of our analysis. A deluge of researches have delved into the various kinds of strategies applied by speakers in TED Talks, among which strategies on language level are the most prominent. In their analysis of the question sequences based on the corpus of 18 transcribed TED Talks by presenters with various background, Cardo and Celle (2024) revealed the functions of question sequences which can manipulate audience's attention and direct their awareness towards understanding the importance of certain subject in a speech. In the same vein, Mestre-Mestre and Pérez Cabello de Alba (2022) conducted a study aimed at examining the effect of emotion words in terms of triggering audience's response and involving audience in speakers' monologue. In addition to strategies in perspective of spoken language, research has also explored other levels of strategies. Sakkampang (2024) investigated the verbal and nonverbal communication strategies employed in 25 of the most popular TED Talks and highlighted the significant role that both verbal and nonverbal cues play in effective public speaking, emphasizing the importance of incorporating these strategies in speech.

Gender can leave indelible marks on language use. Gender impact on language use may leave some traces in speech in terms of spoken language, para-language and body language. Therefore, there has been loads of researches probing into the discrepancy of linguistic resources utilized by each gender in speech. Some scholars narrowed their studies on just one specific item of spoken language as linguistic strategy employed in speech. For example, Li and Li (2020) conducted a corpus-based study on gender difference on choosing hedging words in TED Talks. It was found that gender difference does exist in word choice and lexical diversity. While other academics show research preference on a broader sense of the linguistic resources. Using quantitative and qualitative method, Alhammadi et al. (2024) executed a comprehensive evaluation on a sample of 14 videos to figure out the frequencies and forms of linguistic features used by male and female speakers, providing insights into the language usage patterns of each gender. Similarly, Neumann et al. (2022) examined the impact of candidate's gender on the body language in their campaign videos and the result showed that male candidates use more assertive hand movements than female candidates in their political speech.

As noted, previous researches have provided evidences that support gender differences in the choice of linguistic resources. But existing researches are constricted in just one aspect of the linguistic resources with certain linguistic resource of spoken language, para-language and body language being analyzed respectively. There is a paucity of research on the comprehensive

study on the three linguistic resources exploited by female and male speakers in speech opening. This paper attempts to fill the gap by studying the gender-based differences on the linguistic resources comprising spoken language, para-language and body language wielded by female and male speakers in their introducing opening remark of the speech. The present paper distinguishes itself from prior studies by adopting a unique approach that combines all levels of language items. The objective is to identify potential correlations between gender and these linguistic resources and gain a deeper understanding of their interplay. The paper aims to answer the following questions:

- 1) What linguistic resources do speakers resort to to gain successful speech opening and what are the functions of the linguistic resources?
- 2) What are the differences or similarities on female and male speakers' choices of linguistic strategies and why there exist the differences.

3. Methodology

3.1 Corpus

The corpus comprises 12 videos of the most popular speeches selected from TED Talk website (available at www.ted.com) and six for female speakers and six for male speakers. The videos range from 18.0 to 21.0 minutes with an average duration of each video being 19 minutes for a total length of about 3 hours and 54 minutes. Topics included culture, education, entertainment, biology, science, business, technology, sociology, psychology. These videos are chosen for the following reasons: firstly, these videos boast outstanding sound quality and image quality and a similar video duration was available for both genders; secondly, they rank high on the list of the most popular speeches of TED Talks so they are successful examples for analyzing the linguistic resources the speakers resort to to deliver outstanding speeches; thirdly, their duration is long enough so that their introduction or opening section can cover the 5-minute analysis of our study. Table 1 provides an overview of the selected videos investigated in this paper with the topics, speakers' name, published date, duration and category of the speech. The first six speeches are delivered by female speakers and the last six by male speakers.

Table 1. List of the selected videos for the male and female speakers

No.	Topic	speaker	Published	Duration (minutes)	category
Female Speakers					
1	The power of vulnerability	Brené Brown	June 2010	19:59	Psychology
2	How to spot a liar	Pamela Meyer	July 2011	18:30	Sociology
3	The power of introverts	Susan Cain	February 2012	19:04	Psychology
4	Your body language may shape who you are	Amy Cuddy	June 2012	20:42	Psychology
5	Technology hasn't changed love. Here's why	Helen Fisher	June 2016	18:55	Technology
6	Your elusive creative genius	Elizabeth Gilbert	June 2016	19:09	Culture
Male Speakers					
1	The paradox of choice	Barry Schwartz	July 2005	19:19	Sociology
2	Do schools kill creativity?	Sir Ken Robinson	February 2006	19:08	Education
3	The transformative power of classical music	Benjamin Zander	February 2008	20:43	Entertainment
4	The puzzle of motivation	Dan Pink	July 2009	18:36	Science
5	Sleep is your superpower	Matt Walker	April 2019	19:18	Science
6	This could be why you're depressed or anxious	Johann Hari	July 2019	20:31	Psychology

