

# INVESTIGATING LEADER AND FOLLOWER LINGUISTIC CUES USING THE LIWC PROGRAM

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*BACHELOR THESIS BY*

*EDITE TABUNE*

*June 2019*

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## Summary

**Purpose:** Part of the essence of leadership is communication and that is crucial for organizational performance. Communication of a leader can differentiate effective and less effective leader. Nevertheless, leadership is not possible without followership. Followership topic has been around for a very long time. However, to date, not much is known about the communication style of the followers and how they communicate with leaders they perceive effective and less effective. The initial study complements the studies of personal pronoun use (1) *first-person singular* ‘I’, ‘me’ and (2) *first person-plural* ‘we’, ‘us’ use between effective and less effective leaders and followers of effective and followers of less effective leaders. Post-hoc analysis extend the knowledge on *function* word use between effective and less effective leaders and followers of effective and followers of less effective leaders and leaders versus followers. To contribute leader and follower studies with objective measures, text analysis application - Linguistic Inquiry and Word Count (LIWC) was used.

**Results:** Even though the initial study did not find differences between effective and less effective leaders and followers of effective and less effective leaders, it did find that leaders and followers tend to use more first-person singular pronouns such as ‘I’, ‘me’ more than first person-plural pronouns ‘we’, ‘us’. Post-hoc analysis revealed that followers of less effective leaders tend to use more *present tense*. In comparison to leaders, followers tend to use more *function* words. Function word categories they use more are: *they*, *past tense*, *conjunctions* and *negations*. Whereas leaders, tend to use more *prepositions*.

**Conclusion and recommendation:** The field of followers of effective or less effective leaders are still in infancy, however not much differences, but some did emerge. That shows that there is a field to investigate and perhaps this was just the tip of the iceberg. Also, for leaders that are effective or less effective some marginal differences emerged, indicating that there is also worth while looking into. The LIWC program includes other aspects such as psychological processes and personal concerns, investigated it could give more of an understanding of effective versus less effective leaders and followers of effective versus followers of less effective leaders.

**Key words:** effective leader, follower of effective leader, communication, linguistic cue, pronouns, LIWC

## 1. Introduction

Academic literature includes ample studies showing that the success of an organization depends on leadership; moreover, communication is central to leader effectiveness and this is crucial for organizational performance (Behrendt, Matz, & Göritz 2017). Objective information about leader linguistic cues, as opposed to perceptual, effective leader communication is scarce and calls for generating more sophisticated and objective methods (Behrendt et al., 2017).

It is important to note that leadership cannot be exercised without followership (Uhl-Bien, Riggio, Lowe, & Carsten, 2013). Compared to research on leadership, research on followership is scarce, and the field is still in its infancy (Collison, 2006; Crossman & Crossman, 2011; Uhl-Bien et al., 2013; Ford & Harding, 2018). Although effective followership has recently come more to the forefront of empirical research (Crossman & Crossman, 2011), little is known about the linguistic cues that followers display when interacting with leaders who are either effective or less effective. Moreover, a great deal of research has been conducted on how leaders speak, but not as much is known about how followers respond to leaders (Steffens & Haslam, 2013).

Ford and Harding (2018) emphasize the importance of examining leadership and followership together, in order to better understand the linguistic cues that leaders and followers use. Hence, a better understanding of specific linguistic cues that leaders and followers use while interacting with one another is urgently needed to move the field forward. Specific linguistic cues can reveal how people are communicating- personal pronouns in particular reflect where the attention of a person is allocated and can indicate social bonding (Tausczik & Pennebaker, 2010). Pronouns are a word category within the broader linguistic dimension of function words and are divided into impersonal and personal pronouns. Impersonal pronouns consist of (e.g. it, it's, those). Whereas personal pronouns are categorized into five levels: first-person singular (i.e. I, me, mine); first-person plural (i.e. we, our, us); second person (i.e. you, your); third-person singular (i.e. she, her, him); and third-person plural (i.e. they, their) pronouns (Tausczik & Pennebaker, 2010). Studies on leaders have focused on first-person singular pronouns and first-person plural pronouns (i.e. relation terms), because it has been shown that the use of these specific linguistic cues can influence leaders' success and follower enticement (Steffens & Haslam, 2013).

Although prior studies have focused on personal pronoun use in leaders, such studies on followers are scarce. This study will therefore examine effective and less effective leader use of first-person singular and first-person plural pronouns use, as well as investigate this linguistic cue in followers of effective leaders and followers of less effective leaders.

In order to understand linguistic cues between effective and less effective leaders and better comprehend communication between followers of effective and less effective leaders, this study aims to examine several studies and several theories. These include leader communication and follower communication, SIT (social identity theory), and mimicry, which are overarching theories that help to explain these common processes. More specifically, I will investigate how followers respond to effective and less effective leaders. It has been found that communication can differ among leaders who are effective and less effective (Deva & Yazdanifard, 2013). SIT has been used in recent literature to uncover leader and follower identification, which can demonstrate linguistic cue differentiation and the groups with which they identify. Finally, mimicry has shown that to a certain degree, employees tend to match the language of their leaders (Meinecke & Kauffeld, 2018) and that function words and pronouns in mimicry is an effective measure (Gonzales et al., 2010). It is not known, however, whether leader effectiveness can differentiate this degree of language matching.

Recent studies have drawn attention to objectively measuring linguistic cues; therefore, to examine leader and follower linguistic cues, I will use the relatively new research approach of Linguistic Inquiry and Word Count (LIWC). This tool, which will be used to investigate the linguistic cues in this study, will be introduced at the end of the chapter.

This study aims to contribute to a knowledge gap of specific linguistic cues between effective and less effective leaders and between followers of effective leaders and followers of less effective leaders, namely, pronouns such as relation terms and first-person singular pronouns. By using LIWC, this study contributes to the academic discourse seeking a more objective measure. It also contributes to follower research conducted in real-life settings.

## **Research question:**

What are the differences in the use of relation terms and first-person singular pronouns between effective and less effective leaders and followers of effective leaders and followers of less effective leaders?

