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Online Candidate Image: Analysing Online Images and Impression Management in Politics

Doctoral dissertation submitted in order to obtain the degree of doctor in the Political and Social Sciences at the University of Antwerp, by Stéphanie De Munter

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Antwerpen, 2023

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'Those who tell the stories rule society.' Plato, 347 BC.

Acknowledgements

The adage proclaims: 'It takes a village to raise a child.' This is true for finishing this thesis. This research has brought me to new places in the world and introduced me to people that I will never forget. It has been a fascinating journey but also a humbling experience; it has taken longer than expected and I cannot take all the credit for finishing. There are many people who contributed to this research, directly and indirectly. Although it is impossible to mention every single person, there are several people that I would like to mention specifically to express my gratitude — for sharing their knowledge, time, and energy — to make this dissertation a success:

First and foremost, I would like to thank my supervisor, Prof. Dr. De Vries. Dear Philippe, simply put, I think you are the best supervisor that I could have wished for. When I stepped into your office for the first time in 2013, I did not yet grasp the importance of choosing the right supervisor. Surely, at that time, it was unimaginable that we would spend nearly a decade working with one another. Yet, your positivity and witty comments made the time fly by. When reflecting, it is only now that I can understand the contours of your majestic guidance: how responsive you have always been to me — though you have so many roles and responsibilities. Your constructive feedback, ideas, and enthusiasm were remarkable. But your understanding that I had to combine a full-time job with this thesis was an enormous reassurance throughout this journey. Athens will never be the same after visiting it during the HEPO Congress with you. I would like to express my extreme gratitude for your guidance throughout this wonderful journey, which would not have been the same without you.

I would also like to express my sincere gratitude to Prof. Dr. De Landtsheer. Dear Christ'l, your role as a supervisor was most highlighted in the last phase of the thesis — the most crucial one. Moreover, you gave me that much-needed extra push to complete this work. Your theory about impression management was the core inspiration for my own research. When you helped me, it made me feel supported. Your input was vital and always constructive. Moreover, it seems fair to say that I could not have finished this without your help and input. A sincere thank you.

A special word of appreciation goes to Prof. Dr. Darren Lilleker. To call you a member of this commission feels extremely humbling and thrilling at the same time. Admittedly, it is quite nerve-wracking that one of your heroes in your field of research is reading your work, but the respect and appreciation you have shown towards me has been a source of inspiration. Thank you for your patience, your friendliness, and your much-valued feedback.

Furthermore, a word of appreciation goes to Prof. Dr. Martina Temmerman and Prof. Dr. Michel Walrave. Thank you for accepting to be a member of the commission. Your constructive feedback has been much appreciated as well as your responsiveness. To Prof. Dr. Chris Aalberts: Thank you for the opportunity you gave me

to present my work over these past years. You reminded me that not everyone approves of the presented modus operandi, and I should be ready for critical feedback.

A special mention to the members of the Political Communication Research Unit at Antwerp University, especially Ingrid Van Dorp-Oudheusden. The congress in Warsaw would not have been the same without you. Also, to Ganna Diedkova and Onur Sultan, thanks for your input along the way.

To the person who reminded me that 'a thesis should not be one's life's work' — suggesting that finishing this research is more important than achieving perfection. I have repeated your mantra over and over, Prof. Dr. Peter Bull.

A special thanks goes to Prof. Dr. Erik Fransen. No words can express my gratitude for your help with data analysis in this research. Your expertise in statistics and especially your help with R was indispensable for the complex analyses in this research.

A sincere thank you to Sam Pinxteren from the computer sciences department. Your knowledge was a fundamental contribution to data collection in this research. Thank you for your cooperation and responsiveness.

And lastly, but not least, a word of thanks to my family. To my grandmother, who was not allowed to pursue her dream of higher education; I am so happy to make you proud.

And of course, the three apples of my eye: my husband, Matthieu, and my boys, Joseph and Emile. Matthieu, rest assured that your contribution has not gone unnoticed. Without you, it would have been impossible to have written this thesis. I hope to make you and both of our boys so proud. Your ongoing support and love inspired me to keep going. This work is dedicated to you.

Benissa, Spain
August 7, 2023

Introduction

In March 2020, it was announced that the newswire Australian Associated Press (AAP) was closing. For 85 years, the agency provided text, images, and video reports on news, sports, and finance to about 200 newspapers, broadcasters, and websites (BBC, 2020). On social media, news travels like a virus at the speed of light and at virtually no cost. Social media changed the dynamics of news and has contributed to the decreasing importance of news institutions such as the AAP. So, why do they continue to exist if everything can be found online for free? The added value of these institutions has become apparent considering recent trends such as 'fake news' — the value of reliable news sources can no longer be underestimated. However, in a world where social media has become a primary news source at the expense of newspapers, fact-checked content, and drama-free messages seem to belong to the past (Simge, 2021).

I am clearly influenced by my role as an employee of the ANP News agency (Algemeen Nederlands Persbureau) in the Hague in The Netherlands, which disseminates national press releases and international press releases via partners such as PR Newswire. For the past couple of years though, I have witnessed a growing number of press releases for new sources of commercial press releases, such as law firms, politicians, and political parties. This has been a common practice for a much longer time in the United States but until recently, this was still rare for Belgium and the Netherlands (for a list of examples, see PR Newswire, 2022). Through the ANP channels, they can actively project their desired image of the company or themselves. Recent dynamics have pushed these kinds of messages to become increasingly focused on pictures. So, with all these tools at hand one wonders: what should a politician's image look like in a social media age? What image appeals the most to the audience? This was the initial inspiration for the present thesis.

On a daily basis, we have never been surrounded by so much news and images that are freely accessible via various channels. This could arguably benefit democracy and result in better-informed citizens. Unfortunately, this overwhelming news does not have an unanimously positive effect on people's interest in politics. During the recent local Dutch elections, only 50% of people voted (Politieke redactie, 2022). Consequently, the media is becoming increasingly more visual in their attempt to attract people's attention with an increased level of drama, emotions, and sensation (De Landtsheer, 2004).

However, the use of imagery can hardly be called a new trend. Over time, images have always been used to manipulate an audience to support a candidate, fight for a cause, promote environmental issues, and so on (Lilleker, 2019). The power of images and how they affect the audience's impressions was already understood by the ancient Greek and Roman rhetoric teachers in the depiction of their leaders in their sculptures (Lilleker, 2019). Former US President Barack Obama posing in front of the tribute to Abraham Lincoln is a classic technique learned from medieval rulers who understood the effect of iconography and so hung their portraits next to those of saints. In the sixteenth century, Machiavelli was consulted by Italian princes on how to affect people's perceptions (De Vries, 2007). In the late 19th century, Jean-Louis David

came up with the idea of depicting Napoleon Bonaparte sitting on a white horse, a painting that is closely linked to the image of Bonaparte in the public's recollection (De Landtsheer, 2022). A later example can be found in the work of film director and producer Leni Riefenstahl who produced an impressive *mise-en-scène* in the films she directed about Nazi Germany and Hitler in particular (Hacker, 1995; De Landtsheer, 2020). In modern politics, former US President Roosevelt used a variety of tools to maintain the illusion he could walk, trying to hide the paralysis he suffered from the public (Porter, 2019). In other words, personalization and impression management techniques have been a phenomenon across the millennia, but it has gained momentum in recent decades (Mazzoleni, 2016). The difference today, however, is the amount of news: in this social media era, we are exposed to an almost unstoppable flow of images on a daily basis, which has only been encouraged by the rise of visually oriented social media platforms like Instagram, YouTube, WhatsApp, or TikTok. Further, the current media landscape allows anyone with a phone and access to social media to become a broadcaster. These trends make it increasingly challenging to hide any facts from the public. Consequently, there is an increasing, non-stop scrutinization of the public via social media.