3.2 Method

After collecting the videos, the transcripts of the 12 speeches were downloaded from the TED Talks website and then copied and edited into Word documents for manual analysis. It is worth noting that only the transcripts of the first 6 minutes of each speech are extracted in order to analyze the linguistic resources in the opening segments of the speech. Since 6 minutes are sufficient enough for the speakers to introduce their speech theme and narrowing the research scope from 18-21 minutes to five minutes significantly reduces the hardship of the research as well as the human and material resources invested in it, which also aligns with our research objectives. After the extraction and generation of the transcripts, these transcripts would undergo verbatim double-check to make sure there are no missing words or mistakes. After properly documenting the transcripts, the author manually searched for the linguistic strategies (including verbal language, para-verbal language and body language) utilized by the female and male speakers in the opening section. The linguistic language strategies would be identified and annotated within square brackets. To ensure the accuracy, linguistic professionals were consulted to clear out ambiguity of the linguistic resources.

The paper will leverage a mixed-method approach to address the aims of the paper. The corpus of the 12 selected videos will be analyzed quantitatively and qualitatively by presenting data and listing specific examples. After the annotation of the linguistic resources employed by female and male speakers, the total number of the linguistic resources of each type was tallied and the frequency of their occurrence in the female speakers and male speakers speeches was presented respectively. This procedure demonstrates the multifarious linguistic resources used in the speech opening. Moreover, a comparison between the data of both genders would be conducted to reveal the differences and similarities in terms of gender preference for the linguistic resources use in speech opening. Subsequently came the qualitative analysis by means of citing examples from speeches, which aimed at illustrating the function of the linguistic resources and the underlying reasons of the gender differences. The examples cited are labeled and numbered with the form of female or male plus the speech order shown in table 1. For example, [F01] refers to the first video of the first female speakers in table 1 and [M01] refers to the first video listing in the male speakers' list.

4. Analysis

This section provides relatively holistic overview of the linguistic resources which the female and male speakers take advantage of in the opening section of TED Talks.

4.1 Verbal linguistic resources

The exact data of the verbal linguistic resources employed by female and male speakers in the selected videos is presented in this section as shown in the following tables. Table 2 shows the total frequency, percentage and rank of the verbal linguistic resources employed by both genders found in the opening section of the selected videos. Table 3 displays the frequency and percentage of verbal linguistic resources employed by each gender. By so doing, this section can answer our research questions.

Table 2 Data of the verbal linguistic resources in the speech opening

Verbal linguistic resources	Frequency	Percentage	Rank
Directive address	354	70.94	1
Humor	61	12.22	2
Questions	55	11.02	3
Anecdote	14	2.81	4
Citation	10	2.01	5
Imperative statement	5	1.00	6
Total	499	100	

Table 2 presents an overview of the frequency, percentage and rank of the verbal linguistic resources used by both genders in the speech opening. Directive address is the most frequent linguistic strategy used by both female and male speakers to achieve effective speech opening and accounts for 70.94% of the total verbal linguistic resources studied in this research. Humor and question rank second and third in the list, accounting for 12.22% and 11.02% of the total respectively. Anecdote, citation and imperative statement are least frequently used by the speakers, making up 2.81%, 2.01% and 1% of the total.

Table 3. Data of verbal linguistic resources used by each gender in the speech opening

Verbal linguistic resources	Frequency(F)/Percentage	Frequency(M)/Percentage
Directive address	174 / 49.15	180 / 50.85
Humor	31 / 50.82	30 / 49.18
Questions	30 / 54.55	25 / 45.45
Anecdote	7 / 50.00	7 / 50.00
Citation	6 / 60	4 / 40
Imperative statement	3 / 60	2 / 40
Total	251	248

Table 3 shows a comparison between female and male speakers' use of the verbal linguistic resources in the opening section in terms of frequency and percentage. As shown in the table, male speakers take advantage of directive address more frequently than female speakers with 180 making up for 50.85% of the total number of directive address identified. In contrast, female speakers tend to utilize more other verbal linguistic resources than male speakers like humor, question, anecdote, citation and imperative statement. But the frequencies of these five strategies used by female speaker are just slightly higher than that of male speakers. In general, female speakers utilized 254 verbal linguistic resources in total while male speakers employed 246 linguistic resources to achieve effective speech opening in our study.

Next, a meticulous analysis is conducted by presenting some detailed examples of the use of verbal linguistic resources employed by female and male speakers in the opening segment.

4.1.1 Directive address

Directive address refers to the address which the speakers use to directly address the audience on scene or on the internet. Three types of directive address are taken into account in our research, namely, first person plural pronoun, second person pronoun and compound indefinite pronouns. Special to note is that these addresses used by the speakers to refer to the speakers and their team, other person instead of the audience on site or anybody else according to the context are excluded from our research. Even in such subtle usage of language, there still exists gender distinction. Table 4 reveals the frequency of the three types of directive addresses used by both genders in the opening section.