### **1.1 Leadership and leader communication**

Part of the essence of leadership is interpersonal communication style (de Vries, Bakker-Pieper, & Oostenveld, 2009). Although academics are still discussing the different communication style dimensions, a study by de Vries et al. (2009) operationalized six styles: verbal aggressiveness, expressiveness, preciseness, assuredness, argumentativeness, and supportiveness, and attributed the styles to either charismatic, task-orientated, or human-orientated leadership. It should be noted that this study will not address leadership styles but merely examine attached communication styles, which could provide information about different linguistic cues associated with the effectiveness of leaders. The study by de Vries et al. (2009) found that charismatic and human-orientated leadership were related to communication styles, besides both styles are related because of the relational content. Leaders' supportiveness and assuredness were strongly correlated to charismatic leadership. Charismatic leadership as matter of fact is related to leadership effectiveness (Awamleh & Gardner, 1999). An example of a supportiveness item is: 'My leader often gives somebody a compliment', while an example of assuredness item is: 'Often, my leader lets others resolutely know what s/he thinks'. Human-oriented leadership was also strongly correlated with supportiveness and verbal aggression. An example of a verbal aggression item is, 'If things don't work out, my leader becomes very angry' (de Vries et al., 2009). The example items do not offer a clear knowledge of precise communication, but they give an idea of which styles of communication are associated with effective leadership styles.

The precise communication or selection of words that a leader uses can differentiate effective and less effective leaders (Deva & Yazdanifard, 2013). According to Steffens and Haslam (2013), for example, effective leaders use more relational terms such as 'us', which cultivates the sense of relation between the leader and the followers. Their research also shows that political leaders who used these relation terms or 'we'-referencing language were more effective; overall follower support was enhanced. In a similar vein, Steffens and Haslam (2013) found that political candidates who won their elections used more collective

pronouns ('we', 'us'), while losing candidates used more personal pronouns such as 'I' or 'me'. To be more precise, unsuccessful candidates mentioned collective pronouns every 136 words, whereas successful candidates referred to 'we' and 'us' every 79 words (Steffens & Haslam, 2013).

Drawing upon the empirical results of these studies, it seems that pronouns fulfil an important role in leaders' communication styles. Pronouns are part of so-called 'function words', which are 'the syntactic backbone of language' (Gonzales, Hancock, & Pennebaker, 2010). Function words (see Appendix) are comprised of pronouns, articles, verbs, adverbs, prepositions, conjunctions, negations, quantifiers, numbers and 'swear' words (Tausczik & Pennebaker, 2010). Furthermore, function words can mark differences in individuals, including leadership styles (Ireland et.al., 2010). Of the function words, pronouns are the most used word category, accounting for around 14% of all spoken words (Kacewicz et al., 2013). Moreover, they inform as to 'how' people are communicating rather than 'what' they are communicating (Kacewicz et al., 2013), meaning that they do not refer to the matter of the discussion, but how the discussion is conducted. Function words arise frequently in conversations and arise unconsciously and independently of context: they can be measured in different semantic domains, ranging from informal social conversations to task-based commands (Gonzales, Hancock, & Pennebaker, 2010). Although English language dictionary includes 400–500 function words, they comprise more than half of all words used on a daily basis (Gonzales, Hancock, & Pennebaker, 2010).

## 1.2 Followership and follower communication

Followership, which has been used as a term since the 1980s, is also employed as a synonym for subordinates, collaborators, partners or participants (Crossman & Crossman, 2011). There is no one definition of followership, but it can be described as the opposite of leadership—indirect influential activity or the role of those who are influenced by a leader (Crossman & Crossman, 2011). For clarity, this study uses the terms 'follower' and 'followership'.

In recent decades, scholars have proposed many different classifications of followers that offer some ideas about how effective followers communicate. Followers can be classified either as active participants with critical thinking, cooperation, and enthusiasm (Howell & Costley, 2006), or as disregarding, being against the leader and passive or active (Crossman & Crossman, 2011). Another categorization is by Robert Kelly (2008), who distinguishes five types of followership: (1) the 'sheep' who are passive followers and who would like their boss to think for them and to motivate them; (2) the 'yes people', who are always on the

leaders' side with positive energy, but still want to receive direction from the leader, asking what to do next as soon as they have finished their task; (3) the 'alienated followers', who voice their opinions in a negative/critical way but think for themselves—they are sceptical of the leader's plans, but do not offer other solutions; (4) the 'pragmatics', who do what needs to be done, but do not mind if someone else does the work; and (5) the 'star followers', who are independent thinkers with positive energy, offering constructive feedback and reflecting in their speech whether they agree or disagree with the leader, supported by strong argumentation.

Although these authors have greatly contributed to the topic of followers, the follower classifications do not offer precise information about the specific linguistic cues that followers display when interacting with their leaders.

On the basis of the above, I propose the following hypotheses:

**H1:** Leaders who are perceived as effective by their followers use more relation words, such as 'us' or 'we', than leaders who are perceived as less effective.

**H2:** Leaders who are perceived as less effective by their followers use more first-person singular pronouns, such as 'I' or 'me', than leaders who are perceived as effective.

Although the hypotheses are reversed, I do not assume that if one hypothesis is true the other must not be true. Both hypotheses will be checked independently.

Examining the actual communication of effective versus less effective leaders adds to our understanding of effective leadership; in this study, however, I will also attempt to uncover how followers' communication differs when they follow effective and less effective leaders. The theories that have informed the hypotheses are the mimicry (Duffy, & Chartrand 2015) and SIT theories (Tajfel & Turner, 1979). Both theories will be discussed below.



### 1.3 Social Identity Theory

SIT by Tajfel and Turner has been used extensively in academic literature. SIT proposes that interrelated components— such as intergroup relations, social comparison, and categorization—represent self-concept, which is related to belonging in a certain group. This is also known as the social identity approach (Reicher, Haslam, & Hopkins, 2005; Hogg, 2001). It is also introduced as a theory that helps to explain intragroup behaviour and communication of individuals. Stemming from SIT, the idea is proposed that identity between leader and follower is co-created and these identities are claimed, granted or rejected (Epitropaki, Kark, Mainemelis, & Lord, 2016). Leaders create social identity by intervening with their followers through language and other practises in order to transform their followers, creating a shared sense of ‘us’ (Reicher et al., 2005).

Based on SIT, followers are able to think and act not simply in terms of ‘I’ and ‘me’, but also as ‘we’ and ‘us’ (Steffens & Halsam, 2013; Steffens, Haslam, & Racher, 2014). In other words, if followers share their social identities with their leaders and perceive themselves and others in these terms, they can form a group and thus may use language that refers to this group (i.e. ‘we’ and ‘us’). Furthermore, it has been disputed that the ability to self-categorize one’s membership to a group plays an important role in people’s capacity to influence each other: followers who socially identify with leaders may use different communication than followers who do not identify with their leaders (Steffens, Haslam, & Racher, 2014). Research therefore suggests that the way in which followers respond to their leaders is shaped by their understanding of whether they and their leaders are bound together by a shared sense of social identity (Steffens, Haslam, & Racher, 2014).

### 1.4 Mimicry

Verbal mimicry is defined as mirroring another persons’ speech characteristics and patterns of speech or adopting one another’s word use, also referred as language style matching (Duffy & Chartrand 2015; Jordan & Pennebaker, 2016; Meinecke & Kauffeld, 2018).