The potential of these social media channels has not remained unnoticed nor unexplored by politicians and political parties. During the formation of the Belgian government in 2019, the meeting of Conner Rousseau, party leader of the social democrats, with King Philip received a lot of media attention. The photo went viral because of Conner Rousseau's informal dress code of white, expensive designer sneakers with his suit. He posted the picture with the King on his Instagram account (@kingconnah) with the comment 'Amongst Kings' underneath (Picture 1). This was a rather informal approach, to say the least, for meeting a king. It is questionable whether this social media post was a spur of the moment. As a former social media campaign manager, the 28-year-old politician was well prepared and knew precisely how to attract media attention and more importantly, what type of images appeal to the social media crowd.

Picture 1. Conner Rousseau greets King Philip in white sneakers (Rousseau, 2019).

The informal style of dress and language on this viral post is just one building block in the young easy-going image he is carefully constructing via social media. These

social media channels are the perfect communication tool to create a casual, accessible image for his followers. Conner Rousseau is not the only example. Recently, Dutch MP Kauthar Bouchallikht created a trending topic on Twitter when images circulated of her wearing joggings with her hands in her pockets (Picture 2), clearly defying the formal dress code that would be expected from a politician when speaking in parliament (Bouchallikht, 2021). Other famous politicians use similar tactics to create an accessible image such as Canadian Prime Minister Justin Trudeau who regularly posts casual family portraits that give an insight into his private life (Lalancette & Raynauld, 2019). Another example is the 'casual' but highly constructed picture of Putin sitting half-naked on a horse, which went viral. These visuals can be quite powerful and convey as much meaning as any accompanying words (Lilleker, 2019). Indeed, facial expressions, posture, dressing style, hairstyle and deportment have been an essential consideration of rhetoric delivery since antiquity within the oratorical contexts of political debates, law court, and public ceremony (Miles, 2023). So, these social media images can be considered as part of visual rhetoric: persuasive political images used 'alongside the verbal to attempt to induce cooperation' (Miles, 2023: 2). Yet, the majority of scholars have had the tendency to focus on the power of the words to persuade (Miles, 2023). This thesis aims to fill this gap by offering insights into online persuasive visual communication.

Picture 2. Kauthar Bouchallikht's Instagram picture of her speech in the Dutch parliament (Bouchallikht, 2021).

Much research has already been done on how these depictions can provide heuristic cues regarding a politician's character and background forming a candidate's public image (Lilleker, 2023). The conclusions from this body of research are relevant as the impressions being formed can 'prove decisive at the ballot box' (Lilleker, 2019: 38). Nearly two decades ago, De Landtsheer (1999, 2000, 2004), De Vries (2007) and De Landtsheer, De Vries, & Vertessen (2008) demonstrated how a formal, businesslike image is perceived as the most suitable one by voters and adds to the notion of credibility, intelligence, and competence. Their research was mainly focused on Belgian and Dutch politicians. However, based on these observations, it appears that new technologies encouraged politicians to share images of their private life and showcase their human side to their followers. They appear to increasingly adopt an accessible, easy-going, rather informal presentation style. Or, as Colliander et al. (in: Lalancette & Raynauld, 2023) put it:

> Politicians appear to be 'faced with a self-presentational tug-of-war between their need to maintain a professional persona, on one hand, and on the other hand a growing pressure to display their private persona as a means to increase intimacy with their electorate' (cited in: Lalancette & Raynauld, 2023: 170)

So, the question arises: What type of image resonates best with the public? According to De Landtsheer and De Vries' conclusions, the kind of casual imagery as shown in pictures 1 and 2 would affect the politician's credibility. But in light of recent trends, as described above, has social media altered voters' perceptions of political suitability toward a more casual candidate image? In other words, have social networks altered the rules of impression management and impression formation in visual online imagery? This research aims to answer these questions by testing these former conclusions on impression management not only for Belgian politicians but also for international world leaders.

The thesis is constructed as follows. In the next chapter, the theoretical framework of impression management will be discussed. First, it describes the underlying processes and key assumptions of impression management followed by a theoretical model of the different concepts.

The second chapter is a pilot study, describing how Twitter (now, called X) was used by politicians in Belgium when social media was emerging as a communication tool and Twitter was the most popular platform amongst politicians.

The third chapter examines an innovative data collection method, called YOLO, a state-of-the-art visual object detection method that has been proven effective in many other disciplines but is rather new to the field of social sciences. The central research question, which aims to determine the image that resonates best with voters, calls for a specific methodology. Until now, many research questions have remained unanswered due to the lack of an appropriate data collection method. A specific method is needed to face the challenges regarding the amount of data and the type of data (visuals and not text) imposed by visual communication on social media networks. This thesis fills this gap by describing the practical steps of the chosen methodology. In this section, it will be argued why neural networks are apt for visual analysis of big datasets on social media and ideas will be formulated for future avenues of research using this methodology.

In the fourth chapter, previous conclusions on impression management by De Landtsheer (2004) and De Vries (2007) will be tested on Instagram using the YOLO methodology. Starting from a dataset of low-profile Belgian candidates, comparable to the impression management study by De Landtsheer in 2004, online engagement on Instagram posts will be compared for formal and informal pictures. Hence, conclusions will be made on what type of candidate image (a formal or an informal image) resonates best with the voter. Since the chosen methodology of YOLO allows for the experiment to be set up rapidly, the data collection was repeated on a list of 423 high-profile world leaders on Instagram. In the final part, the conclusions of both studies, Belgian and international leaders, will be compared and discussed.

The fifth and final chapter provides insight into the voters' evaluations of candidate image and political suitability via an online survey. The results of these

studies enable the formulation of recommendations on personalization and online branding of candidate image.

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Hoofdstuk 1

Literature Review: Impression Management (IM)

Introduction

'In all aspects of life, we take on a part and an appearance to seem to be what we wish to be. And thus, the world is merely composed of actors.'

François de la Rochefoucauld, 1650 CE

"Don't judge a book by its cover" and "You never a get second chance for a first impression": these are well-known adages. Yet, there's also the expression: 'First impressions are always unreliable'. These sayings suggest not only the importance of impressions in opinion and decision-making processes but also warn the decision-maker of erroneous conclusions when using them as a sole source of information. Yet, in many aspects of life, whether it is a job interview or finding a romantic partner or friend, the outcome is contingent on how an individual is perceived by others (Leary, 2001; Long, 2021). Therefore, people have many reasons to monitor how they are perceived by others and to regulate their impressions.

The concept of impression management was introduced in the 1950s. Since then, it has been popularized across multiple disciplines of social sciences, which resulted in the development of key theoretical interpretations and taxonomies on how, why, and for whom impression management takes place and whether it has its intended effect. Subsequently, a vast amount of the available research is conducted from the actor's perspective at the expense of the audience's point of view.

In 2008, Bolino, Kacmar, Turnley, & Gilstrap published an article in the Journal of Management in which they offered a literature review on IM, picking up where Gardner and Martinko left off in 1988. However, in recent years IM has received renewed attention, which resulted in a very useful review by Long (2021). Although these articles are a great contribution to the existing literature on IM, their limitation is their focus on behavioural psychology and organizational behaviour. The present chapter aims to overcome this limitation by addressing the usefulness of IM in other areas as well, including political communication and political marketing.