Table 4. Frequency of the three types of directive addresses used by both genders

Type	Examples	Frequency (Fe.)	Frequency (Ma.)
First person plural pronoun	we	89	39
Second person pronoun	you	81	128
Compound indefinite pronoun	everyone,somebody	4	13

Table 4 represents a stark comparison between the three types of directive addresses used by female and male speakers. As shown in the table above, female speakers use first person plural pronoun "we" 89 times, making up 25.14% of the total directive addresses tallied while male speakers mainly use second person pronoun "you" with 128 times contributing 36.16% of the total directive addresses. Directive addresses avail to establishing contact with the audience. Female speakers tend to use more first person plural pronoun in the opening to establish a common ground with the audience, which shows female speakers' magnanimity in placing themselves in the audience's position. Conversely, male speakers wield second person pronoun and compound indefinite pronouns to connect with the audience, which shows that male speakers place more emphasis on objective expression and individual distance. Some detailed examples of the use of directive addresses are as follows:

Example 1:

I have an interest in education. Actually, what I find is, everybody has an interest in education. Don't you? I find this very interesting. If you're 【directive address】 【second person】 at a dinner party, and you 【directive address】 【second person】 say you 【directive address】 【second person】 work in education -- actually, you're 【directive address】 【second person】 not often at dinner parties, frankly. [M02]

Example 2:

So when we 【directive address】 【first person】 think of nonverbals, we 【directive address】 【first person】 think of how we judge others, how they judge us and what the outcomes are. We 【directive address】 【first person】 tend to forget, though,

the other audience that's influenced by our nonverbals, and that's ourselves. We [directive address] [first person] are also influenced by our nonverbals, our thoughts and our feelings and our physiology. [F04]

Example 3:

Actually, you [directive address] [second person] cannot be tone-deaf. Nobody [indefinite pronoun] is tone-deaf. If you [directive address] [second person] were tone-deaf, you [directive address] [second person] couldn't change the gears on your car, in a stick shift car. You [directive address] [second person] couldn't tell the difference between somebody from Texas and somebody from Rome. And the telephone. The telephone. If your mother calls on the miserable telephone, she calls and says, "Hello," you [directive address] [second person] not only know who it is, you [directive address] [second person] know what mood she's in. You have a fantastic ear. Everybody [indefinite pronoun] has a fantastic ear. So nobody [indefinite pronoun] is tone-deaf. [M03]

In most cases in the speech studied, the first person plural pronoun "we" and the second person pronoun "you" are interchangeable when referring to the audience. However, female speakers prefer the first person plural pronoun to build a sense of community between speakers and the audience. The use of "we" also helps to weaken the teachy tone and is more likely to evoke emotional resonance. While male speakers show preference on the second person pronoun "you" and compound indefinite pronoun like "everyone, anyone and nobody" to share information straightforwardly with the audience, which indicates less emotional maintenance and an increase in the male speakers' authority and distance from the audience. This finding is in line with that of Tannen (1993), who indicates that women emphasize "rapport talk" and symmetrical connection whereas men focus on "report talk" and building asymmetrical social status.

Example 4:

But, when it comes to writing, the thing that I've been sort of thinking about lately, and wondering about lately, is why? You know, [directive address] [second person] is it rational? Is it logical that anybody should be expected to be afraid of the work that they feel they were put on this Earth to do. And what is it specifically about creative ventures that seems to make us really nervous about each other's mental health in a way that other careers kind of don't do, you know? [directive address] [second person] Like my dad, for example, was a chemical engineer and I don't recall once in his 40 years of chemical engineering anybody asking him if he was afraid to be a chemical engineer, you know? [directive address] [second person] "That chemical-engineering block, John, how's it going?" It just didn't come up like that, you know? [directive address] [second person] [F06]

Example 5:

You know, [directive address] [second person] a gentleman was once watching a presentation I was doing, when I was working with a young pianist. He was the president of a corporation in Ohio. [M03]

A large portion of the use of the second person "you" in female speech and some of the use of it in the male speech frequently co-occur with the word "know". Coates (2015) notes that women show more tentativeness in their speech for the frequent use of words with indeterminacy like "you know". The use of this discourse marker functions to slow down the pace of the speech and provide time for female speakers to adjust themselves to continue. However, it shows the uncertainty of female speakers to some extent especially when it's uttered in an interrogative tone at the end of a sentence as shown in example 4. Conversely, male speakers tend to use "you know" at the beginning of a sentence to boost their statement and show self-confidence.