Mimicry also includes syntax (i.e. context) and speech rate (Meinecke & Kauffeld, 2018). To some extent, people tend to match their language in daily conversation; this degree of matching, however, tends to be undetectable by speakers and even by experienced observers (Ireland et al., 2010). Mimicry often appears in positive relationships, as shown in a study by Ireland et al. (2010) suggesting that verbal language matching is high when people in a group like one another. Interestingly, a study by Meinecke and Kauffeld (2018) found that higher

degrees of language style matching between supervisors and employees were positively related to a supervisor's empathetic communication style.

In addition, Jordan and Pennebaker (2016) suggest that people of lower status tend to verbally mimic people of higher status, generally without conscious thought. Their study shows that candidates who ran for presidency became more similar to front runners in their language style. They argue that this may be because higher-status people set the tone and followers mimic them.

As previously mentioned, pronouns fulfil an important role in communication style between leaders, and in mimicry, they play an important role in language style matching processes (Gonzales et al., 2010). Gonzales et al. (2010) emphasize that because function words are of a non-conscious nature and recurrence is high, they offer a high-quality measure for assessing mimicry. Another study stresses the importance of personal pronoun use in the language style matching processes, because they allow for psychological matching regardless of context (Ireland et al., 2010). Couples who are married and use more 'we' and fewer 'you' words have a lower rate of divorce, reporting higher satisfaction in the relationship (Ireland et al., 2010).

Drawing up from SIT, followers of effective leaders tend to 'socially identify' with them. When followers socially identify with their leaders (being effective leaders), shapes their communication. However, specific linguistic cues are not known, therefore it is expected that there will be some differences in the linguistic cue, and these differences will be examined. Mimicry theory, on the other hand, suggests more specific linguistic cues. From the abovementioned findings that effective leaders use more relation terms such as 'we', and less effective leaders use more 'I' pronouns, it can be expected from mimicry theory that followers of effective leaders adopt and use more relation terms such as 'we' and followers of less effective leaders use more 'I' pronouns. Although these theories help us to understand leader and follower influences on linguistic cues, they will not be tested in this study, but merely used to develop hypotheses.

On the basis of the above, I propose the following hypotheses:

**H3:** Followers of effective leaders use more relation terms, such as ‘us’ or ‘we’, than followers of less effective leaders.

**H4:** Followers of less effective leaders use more first-person singular pronouns, such as ‘I’ or ‘me’, than followers of effective leaders.

### 1.5 Measuring tool

More studies are beginning to link word use to broader social processes and to investigate language behaviour (Tausczik & Pennebaker, 2010). To reveal large data in language use, the text mining technique is a powerful tool for objective measurement. By using text mining, patterns, facts, and trends in leader and follower communication can be revealed (Kobayashi, Mol, Berkers, Kismihók, & Den Hartog, 2018). The software program LIWC has been developed to capture word count, which can then be grouped according to different linguistic dimensions (Pennebaker, Francis, & Booth, 2010). This program provides word dictionaries that the researcher can use to capture the communication of interest (Pennebaker et al., 2010). In this article, I will focus on relational words (first-person plural pronouns) and personal pronouns (first-person singular pronouns) that are used by leaders and the followers. Since the data were recorded in a real-life setting, this measure should provide objective accounts of language use by leaders and followers.

## 2. Method

### 2.1 Participants

This study included 71 leaders and 893 followers. Of the leaders, 50 were male, accounting for 70.4%, and 18 were female, accounting for 25.4%. Three of the leaders did not provide their gender, but they were nevertheless part of the study. Leader age varied from 27 to 62 ( $M = 51.17$ ,  $SD = 7.84$ ), with leadership experience ranging from 1 to 35 years ( $M = 13.93$ ,  $SD = 8.90$ ). Most leaders ( $n = 27$ ) had HBO level and ( $n = 23$ ) a Master of Science (Msc) degree. A large portion had a vocational MBO level of education ( $n = 14$ ). One person achieved a bachelor of science (Bsc) degree and one person had a PhD. Others did not fill in this information.

Of the followers, 502 were male, which accounted for 56.2%, and 310 were female, which accounted for 34.7%. The rest did not fill in this field. Follower age, of those who completed the survey ( $n = 784$ ), ranged from 18 to 69 ( $M = 48.72$ ,  $SD = 10.84$ ). Most followers had obtained an MBO degree ( $n = 353$ ), HBO ( $n = 206$ ), and Master of Science (Msc) ( $n = 150$ ). Moreover, 35 had lower secondary vocational education- LBO, 10 obtained PhDs and four had a secondary education. The remainder did not complete this information.

#### Background information of effective and less effective leaders and followers of effective and followers of less effective leaders (division in the effectiveness explained at chapter 2.3.3 )

From the 38 effective leaders 36 provided their age, the age varied from 27 to 62 years ( $M = 50.58$ ,  $SD = 9.20$ ). Also 36 provided their gender, 24 males, accounting for 67 %, and 12 females, accounting for 33%. From 33 less effective leaders 32 provided their age, the age varied from 36 to 62 years ( $M = 51.59$ ,  $SD = 51.00$ ). Gender was provided by 31 participants, 25 males, accounting for 78.1 %, and 6 females, accounting for 18.8%.

From 463 followers of effective leaders 407 provided their age, the age varied from 19 to 65 years ( $M = 47.92$ ,  $SD = 11.16$ ). Gender was provided by 420 participants, 262 males, accounting for 56.6%, and 158 females, accounting for 34.1 % from the whole sample of followers off effective leaders. From 417 followers of less effective leaders 364 provided their age, the age varied from 18 to 69 years ( $M = 49.59$ ,  $SD = 52.50$ ). Gender was provided by 379 participants, 231 males, accounting for 55.4%, and 148 females, accounting for 35.5% from the whole sample of followers of less effective leaders.

Participants worked together in a large Dutch organisation and were recorded during regular staff meetings. All participants gave informed consent prior to participating in the study.

## 2.2 Procedure

Transcripts were made on the basis of videos that were recorded in a large Dutch organisation. Videos were recorded in a meeting with various participant numbers, varying from 5 to 28 members. The meetings lasted from 45 minutes to two hours. In the meetings, both the leader and the followers participated. Cameras were set up before the participants entered the room. Participants were asked to ignore the cameras; a rapid adaption to the conditions was insured by using small cameras.