Identity management and self-presentation have always been key concepts for communication scholars, particularly for those who are interested in the social and psychological impacts of public identity. Impression management is a 'complex process of selecting the aspects of one's self to disclose, hide, or fake in order to create a positive impression on the audience' (Cunningham, 2013, p.87). To what extent the manipulation of a candidate's appearance can influence voters' evaluation has been previously researched by De Landtsheer (1999, 2000, 2004) and De Vries (2007). They

concluded that a formal, businesslike appearance adds to the perception of a politically suitable image.

1.1 Setting the Stage

'All the world's a stage. And all the men and women are merely players.'

Shakespeare, 1599 C.E.

Long (2021) argues that the scientific study of impression management can be dated back to almost a century ago when Dale Carnegie shared sales and marketing advice on how to win friends and influence people. However, most authors agree that the concept of impression management was introduced in 1959 by Erving Goffman. In his conceptual framework or 'dramaturgical analysis', Goffman adopted the Shakespearian assertion that 'All the world is a stage, and all the men and women are merely players' (Al Shatti Ohana, 2021; Leary, & Kowalski, 1990; Long, 2021; Wang, 2016). He argues that people from birth are thrust onto a stage called everyday life and that our socialization consists of learning how to play the assigned roles of other people. He links impression management to a stage performance where human interaction becomes a strategic negotiation between the individual and the audience. So, according to Goffman, IM not only influences how one is treated by other people, but it is an essential aspect of social interaction (Goffman in Leary, 2001; Cunningham, 2013). Subsequently, E.E. Jones (in Long, 2021) contributed an influential text on ingratiation. Goffman's and Jones' research increased interest in research impression management amongst scholars of other disciplines, mostly in social sciences, including the fields of social psychology and organization psychology, but also economics where impression management is used in financial reporting (Lackovic, 2017; Wang, 2016).

1.1.1 What is impression management (IM)?

In this research, an impression is understood as 'an idea, feeling, or opinion about something or someone, especially one formed without conscious thought or on the basis of little evidence' (Oxford English Dictionary, n.d.). Synonyms for this definition of an impression are a feeling, a sense, an intuition, or a perception (Oxford English Dictionary, n.d.). Consequently, Impression Management (IM) refers to 'the processes by which individuals attempt to control how they are perceived by others' (Leary, 2001, p.7245). However, since IM is more than controlling an image, a more useful definition for this thesis can be found with Bolino et al. (2008, p.1080): namely, 'the efforts by an actor to create, maintain, protect or otherwise alter an image held by a target audience'.

Impression management (IM), on the other hand, can be defined as 'the efforts by an actor to create, maintain, protect or otherwise alter an image held by a target audience' (Bolino et al., 2008). So, according to this last definition, the image or impression held by the audience can be controlled and constructed, managed, and manipulated. IM is one of the most pervasive social phenomena that exists since people care a great deal about how they are perceived by others. Moreover, most of

the outcomes of major events in life are contingent on the impressions individuals make during social interactions (Long, 2021). Consequently, impression management techniques have always been important in various domains of life: in the workplace, politics, and even social relationships.

1.1.1.1 *IM is a dynamic process*

IM is above all a dynamic process between two parties. Goffman (Cunningham, 2013, chapter 1) argues that there are two different kinds of activity: on the one hand, expressions *given* by the actor (performance cues through both verbal and nonverbal forms of communication) and expressions *given off* by the audience (translation of these cues). These two interrelated processes are labelled by McGraw (2003) as impression *management* on the one hand and impression *formation* on the other hand. 'Two sides of the same coin' refers to the same interdependent dynamic (McGraw, 2003). In politics, this process takes place between politicians and voters.

Yet, to construct the desired image, the actor uses a variety of IM tactics. Much of the available research has focused on these tactics or strategies that are used to create, protect, or alter one's impression and the effectiveness of these strategies. The tactics used are specific behaviours and can be both verbal communication — such as ingratiation, excuses, or exemplification — and nonverbal behaviour such as facial expressions, posture, or dressing style. The full list of 31 tactics can be consulted in Bolino (2008). So, virtually any behaviour can be used for impression management purposes (Leary, 2001; Long, 2021). Some researchers use the terms impression management and influence tactics interchangeably; however, a first distinction should be made, namely that IM is about managing others' *perceptions* while the latter is more about managing others' attitudes and behaviours.

1.1.1.2 *IM or Self-presentation*

A second term that is often used in lieu of impression management is 'self-presentation'. The definitions given for both concepts by scholars from sociology, social psychology, and organization psychology are often overlapping. Long (2021) provides a useful overview of the different definitions that were given for the past 40 years. What these definitions have in common is that IM is: social and behavioural, involves power augmentation via influence, can be conscious or unconscious, and is strategic in the sense that the actor is attempting to manage others' attributions in to create their desired self-image (Long, 2021).

Although most scholars seem to consider them to be one and the same, some argue that self-presentation is broader in the sense of both origin and goal: self-presentation can be used for other goals than shaping an impression and can also be done by others (e.g., a third party) (Leary & Kowalski, 1990).

In this chapter, however, impression management is defined as a dynamic process between actor and target: impression formation on one side and impression construction on the other (McGraw, 2003). However, self-presentation does not cover both dimensions as IM does and is confined to the actor's perspective. Therefore, 'self-presentation' is used interchangeably only when impression management refers to the impression *formation* side of the process.

Lastly, an interesting distinction that should be made is the difference between *desired* and *desirable* impressions. As aforementioned, virtually any behaviour that contains information about an individual can be used as a self-presentation tactic (Leary, 2001). And although it is generally accepted that favourable images are best pursued by performing positive behaviours, it also occurs that actors engage in negatively perceived behaviour to create impressions that are not favourable in the eyes of others. This occurs when individuals aim to avoid a specific task by coming across as intimidating or supplicating by appearing needy, helpless, or incompetent, which could result in receiving extra help (Long, 2021).

1.1.2 Taxonomies on IM

To project a desired image, IM tactics are used. Over the past decades, several taxonomies on IM have been introduced, some more useful than others. Although one might argue that the literature is not quite recent enough to be included, it was included since these categories are relevant still today in identifying self-presentation tactics.

The taxonomy that received the most attention is from Jones and Pittman (1982), which is worth mentioning here because it not only offers a useful conceptual framework for understanding and identifying self-presentation, but it also has a proven measurement scale. At first sight, the classification might appear primarily appropriate for verbal behaviour, but different forms of nonverbal communication can be assigned as well. Jones and Pittman's taxonomy on self-presentation involves five theoretical groupings of common impression management strategies:

- Ingratiation seeks the attribute of likeability.
- Self-promotion seeks the attribute of competence.
- Exemplification seeks to project integrity and moral worthiness.
- Intimidation seeks to project danger.
- Supplication seeks to project helplessness.

Another taxonomy of IM that is worth mentioning is the 2 x 2 taxonomy of Tedeschi and Melburg (1984, in Long, 2021): the tactical (short-term) versus strategic (long-term) and assertive (initiated by the actor) versus defensive (the actor's response to undesired images). The five categories of self-presentation identified by Jones and Pittman can be attributed to the strategic-assertive dimension.

A third taxonomy worth mentioning is the Cialdini's note on indirect tactics, which are relevant in many areas of communication, including online communication. Indirect tactics can be classified as connection-focused: enhancing one's image by association, for instance, one can draw attention to one's connection with a famous athlete or celebrity by tagging their social media profile.