4.1.2 Humor

Humor plays a pivotal role in speech of TED Talks. It has four types of functions identified by Meyer (2000), namely, identification (connection building), clarification (complexity elimination), enforcement (viewpoint emphasis) and differentiation (differences accentuation). According to Lakoff and Lakoff (2004), there is a dearth of sense of humour in women who rarely tell jokes. However, what we find based on our research statistics counters to the remark of Lakoff and Lakoff. Female speakers employ humor 31 times in the speech opening to craft impactful introduction, signifying that they are more frequent users of humour than male speakers who use 30 times. The fact that all the female speakers utilize humour at the beginning of their speeches we studied indicates that women are actually endowed with sense of humor and adept at telling jokes. Some examples of the use of humor in the speech opening by both genders are as follows:

Example 6:

So, I'll start with this: a couple years ago, an event planner called me because I was going to do a speaking event. And she called, and she said, "I'm really struggling with how to write about you on the little flyer." And I thought, "Well, what's the struggle?" And she said, "Well, I saw you speak, and I'm going to call you a researcher, I think, but I'm afraid if I call you a researcher, no one will come, because they'll think you're boring and irrelevant." (Laughter) [humor] [F01]

The speaker quotes the implicit expression of the event planner that the speaker, as a researcher, is boring and irrelevant. This kind of self-mockery relieves tension and reduces the seriousness of the topic "the power of vulnerability". Through the use of life-like jokes, the speaker break the monotony of speech and draws closer to the audience.

Example 7:

And so you have to understand that I have a bachelor's and a master's in social work, and I was getting my PhD. in social work, so my entire academic career was surrounded by people who kind of believed in the "life's messy, love it." And I'm more of the, "life's messy, clean it up, organize it and put it into a bento box." **【humor】** [F01]

The speaker draws out an alternative way of approaching messy life in a tongue-in-cheek manner. The humor highlights the differences between two distinct lifestyle: one is taking things as they' re and another is taking active action. In presentations, humorous messages leave a more indelible mark on the audience than ordinary ones. The vital perspective that people should take a positive attitude toward life is emphasized by means of humor so that the audience can gain considerable insights from the speech.

Example 8:

Okay, now I don't want to alarm anybody in this room, but it's just come to my attention that the person to your right is a liar. (Laughter) **【humor】** [F02]

The speaker jokes that the person sitting next to the listeners on the site is a liar, which absolutely diverges from the truth. Human brains react faster to humorous stimuli than to ordinary one. Through use of friendly and hilarious jests, the speaker introduces her topic " how to spot a liar" smoothly and fluently, which intrigues audience with the speech topic and fosters connection with them.

Example 9:

Probably a lot of you know the story of the two salesmen who went down to Africa in the 1900s. They were sent down to find if there was any opportunity for selling shoes, and they wrote telegrams back to Manchester. And one of them wrote, "Situation hopeless. Stop. They don't wear shoes." And the other one wrote, "Glorious opportunity. They don't have any shoes yet." (Laughter) **【humor】** Now, there's a similar situation in the classical music world, because there are some people who think that classical music is dying. And there are some of us who think you ain't seen nothing yet. [M03]

The speaker makes comparison of the two different views in the story to analogize the current situation of classical music: there are a deluge of people who are not deeply exposed to classical music, thus aiding in audience comprehension and sustain their engagement.

4.1.3 Question

Question is a type of linguistic resource that provokes doubt and reflection in the audience. This type of linguistic resource studied in our study encompasses tag questions like "hasn' t it?" , "right?" and substantive questions like "how is technology changing love?" . Lakoff and Lakoff (2004) illustrates that women' s language is featured in hesitancy, uncertainty and tentativeness so they use more questions especially tag questions than men. Nevertheless, the present study shows the contrary side: male speakers use tag questions more frequently than female speakers while female speakers are inclined to raise more substantive questions relevant to their topics. There are 55 questions in total used by both genders in the videos, with 4 instances of tag questions and 26 instances of substantive questions in women' s speech opening and 9 cases of tag questions and 16 instances of substantive questions in men' s speech opening. Next comes the analysis of the use of questions by both genders in the speech introduction sections.

Example 10:

So what nonverbals am I talking about? **【question】** I'm a social psychologist. I study prejudice, and I teach at a competitive business school, so it was inevitable that I would become interested in power dynamics. I became especially interested in nonverbal expressions of power and dominance. And what are nonverbal expressions of power and dominance? **【question】** [F04]

Female speakers raise substantive questions in their speech opening mainly because they want to achieve impactful speech through tactful use of linguistic resources rather than because they are uncertain about something. By asking the question, the speaker succeeds in leading into the topic about body language, which provokes the listeners curiosity and interests in the speech topic.

Example 11:

How is technology changing love? **【question】** I'm going to say almost not at all. I study the brain. [F05]

By bringing out the substantive question that cuts to the chase, the speaker manages to arrest the attention of the audience and activate their reflections on how technology will change love, making a lasting impression on the audience.