## 2.3 Materials

### 2.3.1 LIWC

Text analysis software the LIWC was used to measure word counts in predefined categories. This software was developed by social psychologist James W. Pennebaker for language behaviour research counting words or word groups. The dimensions that LIWC reflects include emotional state, social relationships, individual differences, thinking styles, and attentional focus (Tausczik & Pennebaker, 2010). It is also possible to analyse text in Dutch on a word-by-word basis with the program's Dutch dictionary (Zijlstra, Meerveld, Middendorp, Pennebaker, & Geenen, 2004). The categories of 'I' (*ik*) and 'we' (*wij*) were used for this study. In the Dutch dictionary, words that belong to the category 'I' (*ik*) are: *ik*, *ikke*, *ikzelf*, *mijn*, *m'n*, *me*, *mezelf*, *mij*, *mijne*, *mijner*, *mijns*, and *mijzelf*. The words belonging to the category 'we' (*wij*) are: *wij*, *we*, *wijzelf*, *ons*, *onzelf*, *onze* (from dictionary file, LIWC).

### 2.3.2 Data preparation

In order to run the LIWC software, data had to be prepared. Transcripts from the video-meetings were required to be processed in accordance with LIWC. The transcripts were processed with program *R* to make texts comprehensible for digital analysis, which meant adding missing symbols and removing redundant symbols. The transcripts were split into texts of followers and leaders. Transcripts are the spoken words by the team members in a given video meeting that have been typed out. Text data cleaning was completed so that the software could analyse the data, meaning that the use of symbols had to be checked for consistency and whether the spelling was correct. As the meeting took place in a large Dutch organisation, the conversations and resulting transcripts are in Dutch. As mentioned above, the software has Dutch dictionaries, which allowed this data to be investigated.

The data were then processed using the program SPSS, which showed the total count of 948,024 words spoken by the leaders and followers, from which 463,621 words were spoken by the leaders and 484,403 by the followers. The length of the transcripts for leaders ranged from 1,106–26,798 words, with an average of  $M = 6,600.33$  ( $SD = 4012.56$ ) and for the followers, 697– 22,679 words with an average of  $M = 6,942.87$  ( $SD = 4,188.98$ ).

In LIWC, word categories were represented as the percentage of the total word count, which was later processed using the program SPSS. The total percentage of the function words used was ( $M = 63.11$ ,  $SD = 2.30$ ) for the leaders and ( $M = 64.11$ ,  $SD = 1.85$ ) for the followers (see Table 5). The total percentage of the pronouns for leaders was ( $M = 14.71$ ,  $SD = 1.24$ ) and the percentage for followers was ( $M = 14.71$ ,  $SD = 1.25$ ; see Table 5).

### 2.3.3 Effectiveness report measures for leaders

Effectiveness of leadership was measured using the MLQ-5X short package. The questionnaire was distributed among followers to rate their leader. The MLQ-5X short package measures four overall effectiveness items (Avolio & Bass, 1995). An example item from the questionnaire is: ‘My supervisor is effective in meeting organizational requirements’. Item scales ranged from 1 (never) to 7 (always). The data were confidential. Furthermore, internal consistency (Cronbach's alpha) was conducted for four items on the MLQ 5X short questionnaire. The MLQ-5X subscale of leader effectiveness consisted of four items ( $\alpha = .89$ ). In order to categorize leaders into effective and less effective leaders, a median split ( $Mdn = 5.407$ ) was conducted. The median split gave a categorization for low and high scores, with high scores for effective leaders and low scores for less effective leaders, which in turn offered a useful overview for comparing the two groups. Out of 71 leaders, 38 were classified as effective ( $M = 5.68$ ,  $SD = .23$ ) and 33 as less effective ( $M = 4.90$ ,  $SD = .41$ ). The mean of the total sample of leadership effectiveness is ( $M = 5.32$ ,  $SD = .51$ ).

Followers of effective leader and followers of less effective leader were distinguished by leader effectiveness and in which meetings the followers participated. Meaning, if the leader was scored as effective- followers of that leader was accounted as followers of effective leader and vice versa. Thus, there were 38 groups of followers of effective leader consisting of 463 participants and 33 groups of followers of less effective leaders, consisting of 417 participants.

### 3. Results

In this section the results of the study are reported. Independent t-test is conducted to test the differences between communication styles using two word categories, namely 'I' and 'we', of effective and less effective leaders and between followers of effective and followers of less effective leaders.

To meet the criteria for the independent t-test, four requirements were checked. Two of the criteria were met before the analysis as the scale of the measurement was ratio and there was independence between the participants (Field, 2014). Levene's test for equality of variances was conducted to check criterion of homogeneity of variance, which was met. To check distribution, Shapiro-Wilk test was done. The scores were distributed normally either completely or approximately.

#### 3.1 Differences in the word use between effective and less effective leaders.

An independent t-test revealed no significant differences between effective and less effective leaders in both word categories, with  $p > .05$  (see Table 1). This contradicts with the expectation that effective leaders are using more relation words such as 'we' ( $M = 2.35$ ,  $SD = 0.51$ ) than less effective leaders ( $M = 2.51$ ,  $SD = 0.60$ ). This difference was not significant  $t(69) = -1.31$ ,  $p = .195$ . Thus, H1 was rejected. It also contradicts with the expectation that less effective leaders are using more first person singular words such as 'I' ( $M = 2.90$ ,  $SD = 0.96$ ) than effective leaders ( $M = 2.61$ ,  $SD = 0.80$ ). This difference was not significant  $t(69) = -1.39$ ,  $p = .170$ . Thus, H2 was also rejected. Word use in these two categories of effective and less effective leaders thus shows to be fairly similar.

Comparing means between the two word categories an independent t-test revealed significant differences. Word category I (ik) for effective and less effective leaders show higher means ( $M = 2.75$ ,  $SD = 0.88$ ) than the word category we (wij) ( $M = 2.43$ ,  $SD = 0.55$ ). This difference was significant  $t(140) = -2.59$ ,  $p = .010$ . Indicating that effective and less effective leaders use more first person pronouns such as 'I' and 'me' than relation words such as 'we' and 'us'.

Table 1

*Descriptive data and independent t-test of the leaders*

Word category	Effective leaders (n=38)		Less-effective leaders (n=33)		Independent t-test		
	M	SD	M	SD	t (df = 69)	Sig.	95% CI
I (ik)	2.61	0.80	2.90	0.96	-1.39	0.170	[-0.71, 0.13]
We (wij)	2.35	0.51	2.51	0.60	-1.31	0.195	[-0.43, 0.10]

*Note.* M = mean values reflect mean percentage of all words used by participants. SD = standard deviation. t = t-test. \* $p < .05$ .