According to Leary and Kowalski (1990), impression management is a two-component model. They approach self-presentational behaviour as being composed of two discrete processes: the first involves *impression motivation*, the degree to which people are motivated to control their image by others. Including the personal differences of the actors provides an explanation of a variety of levels of impression management performed by actors. People are not always attuned to how they are perceived by others: some are constantly self-monitoring while others might be

oblivious to others' reactions. Impression motivation is conceptualized as a function of three factors:

1. The perceived goal relevance of the impression one creates.
2. The value of desired outcomes
3. The discrepancy between current and desired images.

Consequently, this theoretical concept explains the number of resources invested in election campaigns where a popular image could possibly win over decisive votes. The second process involves *impression construction.* The kinds of impressions that people try to convey depend on five different factors, namely:

1. Self-concept
2. Desired and undesired images
3. Role constraints
4. Target's values
5. Current social image

The inclusion of the target's perspective in this list is interesting. This for the variety as most research is conducted from the actor's perspective (which tactics, why, when, and how). Most people assume interaction is a dynamic process between them and other individuals. However, people are not interacting with another person but rather with their own impressions of that person. Undeniably, they are responding to their own mental representations and inferences about the individual's characteristics such as their opinions, intentions, attitudes, and motives (Leary, 2001). Due to its inclusion of the target's needs, as well as the desires of the actor, this taxonomy adheres to the research question of this thesis which seeks to gain a better understanding of voter's wants and needs.

The last theoretical taxonomy by Fiske et al. (in Long, 2021) is constructed along two dimensions: First, the perceived warmth refers to how friendly and kind the actor is perceived; second, the perceived competence refers to the perceived skill to act on the intent. With this approach, the authors took in the perspective of the perceiver. This brings the focus to the 'audience', which is covered in the next section.

1.2 Audience

It might seem unorthodox to address the audience before the actor when discussing impression management. Yet, many authors have noted how a vast majority of the present research has focused on the actor: how, why, and when actors engage in self-presentational tactics (Bolino, Long, & Turnley, 2016; Long, 2021; McGraw, 2003). However, the target's feedback contains valuable information, allowing the actor to self-monitor. Long (2021) argued that IM is in the eye of the beholder and is best measured from the perceiver's perspective. Indeed, the success of impression management strategies can only be measured after analysing the audience's approval — or disapproval. Moreover, from a political marketing point of view, it is essential to first understand the audience's wants and needs before designing a marketing strategy

for self-presentation. In other words, voters' aspirations should be understood first so marketing strategies can be developed to adjust the political candidate or product to the demands of the voter-consumer (Lees-Marshment, 2009). This gap in research will be addressed in chapters 3 and 4 of this dissertation.

1.2.1 Voter's Feedback

In considering a visual rhetoric approach to political communication, a candidate's Instagram feed can be considered as a means of strategic communication to *move* people politically (Miles, 2023). According to Long (2022), this might be a motivation for candidates: they appear to be more eager to control their image when their image is essential in the attainment of their goals — such as securing votes. They are even more motivated when there is a discrepancy between the current and the desired image. Therefore, the audience's feedback can help the target to detect any discrepancies in image. However, in social encounters, targets often refrain from providing feedback, especially when it is negative feedback. In that case, the target might become concerned with his/her image and not provide explicit feedback. In other words, the actor and target switch roles: the target becomes an impression manager, concerned with managing their image. Therefore, online environments such as social media platforms where people can, sometimes anonymously, like and comment, provide a source of valuable information about targets' wants and needs.

In the field of political marketing, scholars have demonstrated that the fit between the strategic posture of a political party and its political marketing orientation is crucial for party performance. False assumptions about voters' wants and needs have proved to come at a high cost for politicians. Researchers have demonstrated how a politician's erroneous understanding of voters' perception of a candidate's image may affect the election outcome (Omrod, 2015).

1.2.2 Image construction in a voter's mind

From the very start of a person's life, at birth, images are used to convey meaning. Often, these images reflect a series of norms and values and portray ideals, such as the ideal house or the ideal family, reflecting ideal roles, behaviours and the norms of a given society, for example, how a world leader should look or what makes a leader appear more authentic, honest, decisive, or competent (Lilleker, 2019).

For instance, Disney princesses are often portrayed as very slim white girls. Barbie dolls are fabricated with ideal and unrealistic body sizes. US presidents are pictured predominantly as male. Some countries even portray their leader sitting bare chest on a horse, embodying the ideals of machoism, heroism, and physical fitness. The power of these images cannot be underestimated: they are decisive in the formation of identity and the internalization of social norms. Subsequently, they can lead to impressions that can 'prove decisive at the ballot box' (Lilleker, 2019: 38).

Often, these images are used by children to better understand the world. These visuals reflect a series of values, norms, and ideologies that become internalized. These socialization processes contribute to the formation of schemata, and cognitive categorizations of information that form shortcuts to judge and recognize what is right and what is wrong (Lilleker, 2019). So, based on these images, stereotypes are being

internalized. These socialization processes are internalized from a very young age, dictating, for instance, how a politician should behave and dress. Scholars have demonstrated how political preferences are formed from an early age. Stereotypes based on the values and norms that people internalize as children can predict their voting behaviour as an adult (De Landtsheer, Kalkhoven, Heirman, & De Vries, 2022).

1.2.3 Pictural politics from a political psychology point of view

In political campaigns, images are often used to convey messages because they are easy to understand, and they attract attention more easily than text. In general, there is 'continuous but partial attention' when going through a social media feed but an image can suddenly attract attention (Lilleker, 2019: 41). These images can be very powerful and trigger strong emotions such as disgust, fear, shock, or hope (Lilleker, 2019). These emotions happen up to five times more quickly than conscious thought and act as the foundations for conscious decision-making (Sultan & De Landtsheer, 2022). Powerful emotions such as fear, anger, sadness, or happiness unconsciously colour one's judgements. So, such reactions are all forms of affective resonance underpinning the formation of attitudes, which, in turn, result in behaviour. The aforementioned norms and values are important as they serve as 'controls of the human affect' when being exposed to an image (Lilleker, 2019).

1.2.3.1 *Images, impressions and voting heuristics*

To attract the citizen's attention is a challenging task in a hypermedia society with an overload of information daily. To deal with this amount of information, humans develop coping strategies such as heuristics or information shortcuts. Without these heuristics, it would be impossible to navigate through the world as it allows people to make quick judgements and decisions. Stereotypes are cognitive shortcuts since they allow people to infer emotions from gestures, verbal expressions, facial expressions, and tone of voice rapidly. This kind of automatic decision-making has been described as 'system one' thinking: making snap decisions based on emotions without any serious reflection. In 1986, this cognitive process was described by Petty and Cacioppo as the peripheral route of information processing (De Landtsheer, 2004; Lilleker, 2019) and is different to 'system two' thinking which involves arguments and rational reflection, which involves more cognitive effort (Kahneman in Lilleker, 2019). This simplified thinking process relies on voter heuristics and explains the popularity of image bites and sound bites that are easy to process and digest (De Landtsheer, De Vries, & Vertessen, 2008). Based on these 'information bites' impressions are formed that are the foundations of schemata and attitudinal development, which can be strong predictors of voters' perceptions and preferences (Marcus, Neuman, & MacKuen, 2000). These bits and pieces of information do not come directly from the politician but are often received via media messages and images. So, uninformed decision-making based on mediated information can lead to erroneous conclusions and — more importantly for this research — is open to manipulation.

These stereotypes have been internalized at an early age through socialization (De Landtsheer, 2022). Since politics is a low-involvement topic, citizens depend a great deal on their impressions of candidates — rather than arguments and content —

for making decisions at the ballot box (Holz-Bacha & Norris, 2011; De Landtsheer, 2004; Lilleker, 2019).