Example 12:

This makes no sense, right? **【question】** I mean, I'm an American. I believe in free markets. That's not how it's supposed to work, right? **【question】** If you want people to perform better, you reward them. Right? **【question】** [M04]

Sometimes tag questions are used to seek for confirmation for something. By using the tag question "right?" , the speaker anticipates the confirmation of the listeners.

Example 13:

It's been great, hasn't it? **【question】** **【tag question】** ...I have an interest in education. Actually, what I find is, everybody has an interest in education. Don't you? **【question】** **【tag question】** [M02]

In some cases, tag questions are used to interact with the audience instead of seeking confirmation. The speaker asks whether things are going on well at the begging to start his talk. By interacting with the audience, the speaker can enliven the atmosphere and bring the audience closer, which can effectively enhance engagement and impact of the speech.

4.1.4 Anecdote

Anecdote refers to an interesting short story about something that happened to the speakers or someone else in their daily life. It can be drawn from the data that both genders excel in using anecdotes which appear 14 times in the opening sections with 7 times for the female speakers and 7 times for male speakers. The female speakers who employ anecdotes tend to tell stories at the very first beginning of the speech to initiate the speech. All of them construct their anecdotes through their self-experience based on their exquisite observation. They provide detailed descriptions, even describing the same story at length in the whole opening section sometimes. On the one hand, female speakers tell interesting stories to show sense of humor through self-deprecation and to elicit positive affective response from the audience. On the other hand, they share their authentic self-experience in which the speakers show their emotion vulnerability to trigger audience empathy and establish emotional connections. In contrast, male speakers organize the anecdotes more flexibly at the very first beginning or at the middle of the opening sections. They either tell their own experiences or tell the stories of others and they express in a more condensed and succinct way. Moreover, they win the praise and laughter of the audience by telling jokes about others. Examples are listed as follows:

Example 14:

So, I'll start with this: a couple years ago, an event planner called me because I was going to do a speaking event. And she called, and she said, "I'm really struggling with how to write about you on the little flyer." And I thought, "Well, what's the struggle?" And she said, "Well, I saw you speak, and I'm going to call you a researcher, I think, but I'm afraid if I call you a researcher, no one will come, because they'll think you're boring and irrelevant." (Laughter) **【humor】** [F01]

By belittling her profession as “boring and irrelevant”, the speaker places herself in a disadvantaged situation so as to inspire resonance among the audience.

Example 15:

You know, a gentleman was once watching a presentation I was doing, when I was working with a young pianist. He was the president of a corporation in Ohio. **【anecdote】** I was working with this young pianist, and said, "The trouble with you is you're a two-buttock player. You should be a one-buttock player." I moved his body while he was playing. And suddenly, the music took off. It took flight. The audience gasped when they heard the difference. Then I got a letter from this gentleman. He said, "I was so moved. I went back and I transformed my entire company into a one-buttock company." **【humor】** [M03]

The speaker enlivens the atmosphere and establishes connections by telling a joke about one of his pianist co-workers, which helps to add zest to the speech opening.

4.1.5 Citation

Citation refers to inclusion of the authoritative and scientific sources or quotes from celebrities. Table 3 shows that female speakers put citations into use 6 times while male speakers exploit citations 4 times, indicating that the authority and scientificity of female speakers' presentations are not inferior to those of male speakers.

Example 16:

He said, "Look, I've got one rule." And this was Henry's rule, he said, "Look, everyone is willing to give you something. They're ready to give you something for whatever it is they're hungry for." **【citation】** And that's the crux of it. If you don't want to be deceived, you have to know, what is it that you're hungry for? [F02]

The speaker quotes the con man Henry Oberlander who has successful fraud experience to emphasize the point that people must first know what they are hungry for in order to more effectively prevent deception. The vivid quotation aids in better comprehension of the audience and helps to arouse their interest and attention, making for stronger authenticity and credibility of the speech.

Example 17:

So let me show you the data. Here in this study, we decided to test the hypothesis that pulling the all-nighter was a good idea. So we took a group of individuals and we assigned them to one of two experimental groups: a sleep group and a sleep deprivation group. [...] And when you put those two groups head to head, what you find is a quite significant, 40-percent deficit in the ability of the brain to make new memories without sleep. **【citation】** [M05]

The speaker cites his team's experiment on sleeping to reduce subjectivity and enhance the authority of the speech through objective experimental data. The speaker can convince the audience to get more sleep though citation, which leaves a lasting impression on them.