### 3.2 Differences in the word use between followers of effective leader and followers of less effective leader.

An independent t-test showed no differences between the two word categories between followers of effective leaders and followers of less effective leaders,  $p > .05$  (see Table 2). This contradicts with the expectation that followers of effective leader use more relational pronouns such as ‘we’ ( $M = 1.79$ ,  $SD = 0.52$ ) than followers to less effective leaders ( $M = 1.82$ ,  $SD = 0.54$ ). However, this difference was not significant  $t(69) = -0.24$ ,  $p = .815$ . Thus, H3 was rejected. This also contradicts with the expectation that followers of less effective leader will use more first person singular pronouns such as ‘I’ ( $M = 3.18$ ,  $SD = 0.93$ ) than the followers of effective leader ( $M = 3.10$ ,  $SD = 0.73$ ). This difference was not significant  $t(69) = -0.44$ ,  $p = .659$ . Thus, also H4 was rejected. Hence, word use in these two categories of followers of effective and followers of less effective leaders shows to be fairly similar.

Comparing means between the two word categories an independent t-test revealed significant differences. Word category I (ik) for followers of effective leader and followers of less effective leaders show higher means ( $M = 3.13$ ,  $SD = 0.83$ ) than the word category we (wij) ( $M = 1.81$ ,  $SD = 0.53$ ). This difference was significant  $t(140) = -11.39$ ,  $p = .000$ . Indicating, that also followers use more first person singular pronouns such as ‘I’ and ‘me’ than relation words such as ‘we’ and ‘us’.



Table 2

*Descriptive data and independent t-test of the followers*

Word category	Followers of effective leader (n=38)		Followers of less effective leader (n=33)		Independent t-test		
	M	SD	M	SD	t (df = 69)	Sig.	95% CI
I (ik)	3.10	0.73	3.18	0.93	-0.44	0.659	[-0.48, 0.31]
We (wij)	1.79	0.52	1.82	0.54	-0.24	0.815	[-0.28, 0.22]

*Note.* M = mean values reflect mean percentage of all words used by participants. SD = standard deviation. t = t-test.

\*p < .05.

## 4. Additional post-hoc analysis

To gain further insight into differences of the communication style between effective leaders and less effective leaders, followers of effective leaders and followers of less effective leaders and between followers and leaders, I explored the category of Standard linguistic dimension (function words) from the LIWC. The analysis shows all word categories of function words included in the Standard linguistic dimension (see Appendix), except the two word categories of 'I' and 'we', that were tested. The function word categories investigated in this chapter will be *total pronouns* (*I, them, itself*), *personal pronouns* (*I, them, her*), *second person pronouns* (*you, your, thou*), *third person singular pronouns* (*she, her, him*), *third person plural pronouns* (*they, their*), *impersonal pronouns* (*it, it's, those*), *articles* (*a, an, the*), *verbs* (*walk, went, see*), *auxiliary verbs* (*Am, will, have*), *past tense* (*walked, were, had*), *present tense* (*is, does, hear*), *future tense* (*will, gonna*), *adverbs* (*very, really, quickly*), *prepositions* (*with, above*), *conjunctions* (*but, whereas*), *negations* (*no, never, not*), *quantifiers* (*few, many, much*), *numbers* (*one, thirty, million*) and *swear words* (*damn, fuck, piss*).

### 4.1 Differences in the function word use between the effective and less effective leaders

Table 3 shows no significant differences between effective and less effective leaders in the word categories conducted with t-test, with  $p > .05$ . However, results indicated marginally significant higher use of *impersonal pronouns* (*it, it's, those*) of less effective leader ( $M = 8.18$ ,  $SD = 0.94$ ) than effective leader ( $M = 7.82$ ,  $SD = 0.65$ ),  $t(69) = 1.94$ ,  $p = .056$ .

Likewise, results indicated marginally significant higher use of *verbs* (*walk, went, see*) of less effective leader ( $M = 16.33$ ,  $SD = 1.22$ ) than effective leader ( $M = 15.84$ ,  $SD = 0.97$ ),  $t(69) = 1.87$ ,  $p = .066$ .

Overall results indicate that there is no difference between use of a function words between the two groups. Meaning that the use of *personal pronouns* (*I, them, her*), *articles* (*a, an, the*), *adverbs* (*very, really, quickly*), *prepositions* (*with, above*), *conjunctions* (*but, whereas*), *negations* (*no, never, not*), *quantifiers* (*few, many, much*), *numbers* (*one, thirty, million*) and *swear words* (*damn, fuck, piss*) are fairly similar.

Table 3

*Descriptive data and independent t-test of the leaders*

Word category	Effective leaders (n=38)		Less effective leaders (n=33)		Independent t-test		
	M	SD	M	SD	t-test (df= 69)	Sig.	95% CI
function words	63.28	1.59	62.92	2.93	-.65	.515	[-1.46, 0.74]
pronouns	14.51	1.10	14.95	1.37	1.48	.143	[-0.15, 1.02]
<sup>1*</sup> personal pronouns	8.29	1.00	8.48	1.02	.80	.429	[-0.29, 0.67]
<sup>1</sup> you	2.27	0.56	2.12	0.74	-1.00	.320	[-0.46, 0.15]
<sup>1</sup> she/he	0.47	0.21	0.41	0.17	-1.50	.136	[-0.16, 0.02]
<sup>1</sup> they	0.51	0.24	0.45	0.18	-1.26	.212	[-0.17, 0.04]
impersonal articles	7.82	0.65	8.18	0.94	1.94	.056*	[-0.01, 0.75]
<sup>2*</sup> verbs	15.84	0.97	16.33	1.22	1.87	.066*	[-0.03, 1.01]
<sup>2</sup> auxiliary verbs	9.38	0.76	9.62	0.83	1.25	.216	[-0.14, 0.62]
<sup>2</sup> past tense	1.82	0.36	1.79	0.44	-0.28	.778	[-0.22, 0.16]
<sup>2</sup> present tense	11.12	0.72	11.38	1.02	1.22	.227	[-0.16, 0.68]
<sup>2</sup> future tense	1.08	0.33	1.13	0.25	0.70	.489	[-0.09, 0.19]
adverbs	8.25	0.98	8.20	1.06	-0.22	.828	[-0.54, 0.43]
prepositions	9.22	1.07	8.84	0.93	-1.61	.112	[-0.86, 0.09]
conjunctions	6.73	0.75	6.52	1.01	-0.10	.321	[-0.63, 0.21]
negations	1.72	0.35	1.80	0.42	0.85	.399	[-0.11, 0.26]
quantifiers	3.98	0.51	3.94	0.70	-0.22	.829	[-0.32, 0.26]
numbers	0.74	0.20	0.83	0.31	1.54	.129	[-0.03, 0.22]
swear words	0.01	0.02	0.00	0.01	-0.38	.703	[-0.01, 0.01]

*Note.* M = mean values reflect mean percentage of all words used by participants. SD = standard deviation. \*\*p < .05. \*p < .10. <sup>1\*,2\*</sup> word categories belonging to function word subcategory.