1.3 The Actor

In low-information politics, people have a strong tendency to follow their intuition and make voting choices based on first impressions rather than rational arguments (De Landtsheer, 2004; De Landtsheer, De Vries, & Vertessen, 2008). So, a mismanaged online image could come at a high cost at the ballot box. Issue positions and partisanship are still vital in shaping the public's opinion. Nevertheless, society pays attention to the image including the candidate's *visual rhetoric*: the dressing style, facial expression, gestures, and dress codes. Together with words and policies, they construct a candidate's image. Consequently, impression formation and trait attributions can have strong implications on voting behaviour (De Landtsheer, 2004; McGraw, 2003; Warner, & Banwart, 2016).

1.3.1 Visual rhetoric

When one refers to rhetoric, one often thinks of the power of the words to persuade. Yet, as argued by Aristoteles (in: Miles, 2023) rhetoric is defined as the 'detection of the persuasive aspects of each matter' (p. 2). Indeed, the facial expressions, gestures, posture, and dress code are as important in the delivery as the words that are spoken. Much research is available on metaphors in an oratorical context (an interesting study on the IS metaphors can be found with Sultan (in: De Landtsheer, 2022). Contrary to expectations, metaphors are also used in visual rhetoric. Like an oratorical context, the use of other stylistic devices such as metonymy, allegory, and personification might equally be used to their advantage (Miles, 2023). So, for the purpose of the present research, the use of such devices also applies to politicians' visual rhetoric on Instagram.

Interestingly, persuasive visual rhetoric can only be successful when the actor has a good understanding of the audience (Miles, 2023). Indeed, different arguments and types of proof need to be displayed in different contexts. Moreover, visual rhetoric, like the verbal arguments, makes use of strategic word choice, patterning, repetition, and figuration to fill in the 'gaping holes' in an argument. The visual and oral dimensions of rhetoric can emphasize, reinforce, or even contradict each other.

1.3.2 Ethos, pathos, and logos

In order to persuade, the actor needs to move the audience to where they are receptive to the message. Aristotle discerned three different types of proof: ethos, pathos, and logos (Miles, 2023).

1.3.2.1 *Ethos*

The first one, 'ethos', refers to the credibility of the speaker. This credibility is generated by the way the actor delivers the message and, in the process, the words are as important as the appearance. People judge other people constantly on their

appearance: the way they talk, the way they dress, their facial gestures, and so forth. These visual cues can augment or diminish the credibility of a candidate (Miles, 2023).

1.3.2.2 *Pathos*

'Pathos' refers to the emotion of the target. This occurs when 'the speech transports the audience into a particular emotional state which is conducive to their acceptance of the argument' (Miles, 2023, p.4). Evidently, factors such as party affiliation might affect the level of acceptance towards a candidate's message. So, it is important to understand one's audience. Therefore, in the next chapters socio-economic variables will be collected on the audience evaluating the candidates' pictures. Many rhetorical tools can be used to manipulate the audience's emotions. One of them is using symbols — images of Jeanne d'Arc remind the French people of a common history and shared virtues such as freedom, brotherhood, and equality. Yet, populist leaders — such as Marine Le Pen, the leader of the French far-right party Rassemblement Nationale (RN) — might abuse this collective memory in their narrative to frame extreme messages as mainstream (for a full analysis, see Soffer, 2022). Another example of a visual rhetoric device is a metaphor that can be used verbally and visually. For a case study on visual metaphors, see Miles (2023).

1.3.2.3 *Logos*

The third and last proof is the 'logos', the proof of logic, or how one persuades with demonstrated proofs. Again, here authenticity is at stake. The visual equivalent of the oral spoken argument can be found in Instagram posts: What better proof that a politician is a loving father than posting a picture of oneself enjoying quality time in a pool with his kids, like Canadian PM Justin Trudeau on Instagram (Trudeau, n.d.). An additional bonus of this strategic visual rhetoric is that the audience will believe they have concluded themselves (Miles, 2023).

1.3.3 Ethos and authenticity

So, what makes a candidate credible in online communication? In Goffman's legacy, a candidate is supposed to play a specific 'role' in the stereotyped image of a politician in the arena of politics. To gain voters' trust, they need to display the qualities of a leader and dress, speak and behave in the way a leader is expected to. So, it is of interest to monitor voters' response when the politician shares a glimpse of the 'real person', the identity behind the candidate. This could possibly add to the notion of credibility and is tightly linked to the perceived *authenticity* of the message. Or this authenticity could also backfire with the audience when 'real' images turn out to be a product of a strategic marketing campaign? Admittedly, a candidate's online image is a construct and users of social media should allow some acceptance towards the artificiality of the medium. However, when there are no ties to reality the message may be perceived as a visual lie and the audience will grow resistant towards both the message and the message's source (Miles, 2023).

In the next section, the psychological dimension of the virtual relationship between actor and audience will be addressed.

1.4 The (parasocial) relationship between viewer and actor

In the following sections, a closer look will be taken at the concepts of parasocial interactions and parasocial relationships. These concepts are relevant to gain a better understanding of the (virtual) relationship between the social media user (voter) on the one hand and the social media influencer (the politician) on the other.

1.4.1 Parasocial interactions (PSI) and relationships

In 1956, the concept of parasocial relationships was launched by Daniel Horton and Richard Wohl in their seminal article 'Mass Communication and Para-Social Interaction: Observations on Intimacy at a Distance' in the journal *Psychiatry*. A parasocial relationship is defined as a one-sided relationship that a media user engages in with a media persona (Liebers & Schramm, 2019; Tsay-Vogel & Schwartz, 2014). As suggested by the article's title, along with parasocial relationships, Horton and Wohl (1956) also introduced the concept of parasocial interaction (PSI), which they defined as the approximation of 'conversational give and take' between a media user and media figure. The difference between both concepts lies in the depth and nature of the interaction. A parasocial interaction, on the one hand, takes place exclusively while interacting with a persona via media and psychologically resembles a real-life relationship; on the other hand, a parasocial relationship extends beyond a single media interaction and operates like a real-life relationship (Giles, 2002). So, if an individual feels close to a character while watching a series on Netflix, for example, *Peaky Blinders*, then the viewer is experiencing a parasocial interaction. However, when the user continues to think of the character after they have finished watching the show, a parasocial relationship has been established.

1.4.2 How a PSI starts and ends.

Like an in-person relationship, a parasocial relationship starts when a media user meets and becomes acquainted with a media persona (Giles, 2010). When the parasocial relationship comes to an end — for instance, when a television character dies, a social media account goes offline, or a media user decides to no longer engage with a media persona — the media user can go through a parasocial breakup and experience grief comparable to real-life break-ups (Eyal & Cohen, 2006). With the introduction of the concept of PSI, scholars in the fields of communication and psychology have focused on the depths, processes, and effects of PSIs. While scholars are mostly focused on a positive, friendship-like bond between a media user and a media figure, media users may also develop a negative relationship or romantic PSIs with different media figures (Liebers & Schramm, 2019).

Although the relationship can be established with any kind of media figure — a social media influencer, celebrity, or animated character — and it can be mediated through all kinds of media, including movies, TV shows, podcasts, radio talk shows, or social media platforms, scholars have mostly been focused on the relationship with TV

figures, but literature is still scarce on the topic with social media influencers (Liebers & Schramm, 2019).