4.1.6 Imperative statement

Imperative statement is the sentence used to express directive speech acts, with its core functions including command, request, advice, warning or prohibition. Previous studies have shown that men tend to use declarative and imperative sentences in conversations to express commands or demands, thereby reflecting their higher power and status, while women tend to use imperative sentences with consultative tone to express their intentions indirectly and tactfully. But it's not the case in the speech opening based on our research corpus. Regardless of the limited corpus, in the 12 videos coded in the study, imperative statements appear 3 times in female speakers' opening sections while 2 times in the male ones. Female speakers use imperative statements without any subtle modifications directly to guide the audience's thinking and lead them into the topics. While male speakers are aware of using polite words to abate assertiveness. Examples of the imperative statements used in the speech opening by both genders are as follows:

Example 18:

Lying is a cooperative act. Think about it 【imperative statement】, a lie has no power whatsoever by its mere utterance. Its power emerges when someone else agrees to believe the lie. [F03]

By asking the listeners to think about the unusual fact, the speaker instructs the audience to cogitate the problem, making a profound impression on them. This is a great way to introduce the theme and maintain the coherence of the speech structure.

Example 19:

So, ladies and gentlemen of the jury, take a look at this 【imperative statement】. This is called the candle problem. Some of you might know it.[M04]

Before making request to the audience, the speaker first addresses them as "ladies and gentlemen" to alleviate the stiffness and dominance brought by imperative statements. The utilization of the imperative statements contributes to the speakers' control of the speech order.

4.2 Para-verbal linguistic resources

Narrowly speaking, para-verbal language encompasses intonation, speech speed, pauses, stress, rhythm, etc. This section analyzes the speed and amount of talks of the speakers in detail.

The study calculates the words uttered by each speaker in the 6-minute speech opening. It should be noticed that the time when the audience laugh for a long time, usually lasting more than 10 seconds and speaker plays the piano in certain speech is deleted for eliminating interference and obtaining exact data. Therefore, the total minutes of some speeches are 5 minutes. Table 5 shows the data of the speed and amount of talks of the speakers studied. The average speaking rate is calculated.

Table 5. Data of the speed and amount of talks of the speakers

Number	Topics	Speakers	Words/minutes	Average speed
Female speakers				
1	The power of vulnerability	Brené Brown	1055/6	176/min
2	How to spot a liar	Pamela Meyer	1028/6	171/min
3	The power of introverts	Susan Cain	1083/6	181/min
4	Your body language may shape who you are	Amy Cuddy	974/6	162/min
5	Technology hasn't changed love. Here's why	Helen Fisher	901/6	150/min
6	Your elusive creative genius	Elizabeth Gilbert	1070/6	178/min
Average				170/min

Male Speakers				
1	The paradox of choice	Barry Schwartz	1096/6	183/min
2	Do schools kill creativity?	Sir Ken Robinson	977/5	195/min
3	The transformative power of classical music	Benjamin Zander	898/5	180/min
4	The puzzle of motivation	Dan Pink	898/6	150/min
5	Sleep is your superpower	Matt Walker	864/6	144/min
6	This could be why you're depressed or anxious	Johann Hari	1158/6	193/min
Average				174/min

4.2.1 Speech speed

As table 5 reveals, the discrepancy of the average speech rates between female and male speakers is negligible. The speaker's speaking speed in a formal speech is generally about 150-180 words per minute. The average speech rates of both genders fall within the normal range. Their moderate pace can not only prevent cognitive overload, aiding in comprehension of the audience, but also improve information retention.

4.2.2 Amount of talks

The average speaking speed of male and female speakers reflects that the amount of talks of male speakers is larger than that of female speakers. This finding is consistent with that of Coates (1986). She finds that men speak more than women based on the corpus of university office meetings, television interviews, and Internet chats. According to Tannen (1993), men are more interested in demonstrating their competence in public than women. On most public occasions, men are always active and occupy the centre of the "talk stage" for a long time, displaying their talents by presenting information, expressing opinions, asking questions, telling jokes and stories, etc., in order to attract attention and enhance their status.

4.2 Body language

According to Mehrabian (1972), when conveying information, 55% of others' impressions on an individual depends on visual information (e.g., expressions, gestures, clothing), 38% comes from auditory information (e.g., timbre, speech rate), and only 7% stems from the verbal content. The same goes for speech: The impact of a speech is 7% content, 38% tone of voice and 55% body language. Body language contributes significantly to effective and impactful presentation. In a broad sense, body language comprises three aspects, namely, facial expressions like smiles, eye contact, etc., gestures and postures.

4.3.1 Facial expressions

Smile plays a vital role in engendering trust among audience in the speech opening. It helps to convey friendliness by reducing the listeners' alertness and enhance the affinity of the speech, making the speech intimate. The present study counts the frequency of smiles employed by speakers of both genders in the opening section. Table 5 shows that female speakers smile significantly more than male speakers, which indicates that female speakers are more adept at building a trusting bond with the audience by releasing friendliness while male speakers tend to behave in a more serious and authoritative manner.