#### 4.2 Differences in the function word use between the followers of effective leaders and the followers of less effective leaders

An independent t-test revealed significant difference between word use of the followers of effective leader and followers of less effective leader in one category and marginally significant difference in two other word categories. Results indicated significantly higher word use of *present tense* (*is, does, hear*) in the followers of less effective leader ( $M = 11.61$ ,  $SD = 0.67$ ), than followers of effective leader ( $M = 11.14$ ,  $SD = 0.64$ ). This difference was significant  $t(69) = 3.00$ ,  $p = .004$ . Marginally significant difference was found in followers of less effective leader using more *verbs* (*walk, went, see*), ( $M = 16.44$ ,  $SD = 0.87$ ), than in followers of effective leader ( $M = 16.01$ ,  $SD = 0.95$ ),  $t(69) = 1.98$ ,  $p = .052$ . Also, results indicated marginally significant difference in followers of less effective leader using more *negations* (*no, never, not*), ( $M = 2.60$ ,  $SD = 0.64$ ), than the followers of effective leader ( $M = 2.34$ ,  $SD = 0.58$ ),  $t(69) = 1.86$ ,  $p = .067$ . Results also indicate marginally significant use in the *swear words* category, however the t-test reveal similar results for followers of effective leaders ( $M = 0.01$ ,  $SD = 0.01$ ) and followers of less effective leaders ( $M = 0.01$ ,  $SD = 0.03$ ). With marginally significant difference  $t(69) = 1.99$ ,  $p = .050$ . Hence, all other word use between followers of effective leaders and followers of less effective leaders is fairly similar (see Table 4).

Table 4

*Descriptive data and independent t-test of the followers*

Word category	Followers of effective leaders (n=38)		Followers to less effective leaders (n=33)		Independent t-test		
	M	SD	M	SD	t-test (df= 69)	Sig.	95% CI
Function words	63.77	1.96	64.50	1.66	1.66	.101	[-0.14, 1.59]
pronouns	14.51	1.26	14.94	1.23	1.43	.158	[-0.17, 1.01]
<sup>1*</sup> personal pronouns	8.37	1.12	8.74	1.21	1.33	.188	[-0.18, 0.92]
<sup>1</sup> you	2.19	0.61	2.44	0.73	1.59	.115	[-0.06, 0.57]
<sup>1</sup> she/he	0.46	0.23	0.43	0.21	-0.63	.532	[-0.14, 0.07]
<sup>1</sup> they	0.72	0.28	0.72	0.35	0.04	.968	[-0.15, 0.15]
impersonal	7.84	0.64	8.05	0.81	1.20	.233	[-0.14, 0.55]
articles	6.92	0.73	7.12	0.75	1.11	.270	[-0.16, 0.55]
<sup>2*</sup> verbs	16.01	0.95	16.44	0.87	1.98	.052*	[-0.00, 0.87]
<sup>2</sup> auxiliary verbs	9.35	0.72	9.36	0.72	0.06	.949	[-0.33, 0.35]
<sup>2</sup> past tense	2.18	0.56	2.02	0.52	-1.26	.210	[-0.42, 0.09]
<sup>2</sup> present tense	11.14	0.64	11.61	0.67	3.00	<b>.004**</b>	[.016, 0.78]
<sup>2</sup> future tense	1.10	0.31	1.10	0.25	0.04	.965	[-0.13, 0.14]
adverbs	8.38	0.81	8.20	0.83	-0.92	.363	[-0.57, 0.21]
prepositions	8.59	0.84	8.27	0.99	-1.51	.136	[-0.76, 0.11]
conjunctions	7.04	0.60	7.17	0.71	0.86	.394	[-0.18, 0.44]
negations	2.34	0.58	2.60	0.64	1.86	.067*	[-.00, 0.56]
quantifiers	4.05	0.55	4.13	0.76	0.52	.605	[-0.23, 0.39]
numbers	0.84	0.31	0.87	0.33	0.44	.659	[-0.12, 0.18]
swear words	0.01	0.01	0.01	0.03	1.99	.050*	[-0.00, 0.02]

*Note.* M = mean values reflect mean percentage of all words used by participants. SD = standard deviation. \*\*p < .05. \*p < .10. <sup>1\*,2\*</sup> word categories belonging to function word subcategory.

### 4.3 Differences in the function word use between the followers and the leaders

The most prominent results between leaders and the followers show function word use differences in six out of 20 categories from the Standard linguistic dimension of the LIWC. An independent t-test indicated significantly higher *function* word use in the followers ( $M = 64.11$ ,  $SD = 1.85$ ) than the leaders ( $M = 63.11$ ,  $SD = 2.30$ ). This difference was significant  $t(140) = -2.84$ ,  $p = .005$ . This could be explained because followers indicate higher use of four categories out of Standard linguistic dimension that include all function words. In the first category, independent t-test indicated significantly higher *they* word use in the followers ( $M = 0.72$ ,  $SD = 0.31$ ) than in the leaders ( $M = 0.48$ ,  $SD = 0.21$ ). This difference was significant  $t(140) = -5.26$ ,  $p = .000$ . This means that followers use more second person pronouns that include words such as *your*, *thou*. Second category indicated higher use of *past tense* words in the followers ( $M = 2.11$ ,  $SD = 0.54$ ) compared to leaders ( $M = 1.81$ ,  $SD = 0.40$ ). This difference was significant  $t(140) = -3.73$ ,  $p = .000$ . That suggests that followers use more words such *walked*, *were* and *had*. Third category that indicated significantly higher word use in the followers ( $M = 7.10$ ,  $SD = 0.65$ ) compared to leaders ( $M = 6.63$ ,  $SD = 0.88$ ) was *conjunctions*. This difference was significant  $t(140) = -3.63$ ,  $p = .000$ . That suggests that followers use more words such as *but*, *whereas*, compared to their leaders. Last category that indicated significantly higher word use in followers ( $M = 2.46$ ,  $SD = 0.62$ ) compared to leaders ( $M = 1.76$ ,  $SD = 0.39$ ) was *negations*. This difference was significant  $t(140) = -8.13$ ,  $p = .000$ . This signals that followers use more *negations* than their leaders. Words that they seem to use are among *no*, *never*, and *not*.

An independent t-test revealed only one category where leaders had significantly higher use of words. Results indicated higher use of *prepositions* in leaders ( $M = 9.05$ ,  $SD = 1.02$ ) compared to followers ( $M = 8.44$ ,  $SD = 0.92$ ). This difference was significant  $t(140) = 3.71$ ,  $p = .000$ . This suggests that leaders use more words such as *with* and *above*. Other word categories showed no significant differences, which suggests that word use in these categories are fairly similar.