1.4.3 Why do we form parasocial relationships?

At first blush, PSIs might appear strange not only because of the lack of reciprocity but also because the relationship involves a virtual figure. So, why does one engage with media figures and gets emotionally involved with someone they will never meet in real life? Stever (2020) argues that the reality is that humans are at their core social creatures and are evolutionarily wired to make social connections. So, the social characteristics that have enabled us to establish relationships in real life have been extended to the media. With the advent of television in the mid-20th century and the advent of social media two decades ago, the number of faces humans become familiar with through the media has grown exponentially. For centuries before that, the number of familiar faces and voices was limited to those in our daily lives. Since our brains never established a difference between media figures and real-life persons, media encounters are responded to in the same way as if they occurred in real life (Stever, 2011). Yet, instead of labelling these kinds of relationships as pathological, most scholars have accepted them as normal and something that occurs often when receiving messages from the media (Stever, 2020). According to Tsay-Vogel & Schwartz (2014, p.72) engaging with a media figure brings substantial benefits for the viewer, which involves 'viewer enjoyment, learning, identification, and need gratifications.'

1.4.4 Impact of parasocial relationships

In a recent study, Liebers and Schramm (2019) demonstrated that a parasocial connection with a media figure can impact political views, voting decisions, attitudes to gender, buying behaviour, and trust in various groups of people. This might be an explanatory factor for conspiracy thinking during the COVID-19 lockdowns when the influence of media figures' social surrogacy roles increased. On a positive note, during quarantine, parasocial relationships might also have helped people cope with a prolonged period of limited social contact.

The influence is not necessarily negative, the impact might also be positive when the relationship with the media figure is positive. Subsequently, parasocial interactions might increase an individual's self-confidence, a stronger social identity and a feeling of belonging, and improve one's belief in efficiency. Moreover, since people can engage in the same parasocial relationship in the absence of any jealousy or competition, this mutual parasocial connection can be a catalyst for the formation of real-life relationships (Sanderson, 2009). An example is when fans of the same singer Taylor Swift 'Swifties' meet each other and become friends in real life.

1.4.5 Symbolic interactionism

Scholars have found that the parallels between PSIs and real-life social interactions make it difficult to distinguish between the cognitive processes of mediated relationships and actual relationships (Tsay-Vogel & Schwartz, 2014). Tsay-Vogel and Schwartz (2014) rely on Blumer's theoretical concept of 'symbolic

interactionism' to explain the ways people perceive and construct their social worlds. Symbolic interactionism describes how people (re)act to the objects and events around them based on the meanings that they describe to them. These meanings are derived from social interactions with others and emerge from an interpretive process between the person and the object or event. So, since PSIs resemble social interactions — though they occur in a mediated context — the meanings assigned to media figures and the relationships that viewers develop with these (online) figures are indeed constructed. Consequently, PSIs can affect the viewer's identity formation and social construction of reality. This effect can be subtle and indirect, as well as tangible and directly impact a person's personality, values, or lifestyle (Tsay-Vogel & Schwartz, 2014).

1.4.6 Classification scheme of media figures on authenticity

One of the main predictors of PSI is the reality status of a media figure or authenticity. This reality status has been defined as the 'congruency between a TV character and what is observed in real life (Rosaen & Dibble in: Tsay-Vogel & Schwartz, 2014). Or, in other words, to what extent could the media figure exist in the real world? Next to 'figure authenticity', there are a range of other factors suggested to be indicators of PSI, including affinity, liking, and attractiveness, to name just a few, but the scholarly focus has mainly been on authenticity since this predictor is independent of the viewer's characteristics such as personality, values, beliefs, and attitudes. Attractiveness, for instance, could also be rated quite objectively, but it is still reliant on personal standards and values.

To measure authenticity, an original classification scheme was proposed by Tsay-Vogel & Schwartz (2014) with four different dimensions:

- Depiction (live action vs. animated)
- Story (fiction vs. non-fiction)
- Form (human vs. non-human)
- Traits (super vs. normal)

When applying this categorical scheme to a politician's social media picture, for instance on Instagram, the picture would be labelled as a live-action, non-fiction story from a human being with normal traits. This suggests that the congruency of an Instagram visual with a real-life event is extremely high and so is the perceived credibility of every post.

1.4.7 The impact of social media on parasocial relationships

Tsay-Vogel & Schwartz (2014, p.67) describe parasocial relationships as 'one-sided, nondialectical, controlled by the performer and not susceptible to mutual development'. However, the rise of social media has enabled online access to celebrities and politicians. So, on social media, it is possible for the viewer to respond and react to the posts of a public figure so an online conversation can occur. The actor, in turn, can like, retweet a message from the follower or even follow them back. A series of Twitter studies demonstrated how the relationship takes on a social dimension when there is the possibility of dialogue and direct communication

(Kruikemeier et al., 2013; Stever & Lawson, 2013). The nature of parasocial relationships and interactions has been modified by social media. Subsequently, Stever (2021) has proposed a continuum for positioning parasocial and social relationships. On the social end of the spectrum, there are the regular interactions in our day-to-day life. On the parasocial end of the spectrum are media figures we have no access to. In between, there are social interactions a voter has with the online account of a politician who can also be met in real life at political conferences, for instance.

1.5 Impression management in politics

Now it has been established that a parasocial connection with a media figure can not only impact voting behaviour and political attitudes but also makes sense to understand the importance of impression management in political communication.

De Landtsheer (2004) has suggested that political communication is getting increasingly superficial and entertaining. There is little room left for in-depth conversations about policies and ideologies. Additionally, citizens are supposed to be less interested in politics and political involvement is decreasing. However, ratings and commercial interests dominate the media, so they are fighting over the voters' attention on programs that are meant to be entertained. Consequently, citizens are increasingly encouraged to make intuitive voting decisions based on the cues about a candidate's personality they receive via the media.

1.5.1 Relevance of IM in elections

The importance of cues or impressions should be put in perspective as there are still some other factors at play when casting a vote, such as party affiliation or the economic context (De Landtsheer, 2004). Nevertheless, the importance of these impressions via short and superficial messages seems more relevant than ever in a time of social media where information is increasingly visual and short. Therefore, candidates increasingly monitor the impression they make (self-presentation) at the expense of self-verification or authentic behaviour.

In a low-information and low-involvement context, the impressions formed via the media on perceived political suitability serve increasingly as a voter heuristic. Consequently, the politician who is *perceived* as the most politically suitable will win the elections (De Landtsheer, 2004). Bittner (in Diedkova, De Landtsheer, & De Vries, 2019) argues that the effect of the evaluations of leaders' personalities on the election outcome counts as much as 10%. Cunningham (2013, p.8) also illustrates the importance of the online image:

> Because SNS are increasingly becoming the dominant form of communication among Internet users, some might argue that the presentation of online identity is key to success or failure in the information age.

So, especially in the last days before the election, impressions could make a difference in voting behaviour. A recent example of this was the 2022 election in

Argentina where left-wing ex-president Lula Bolsonaro won over floating voters in the last debate at the expense of far-right incumbent president Jair Bolsonaro (*Le Monde*, 2022).

1.5.2 IM by De Landtsheer (2004)

Despite the fact there is no scientific proof for physical appearance being an indication of character, people make interferences about physical demeanour and personality (De Landtsheer, 2004). An obvious example of this irrational logic is the perception that blond women are supposedly less intelligent, red-haired women are more emotional and aggressive, and overweight women are supposed to have less self-discipline (De Vries, 2007). These assumptions about physical appearance are essential in political impression management. The voter will judge a politician's character via their appearance. So, how should a candidate look to be perceived as politically suitable? In her book *Political Impression Management in Flanders and the Netherlands*, De Landtsheer (2004) describes two experiments that she conducted two decades ago on the suitable appearances for politicians. De Landtsheer's (2004) research showed how appearance and so the impression of political suitability can be managed and controlled for. Drawing on the theoretical insights from Shawn Rosenberg (1986; Rosenberg, 1987), De Landtsheer conducted two experiments to test the insights from Rosenberg's U.S. research. The results from this research can be found in 'Political Impression Management in Flanders and the Netherlands' and are the starting point for the present research.