Table 6. Frequency of smiles of speakers

No.	Topic	speaker	Frequency
Female Speakers			
1	The power of vulnerability	Brené Brown	2
2	How to spot a liar	Pamela Meyer	13
3	The power of introverts	Susan Cain	
4	Your body language may shape who you are	Amy Cuddy	5
5	Technology hasn't changed love. Here's why	Helen Fisher	3
6	Your elusive creative genius	Elizabeth Gilbert	8
Total			31

Male Speakers			
1	The paradox of choice	Barry Schwartz	1
2	Do schools kill creativity?	Sir Ken Robinson	9
3	The transformative power of classical music	Benjamin Zander	7
4	The puzzle of motivation	Dan Pink	2
5	Sleep is your superpower	Matt Walker	2
6	This could be why you're depressed or anxious	Johann Hari	1
Total			22

4.3.2 Gesture

Co-speech gestures can enhance comprehension of the audience on scene and the internet from different cultural backgrounds in the international context of TED Talks. The categories of gestures focused on are expressive, deictic, iconic and symbolic gestures. Expressive gestures used subsequent to affective or other contents reveal the speakers' emotions, like curiosity, affirmation and astonishment, etc. and intention of emphasizing value-laden meanings. Deictic gestures are used when the speakers denote specific persons, entities, numbers, range, etc., and co-occur with verbal enumeration, which helps to guide the audience attentions to certain aspects and enhance the pathos of the speech. Iconic gestures are used to describe persons and identities, specific actions, shape, time, bearing, location, distance, height, degree, etc. Symbolic gestures are used to elucidate abstract concepts. Gesturing while explaining a concept reduces the speakers' cognitive load and enhances unconscious memorization and comprehension of audience by connecting abstract ideas to the concrete physical environment (Masi, 2020). Table 7 shows the frequency of the four types of gestures used by both genders in the speech opening. There is an apparent distinction in terms of expressive gesture between two genders. Female speakers employ expressive gestures more frequently than male speakers, which may indicate that women may be more sensitive and more willing to express their feelings to the audience. Female speakers tend to utilize more gestures than male speakers in total, showing that women tend to use more body movements to assist in emotional expression while men typically reduce unnecessary body language and rely more on direct language to deliver speeches.

Table 7. Frequency of the four types of gestures used by both genders

Type	Frequency (Fe.)	Frequency (Ma.)
Expressive gesture	90	67
Deictic gesture	56	53
Iconic gesture	41	38
Symbolic gesture	20	23
Total	207	181

Example 20:

And rather than go into statistics and trends, and tell you about all the orchestras that are closing, and the record companies that are folding, I thought we should do an experiment tonight. Actually, it's not really an experiment, because I know the outcome. But it's like an experiment. [M03]

Figure 1. 'It's not really an experiment, because I know the outcome.'



When the speaker says he is going to conduct an experiment, he smiles and rubs his palms against each other a few times. This expressive gesture of rubbing hands represents his current emotional state: he is eager for the upcoming experiment at this moment, itching to have a go. The gesture intrigues the audience to participate in the experiment, thus enhancing engagement and creating rapport.

Example 21:

And one thing unites a lot of the causes of depression and anxiety that I learned about. Not all of them, but a lot of them. Everyone here knows you've all got natural physical needs, right? Obviously. You need food, you need water, you need shelter, you need clean air. If I took those things away from you, you'd all be in real trouble, real fast. [M06]

Figure 2. 'You need food, you need water, you need shelter, you need clean air.'



The speaker lists four human physical needs. For each additional item he mentions, he extends an extra finger to display the corresponding number, from one to four. One finger denote one physical need. This deictic gesture used while speaking is beneficial for displaying the speaker's logic clearly and distinctly.

Example 22:

Let me start with the brain and the functions of learning and memory, because what we've discovered over the past 10 or so years is that you need sleep after learning to essentially hit the save button on those new memories so that you don't forget. But recently, we discovered that you also need sleep before learning to actually prepare your brain, almost like a dry sponge ready to initially soak up new information. [M05]

Figure 3. 'you need sleep after learning' & 'you also need sleep before learning'



The speaker clearly explains the preposition of time using iconic gestures. His left hand stretched forward is regarded as a standard axis representing learning. He moves his right hand to the right of the left hand, representing the ideas of 'after learning' with location on the right and then moves his right hand to the left of the left hand, standing for the ideas of 'before learning' with location on the left. Through gesturing, the iconic gesture vividly demonstrates these two temporal processes, thus aiding in comprehension of the audience.

Example 23:

So I'm watching this behavior in the classroom, and what do I notice? I notice that MBA students really exhibit the full range of power nonverbals. So you have people who are like caricatures of alphas, really coming into the room, they get right into the middle of the room before class even starts, like they really want to occupy space. [F05]

Figure 4: 'So you have people who are like caricatures of alphas'



Appearing as an infrequent word, alpha refers to a person who is strong, powerful, and holds a dominant position. The speaker spreads her palms parallel to her body, with both hands facing upwards. She tries to make an expanding gesture as much as possible to imitate alphas' posture. This symbolic gesture is emblematic of strength and power, expounding the connotation of "alphas". This speech-synchronized gesture complements the speech with further semantic meaning by illustrating abstract concept.