Table 5

*Descriptive data and independent t-test for the leaders and the followers*

Word category	Leaders (n=71)		Followers (n=71)		Independent t-test		
	M	SD	M	SD	t-test (df=140)	Sig.	95% CI
Function words	63.11	2.30	64.11	1.85	-2.84	<b>.005**</b>	[-1.69, -0.30]
pronouns	14.71	1.24	14.71	1.25	0.02	.987	[-0.41, 0.42]
<sup>1*</sup> personal pronouns	8.37	1.01	8.54	1.17	-0.93	.356	[-0.53, 0.19]
<sup>1</sup> you	2.20	0.65	2.31	0.67	-0.98	.327	[-0.33, 0.11]
<sup>1</sup> she/he	0.44	0.19	0.44	0.22	-0.03	.973	[-0.07, 0.07]
<sup>1</sup> they	0.48	0.21	0.72	0.31	-5.26	<b>.000**</b>	[-0.33, -0.15]
impersonal	7.99	0.81	7.93	0.72	0.39	.698	[-0.21, 0.31]
articles	7.06	0.74	7.02	0.74	0.33	.744	[-0.21, 0.29]
<sup>2*</sup> verbs	16.07	1.12	16.21	0.94	-0.84	.405	[-.049, 0.20]
<sup>2</sup> auxiliary verbs	9.49	0.80	9.35	0.72	1.12	.265	[-0.11, 0.39]
<sup>2</sup> past tense	1.81	0.40	2.11	0.54	-3.73	<b>.000**</b>	[-0.46, -0.14]
<sup>2</sup> present tense	11.24	0.87	11.36	0.69	-0.91	.364	[-0.38, 0.14]
<sup>2</sup> future tense	1.11	0.30	1.10	0.28	0.11	.915	[-0.09, 0.10]
adverbs	8.23	1.01	8.29	0.82	-0.43	.670	[-0.37, 0.24]
prepositions	9.05	1.02	8.44	0.92	3.71	<b>.000**</b>	[0.28, 0.93]
conjunctions	6.63	0.88	7.10	0.65	-3.63	<b>.000**</b>	[-0.73, -0.21]
negations	1.76	0.39	2.46	0.62	-8.13	<b>.000**</b>	[-0.87, -0.53]
quantifiers	3.96	0.60	4.09	0.65	-1.22	.227	[-0.34, 0.08]
numbers	0.78	0.26	0.85	0.31	-1.41	.162	[-0.16, 0.03]
swear words	0.01	0.02	0.01	0.02	-1.31	.193	[-0.01, 0.00]

*Note.* M = mean values reflect mean percentage of all words used by participants. SD = standard deviation. \*\*p < .05. <sup>1\*,2\*</sup> word categories belonging to function word subcategory.

## 5. Discussion

The aim of the study was to contribute to the research gap on follower communication to their leaders and to explore differences in specific language use between followers of effective leaders and followers of less effective leaders, as well as to examine the language use of effective and less effective leaders. More specifically, this study focused on relation word pronouns such as ‘we’ and ‘us’ and first-person singular pronouns such as ‘I’ and ‘me’, as the literature reveals the importance of these pronouns and how they can influence people (Steffens & Haslam, 2013). The quantitative text mining method helped to investigate these communication differences, which are not interpreted, but rather derived from a real life setting.

Firstly, this chapter will discuss the results of the hypothesized relationships in this study, namely, the differences in language use between effective and less effective leaders. Next, it will discuss the results of language use among followers of effective leaders and less effective leaders. Finally, the chapter will discuss the post-hoc analysis.

Interestingly, the initial study did not find that effective leaders use more relation words such as ‘we’ and ‘us’, as has been suggested by Deva and Yazdanifard (2013) and Steffens and Haslam (2013). In the same notion to predict these differences the reliance was endorsed on the suggestion that function words can mark a difference between effective and less effective leader (Ireland et al., 2010). The results, however, revealed that both effective and less effective leaders use first-person singular pronouns more than relation pronouns. A study by Fiol, Harris, and House (1999) found that charismatic leaders—who are also seen as effective leaders (Awamleh, & Gardner, 1999)—use more relation pronouns such as ‘ours’ and ‘we’ than first-person singular pronouns like ‘I’ and ‘me’. This, again, would support my hypothesis, but not my findings.

Personal pronouns can indicate where a person’s attention is focused, notably, first-person singular pronoun use can be seen in use of persons who are experiencing emotional or physical pain and are therefore focused on themselves (Tausczik & Pennebaker, 2010). In addition, the use of ‘I’ and ‘mine’, can indicate self-focus and a higher rate of depression than in people who use these pronouns less often (Kacewicz et al., 2013). To say that all leaders experience pain, however, is farfetched and another explanation is called for.

Also, no differences were found between the followers of effective and less effective leaders. The foundation for the hypothesis was that if followers identify with an effective or



less effective leader, they would be bound together by this identity and create a shared sense of 'us'. After including this shared social identity to further empower the hypothesis, I expected to see more mimicry, as people tend to mimic one another if they are part of a group in which they also like one other (Ireland et al., 2010). As there were no significant differences in word use found in effective versus less effective leaders, the mimicry cannot be compared. It may be the case that all followers who followed effective leaders did not identify with them and vice versa. Identification with leaders was assumed on the basis of being in the same group; this assumption, however, is not necessarily true and may be overshadowing the results.

When comparing the means between followers (see Table 2) and leaders (see Table 1), however, the results confirmed the findings of the existing literature. A study by Meinecke and Kauffeld (2018) found that followers use more first-person singular pronouns, such as 'I', than their supervisors. Their study also demonstrated that leaders use more 'we' language than their followers, which was also found in my study when looking at means for followers (Table 2) and leaders (Table 1). This may be explained by the psychological states of high and low status (Kacewicz et al., 2013). High-status people tend to be more socially orientated and less self-aware, and this reflects in their use of more 'we' language. On the other hand, lower status people tend to be more self-aware and concerned about what higher status people think of them, thus forwarding their attention on themselves (Kacewicz et al., 2013), which may also explain the higher use of 'I' in followers than in their leaders. Moreover, relation pronouns such as 'we', 'our', and 'us' are more frequently used by charismatic leaders when describing their achievements and goals (Kacewicz et al., 2013). Nevertheless, pronouns can reflect the priorities and intentions of the person, and pronouns such as 'we' can indicate a sense of group identity (Tausczik & Pennebaker, 2010). It may be that effective and less effective leaders both attempted to foster this shared sense of 'we' in their meetings.

Although the hypothesis was not confirmed in the initial study, additional post-hoc analysis revealed some significant differences in function word use between followers of effective leaders and followers of less effective leaders and between followers and leaders.