1.5.2.1 *Experiment 1: Perceived political suitability*

Are people more likely to vote for someone who looks intelligent? Or someone that is physically attractive? In this experiment conducted by De Landtsheer (2004), five different dimensions linked to perceived political suitability were explored: physical attractiveness, intelligence, trustworthiness, sympathy, and leadership. Drawing on Rosenberg's research on IM in America, data was collected via a questionnaire about pictures and videos of unknown politicians, male and female in Flanders and The Netherlands. The questionnaire contained a five-point Likert scale measuring these five dimensions, plus a sixth question measuring 'voting intention'. Respondents (students) were invited to evaluate 10 pictures or video fragments on a five-point Likert scale (Figure 1). So, each respondent attributed 60 scores. The pictures and video material depicted mock-up candidates that were selected from magazines and television. In total, 400 Flemish respondents and 517 Dutch respondents were recruited.

	Select the number of choice (1 meaning 'not or bearely', 5 'very much'):					
1	Do you find this person physically attractive ?	1	1	1	1	1
2	Does this person seem intelligent to you?	2	2	2	2	2
3	Does this persoon look reliable?	3	3	3	3	3
4	Do you like this person?	4	4	4	4	4
5	Do you think this person disposed of leadership qualities?	5	5	5	5	5
6	Do you think this person is suitable to represent you in the local council?	6	6	6	6	6

Figure 1. Political impression management questionnaire (translated from: De Landtsheer, 2004, p. 130).

A strong correlation between political suitability, leadership, and intelligence was found. Trustworthiness, sympathy, and physical attractiveness are less important factors. These results corroborated the results from the research in the United States and Russia (De Landtsheer, 2004; Rosenberg & McCafferty, 1987). These conclusions suggest the existence of a universal stereotype in people's minds on how a politician should behave and look.

1.5.2.1.1 A politically suitable appearance

Next, the physical features that may be linked to the perception of political suitability were linked. The physical features of the ten highest and ten lowest-scoring politicians were listed on several topics such as hairstyle, facial expression, glasses, eye colour, facial hair, make-up, and jewellery. The results indicated that a candidate in Belgium should be between 40 and 60 years old, in the Netherlands between 35 and 60; dress conservatively with a shirt and suit in contrasting colours and shy away from bright colours. Composed behaviour avoiding too many gestures was also a good reference for perceived political suitability. See Table 1 for a more detailed list.

	Male Candidates	**Female Candidates**
Positive features	• 40–45 years old • Conservative hairstyle • Dark or grey hair • No glasses or a small one • Smile without exposing teeth • Formal dressing style • A dark suit, a white shirt, and a tie in conservative colours	• 45 years or older • Conservative, formal dress, and hairstyle • Formal suit and shirt in contrasting colours • Dark or grey hair • Mid-length hair
Negative features	• Under 40 years old • Ungroomed appearance • Fair hair • Unruly, curly hair • Thin lips • Wrinkles or age spots • Clothes in bright colours and prints • Double-breasted blazers	• Under 45 years old • Blond hair • Long hair • Heavy or no make-up • Large or no jewellery • Suit in only dark colours or bright colours, prints

Table 1. A selection of the positive and negative features of a politically suitable appearance (for the full list see: De Landtsheer, 2004, pp. 136-137).

1.5.2.2 *Experiment 2*

Since impression management suggests a certain level of manipulation, De Landtsheer (2004) researched whether male and female politicians who were restyled with a politically suitable appearance received higher voting intention. In 1997 and 1998, 20 low-profile politicians were selected, balanced for gender, from the council from

Utrecht in the Netherlands. A picture was taken before and after the candidates were restyled by a professional make-up artist and were dressed in the recommendations from the first experiment. So, for each candidate, there were two pictures in the experiment. These pictures were printed on mock-up flyers, equally balanced for five different local parties. The respondents were 100 students from the Catholic University of Tilburg. Each respondent was asked to rank five different pictures from least to most politically suitable. The results indicated that a politically suitable appearance positively affected the ranking; 63% of the male candidates and 72% of the female candidates were ranked first after restyling them. These conclusions illustrate not only how the perceived political suitability can be manipulated, but also the staggering influence of appearance as a deciding factor in voting behaviour.

1.5.2.3 *Continued research on IM in Belgium by De Vries (2007)*

In his dissertation, De Vries (2007) built further on this research and questioned the influence of a candidate's appearance on voter attitudes within the Belgian political context from political communication and political psychology perspectives. To do so, six mock election campaigns were set out with genuine Belgian politicians. The results of this experiment corroborate the findings established by De Landtsheer (2004) and Rosenberg (1987): political candidates who are running for office should adopt a more formal competent look to be perceived as politically suitable. Equally, the dimensions of competence and leadership turned out to be strong indicators of political suitability. On the other hand, physical attractiveness did not significantly contribute to the impression of political suitability. Interestingly, he argued that personality-related evaluations would become increasingly relevant within a context of ongoing personalization of politics and would only result in an increased emphasis on a candidate's identity; this appears to be the case in today's social media context. Moreover, it was assumed that the power of a candidate's appearance would decrease when more information becomes available, such as a party logo. However, this hypothesis was not confirmed. So, it is fair to conclude that appearance does matter in Belgian politics.

This section explained the conclusions on impression management and political suitability in the television era. In the next section, how social media has transformed political communication, illustrating the need to test former conclusions, will be highlighted.

1.5.3 Social media as a disruptor?

Although impression management and visual communication have always existed, it is undeniable that social media has changed the way people interact, communicate, and engage with each other (Friebe, 2020). These so-called 'new media' have matured in their almost two decades of existence and have become a legitimate communication channel. The unique nature of social media offers an enormous potential that can be unlocked by both candidates and parties. This calls for an update of the existing literature on impression management in a digital media context. In the following chapters, different research questions are raised to evaluate from the audience's perspective different storytelling strategies from politicians online.

The growing popularity of social media platforms has increased the relevance of impression management in political communication. These platforms provide politicians with an online space to construct an image of themselves and enable them to strategically highlight different aspects of their 'selves' to not only increase social capital, form new personal relationships, acquire jobs (Cunningham, 2013), or convince the floating voter. Consequently, the choice of the right 'self' becomes paramount. For example, Ukrainian President Volodymyr Zelenskyy uses social media to project a quite raw image in army clothes and a beard, reflecting the crisis his country is in. And though at first glance, this might appear authentic, reporting directly from the frontline, it is part of a strategic self-presentation strategy, emphasizing Ukraine's need for international support.

1.5.3.1 *Context IM research*

At the time of De Landtsheer's research, political communication was mostly mediated via mass media, like TV, radio, and posters but also the new 'kid on the block' at that time: websites. These 'new' media were increasingly being incorporated as a political communication tool within the context of Americanization and the growing modernization of election campaigns. The parallel with the current dynamics of social media being included in election campaigns is obvious. It was argued two decades ago that these dynamics enabled a growing professionalization of political communication in Belgium and the Netherlands with the use of communication experts, opening the path to an expanding personalization of politics. It remains the case now that — like 2004 — the Americanization of campaigns in Belgium is still limited because of laws such as budget restrictions. Nevertheless, campaigning has become increasingly important for decision outcomes as well as the image projected by the politicians running it. Social media has disrupted the traditional relationships between politicians, the media, and the voters. Since most of the information on candidates is mediated, the above conclusions need to be tested.