5. Discussion

It's noteworthy that verbal language, para-verbal language and body language work in concert to facilitate compelling presentations. They play a cooperative role in building connection, enhancing engagement, maintaining attention and facilitating comprehension. Ted talkers of both genders make full use of the three linguistic resources. In terms of verbal language, directive address is used the most frequently, constituting a significant 70.94% of all verbal linguistic resources. Humor and question are ranked second and third and anecdote, citation and imperative statement are not as frequently used as the three strategies listed above. There are gender-based similarities and differences in the usage of these verbal strategies. Female speakers are inclined to use first person plural pronoun while male speakers use second person pronoun, which indicates that women focus on rapport enhancement whereas men highlight objective representation. That female speakers utilize more humor than male ones break the previous stereotype that women are devoid of a sense of humor. Tag questions previously regarded as the feature of the uncertainty in women's language appear more in men's language in the talks in our study. The finding that female speakers use more citation and imperative statement signals a significant shift in women's language use from

subjectivity and tentativeness to authority and objectivity. Moreover, both men and women speak in a appropriate rate in order to promote audience's understanding. But men talk more so as to gain respect and seek for status elevation. Women are socialized and cultivated to be reserved and silent due to social norms and cultural conventions. In terms of body language, female speakers tend to utilize gestures more than male speakers especially expressive gestures. It's found that female speakers are more expressive in talking about their feeling and conveying their intense feeling.

The use of linguistic resources in speech opening was found to vary depending on the social status and cultural background. Every speaker bear the characteristic of their culture and social discipline. Inconsistencies of women's status in society and culture lead to inconsistencies in women's patterns and styles of language use. Women who display uncertainty in their speech are more likely to be disciplined or have a lower status in society, while women who are more assertive in talks tend to be more empowered and less socially disciplined. Women and men are socialized and cultivated to be feminine or masculine in every aspect of linguistic resources due to social norms and cultural conventions.

Speech is a genre distinguished from conversation. Therefore, some findings of the present study are at odds with those of the linguists studying gendered language in conversations like Lakoff and Tannen. In addition, with the advancement of epoch elevating women's social status, remarkable changes have taken place in the characteristics and styles inscribed in women's language use.

The factors influencing our findings should be known. The language use in the speech may not represent the pure characteristics of each gender on the ground that the speech script may have been revised and redrafted by speech professionals and academic experts of both genders, whose language style must, to some extent, exert influence on the language use of speakers' speech. Moreover, presentation has become a mature system in which speakers are uniformly trained to be a unity with a commonality of language. The features of their respective genders' use of language have been slowly worn out by inflexible unity. Additionally, there is a great disparity on speakers' speech style depending on different topics since different topics may require speakers to react and perform differently. The science themed speeches require speakers to construct the whole speech based on statistics citations to augment their statements while philosophical speeches are rife with story-telling to bolster reasoning. Different topics may also have a bearing on the non-verbal strategies applied. Additionally, the impact of personal characters on the utilization of linguistic resources is measurable. Some speakers are more active or serious than other, thus smiling or gesturing more or less. Speakers' expertise also play a role. Some speakers may specialize in certain linguistic resources and show a preference in utilizing them in the presentations.

6. Conclusion

The present study provides measurable insights into the similarities and differences of the linguistic resources used by speakers of both genders in the speech opening section as well as the functions of these linguistic resources. It provides a gender-based viewpoint into the speech strategies of verbal, para-verbal and non-verbal language in opening section. The frequency of their use is calculated and the gender differences and similarities are analyzed. Female speakers utilize the linguistic resources associated with rapport building and emotional expressions while male speakers use the linguistic resources linked with objectivity and status establishment. They both make full use of verbal linguistic resources like anecdote, humor, question, moderate speech rate and gestures to fully create appealing speeches. The differences may be attributed to the social norms and cultural stereotype while the similarities may be ascribed to the elevation of women's social status and the special genre of speech with uniformity. Other factors like speakers' preference, personality, speech topics, educational level may exert an influence.

The research limitations are pronounced. The sample and corpus are constrained to 12 speeches and the topics are restricted to a few sporadic ones. In-depth investigations should endeavour to have itself based on more extensive samples and miscellaneous topics.

This paper leaves open some avenues for future research. The present study may prompt additional exploration highlighting the variations in the utilization of linguistic resources based on factors such as speech topic, speakers' characteristics, social status and cultural background. Our study is heuristic in narrowing down the research contents into several nuanced researches on the verbal language, para-language and body language playing a part in speech.

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