Significant differences in pronoun use were found between the two groups of followers, indicating that followers of less effective leaders use more *present tense* than the followers of effective leaders. Discussing event or situation, verb tense use can demonstrate lower degree of resolution of undisclosed events, when using *present tense* (Tausczik & Pennebaker, 2010). It may be the case that followers of less effective leaders were discussing events that were current, rather than discussing past events.

The most prominent findings showed the differences between leaders and followers (see Table 5). Overall, findings indicate significant differences in *function word* use: followers use more *function words* than their leaders. *Function words* can indicate psychological processes, hinting at the focus and prerogative of the person (Tausczik & Pennebaker, 2010). The results of this study indicate that followers used the *they* pronoun considerably more than their leaders. This shows that followers use *third-person plural pronouns* more than their leaders, which is slightly different from the findings of Kacwicz et al. (2013), where this word category showed no differences among leaders and followers. Meinecke and Kauffeld (2018) also found no significant differences between *third-person pronoun* use between supervisors and employees. The comparison cannot be absolute, as findings in my study show the use *third-person plural pronouns* only, whereas the study by Meinecke and Kauffeld (2018) included all *third-person pronouns*. Nevertheless, the use of the *they* pronoun shows attention allocation (Tausczik & Pennebaker, 2010); the results of this study show that followers' attention was focused away from themselves, which may indicate that they discussed an event in which they talked about a third party.

Followers, compared to their leaders also indicated a higher use of *past tense* words. As opposed to discussing an undisclosed event in *present tense*, *past tense verbs* indicate discussing a disclosed event (Tausczik & Pennebaker, 2010). This could perhaps be explained by followers discussing an event that happened beforehand. Thus, taking into account that followers used more *they* pronouns and the *past tense*, followers may have discussed an event that had already occurred and were conversing about other people from that event. Compared to leaders, followers also used more *conjunctions*, such as *but*, *whereas*, and *although*. *Conjunction* words are critical for creating coherent speech in which various thoughts are joined together (Tausczik & Pennebaker, 2010). Followers also showed a higher use of *negations*. Interestingly, the findings of this study, as mentioned above, show followers of less effective leaders using slightly more *negations*. Since it has been suggested that leaders attempt to inspire followers with enthusiasm and optimism (Gooty, Connelly, Griffith, & Gupta, 2010), followers may use more words such as *no*, *never*, and *not* compared to their leaders because followers display more disagreement, whereas leaders try to inspire their followers.

Finally, leaders indicated a higher use of *prepositions*, such as *with* and *above*. *Preposition* words can indicate more complex language use and concrete information about the matter at hand (Tausczik & Pennebaker, 2010). In published articles, scholars tend to use more *prepositions* in the discussion section, as this is often the most complex part of the

article, integrating past findings with the study results (Tausczik & Pennebaker, 2010). The higher use of prepositions may be explained by the fact that leaders use more concrete language to achieve the desired goal when communicating with followers and that leaders are in a more cognitive complex position. Communicating negative feedback, topics on performance, and appraisal meetings are seen as complex communication tasks (Meinecke & Kauffeld, 2018); leaders are therefore in a more complex cognitive position than their followers.

### 5.1 Practical implications

The findings of the current study show that there is no difference between effective leaders and less effective leaders in the use of relation pronouns such as ‘we’ or ‘us’ and first-person singular pronouns such as ‘I’ and ‘me’. While academic literature indicates that effective leaders use more relational pronouns (Steffens & Haslam, 2013), this study did not find this; moreover, additional post-hoc analysis also showed no differences in any of the function word use between leaders. This study therefore raises questions about objective word count, especially in organisations as opposed to among leaders such as politicians. There may be differences between leaders seen as managers or leaders seen as political leaders.

### 5.2 Limitations and future research

This study focused on effective leaders and less effective leaders who were distinguished by the perceptions of their followers. This was also how followers were divided into followers of effective leaders and followers of less effective leaders. The issues that can arise here, and give various results is the way of this categorization. Firstly, the approaches of measuring leader effectiveness can vary depending on the chosen surveys. This study used the MLQ-5X short package, whereas other options include ratings from leaders themselves, extended version. Secondly, followers of effective leaders were automatically counted as following effective leaders if they participated in these leaders’ meetings, although they might have rated these leaders as less effective.

Still, more research on linguistic cues between followers, between leaders, and between followers and leaders should be investigated. Further research may divide the groups into followers of effective leaders and less effective leaders by how followers rated the leader and which leader they followed. That would perhaps give a more precise measure of people who liked their leader and how much similar language they used. Moreover, the mimicry of

effective leaders and less effective leaders in language style matching could be further investigated to reveal follower communication. In addition, to investigate the differences between leaders and between followers even further, the extensive LIWC dictionary categories can be used to find out psychological process, personal concerns and spoken categories (Pennebaker et al., 2010). This would help teach the organisations and the leaders themselves to review and improve their communication styles.

## Conclusion

Although the initial study did not confirm the hypotheses, differences in communication between followers and leaders were found that were also confirmed by other academics. Leaders—regardless of being seen as effective or less effective—do tend to attempt to create a shared sense of ‘us’ and ‘we’ by using these particular pronouns. On the other hand, followers tend to show more self-attention and lower status by using more ‘I’ pronouns. Additional post-hoc analysis revealed differentiation in communication between leaders and followers. Followers used more function words, which indicates that their attention is more focused on a third party, discussing past events, while having disagreements and using words such as *they*, *but*, and *whereas* in their speech; leaders, on the other hand, showed a more complex use of language than their followers.

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## Appendix A

Overview of word categories in LIWC 2015.

<b>Category Standard Linguistic Dimensions</b>	<b>Abbreviation</b>	<b>Example</b>
Total function words	Funct	It, to, no, very
Total pronouns	Pronoun	I, them, itself
Personal pronouns	Ppron	I, them, her
1 <sup>st</sup> person singular	I	I, me, mine
1 <sup>st</sup> person plural	We	We, us, our
2 <sup>nd</sup> person	You	You, your
3 <sup>rd</sup> person singular	Shehe	She, her, him
3 <sup>rd</sup> person plural	They	They, their
Impersonal pronouns	Ipron	It, those
Articles	Article	A, the
Verbs	Verbs	Walk, went, see
Auxiliary verbs	Auxverb	Am, will, have
Past tense	Past tense	Walked, were, had
Present tense	Present tense	Is, does, hear
Future tense	Future tense	Will, gonna
Adverbs	Adverb	Very, really, quickly
Prepositions	Prep	To, with, above
Conjunctions	Conj	But, whereas
Negations	Negate	No, not, never
Quantifiers	Quant	Few, many, much
Numbers	Number	One, hundred, million
Swear words	Swear words	Damn, fuck, piss