1.5.3.2 *Social media and democracy*

In contrast to traditional media, such as television and newspapers, Taylor (2017) argues that on social media platforms, politicians are in full control of the creation and distribution of their image, which explains their growing popularity; this *full* control is relative since it is limited to their own account's posts. However, the construction of an (online) image in a voter's mind is not only based on the depictions of a politician's feed; in reality, it is probably based on a series of experiences, mostly mediated and part of a collective imagination.

Nevertheless, Taylor probably refers to the disruption of conventional processes that allows candidates to circumvent mainstream media. Indeed, social media allows candidates to broadcast their message without the intervention of traditional media (McGregor, 2018). In addition, traditional media tend to focus on a limited number of political leaders, so-called 'focused visibility' (Balmas & Sheafer, 2016). So, social media is in that respect much more democratic and offers an avenue for self-presentation that is open to anyone and any party from any ideology. Social media platforms are easy to use, accessible, and free of charge. This might explain their growing popularity: as of January 2021, there were 4.2 billion active social media

users, which is the equivalent of more than 53% of the world's total population (Kemp, 2021).

1.5.3.3 *Online conversations are increasingly picture-based*

Additionally, De Landtsheer suggests that the remedy against the growing infotainment and lack of content is to engage in direct communication to win over the floating voter. This is what social media offers: the possibility for two-way communication between candidate and voter. Moreover, social media platforms are increasingly visually oriented, which helps to overcome language barriers. The pictures on these platforms respond to the voter's needs: they are fast, short, and easy to digest. Nevertheless, the reality is that these channels are more likely to be used as just one of many tools in a hybrid communication campaign (Lilleker, Tenschka, & Stetker, 2015) so their democratic power is limited: there is little or no room for dialogue with the voter on these platforms; hardly any politician replies to social media messages (Aalberts & Kreijveld, 2011; Kruikemeier, 2013).

1.5.3.4 *Social media: not so democratic*

However, the story that is being told on social media platforms is — partly due to ongoing Americanization — often a clone of other accounts that are perceived as successful. Iconic examples of electoral wins thanks to social media, especially the case of former US President Barack Obama, are not easily copied by other politicians (Bimber, 2014). It is generally accepted that a substantial amount of both human and economic resources should be attributed to social media campaigns for them to become game-changers during elections. However, the digital space has become fully saturated with the presence of politicians all around the globe (Bimber, 2014).

Additionally, the democratic character of social media has also been questioned because of the algorithms behind these platforms that favour content and push specific messages forward. An example is the so-called 'rabbit hole' where similar content to previously liked messages will be shown to the user, with the risk of getting blocked into an 'echo chamber'. In other words, freedom of speech is not the same as freedom of reach (DiResta, 2018): a message will only be shown if it received a substantial number of likes by fellow users *and* it mirrors previously liked messages. Similar criticism was raised two decades ago about the impoverishment of television content by De Landtsheer (2004). It has been suggested that social media could serve as an equalizer and give a voice to anyone willing to engage. Sadly, however, there are too many examples of how this freedom of speech has contributed to undemocratic situations, including violence. One example is Donald Trump's infamous tweet right before the attack on Capitol Hill on 6 January 2021, which led to the suspension of his Twitter account (Twitter, 2021). At the time of writing this thesis, this decision was reversed by entrepreneur Elon Musk who recently acquired Twitter and claims this decision was against freedom of speech (Peeters, 2022). Although questions are being raised about social media's democratic character, the platforms also have enormous democratic potential by attracting the voter's attention with easily accessible and digestible bits of information.

1.5.4 IM in other countries

The aforementioned experiments have raised some questions about cross-cultural differences. However, a few recent studies confirmed that informal self-presentation style is unfavourable for perceived political suitability and competence. This research was conducted in different countries such as Greece (Poulakidakos & Giannouilli, 2019), Hungary (Farkas & Bene, 2021), Singapore (Jung et al., 2017), and Finland (Lindholm, Carlson, & Högväg, 2021). Conversely, Peng (2021) showed that in the US private images increase online likes and comments. In addition, some valuable research has been done on the topic of personalization on Instagram in Sweden and Norway (Filimonov, Russmann, & Svensson, 2016; Russmann, Svensson, & Larsson, 2019). However, research is still lacking on visual rhetoric in political communication. So, in the next chapters, this gap in literature will be addressed.

1.6 Discussion: Is IM unethical?

Long (2021) argued that there is hardly any controversy around the concept of impression management; some scholars, however, do not agree on the ethical concern of impression management. Admittedly, impression management is by nature strategic and manipulative, especially when it is done consciously. Therefore, authors such as Jones and Pittman (1982), have labelled IM as purposeful, manipulative, and unethical. Leary (2001), on the other hand, disagrees that IM would be deceitful. Moreover, concurring with Goffman, he strongly suggests that impression management facilitates healthy and harmonious social interactions (Leary, 2001). For example, imagine what would happen if friends omit pleasantries and other tactical communication when being invited to one's house.

1.6.1 Toddlerization of politics

However, one can argue that the responsibility also lies with the actor to maintain the credibility of politics. 'Fake it until you make it' seems no objection: people are fascinated with the projected image of success and beauty and willing to give everything: their support, money, and vote. Recently, the party leader of the Flemish social democrats, Conner Rousseau was singing disguised as a rabbit for several weeks in the popular 'The Masked Singer'. This ongoing search for entertainment where form and style prevail — at the expense of content and hard-working politicians far away from the cameras — is often criticized as the 'toddlerization' of politics (De Vries, 2007). By participating in all kinds of entertainment, the political credibility of these politicians and politics more broadly are at stake.

1.6.2 Multiple selves

In addition, everyone has different selves so the context determines which 'self' is the most appropriate (Cunningham, 2013). On Social Networking Sites (SNS), this can be taken quite literally. On these platforms, users are free to construct their own identity and can strategically highlight those aspects that can win them a job, friend, or any other form of social capital (Cunningham, 2013). So, people can create and navigate multiple identities across different platforms: a more 'professional self'

on LinkedIn, whereas a rather 'seductive self' will be highlighted on Tinder. In extremis, these platforms enable users to have a freedom of identity that is completely different to what is possible in real life (Cunningham, 2013). This idea is gaining momentum because of series like *Inventing Anna* and *The Tinder Swindler*. These commercial series highlight how one can use social media to craft a desired image.

1.6.3 Open editorializing

Research on voter knowledge and attitudes suggests that 'the average citizen can be easily manipulated' (Lilleker, 2019). There is less resistance towards politically entertaining pictures than explicit politicking (Messaris, 2019). Evidently, the concept of 'impression management' suggests a certain level of manipulation and 'control' of the actor, aiming to highlight the positive traits that are needed for the pursued position (De Landtsheer & De Vries, 2015) and hide any less favourable characteristics. While these kinds of visuals might not be seen as means of covert misinformation, the idea that the public is led on by visual persuasive communication is a dangerous one. The strategic use of imagery by communication experts aiming to control and manipulate social norms indicates a certain level of immorality. A political campaign's main goal is often to manipulate the perception of not only the candidate's image but also what is right and what is wrong. Moreover, the depictions of politicians are increasingly technically manipulated, due to growing means of manipulation such as filters or Photoshop, with the manipulation often remaining invisible. Messaris (2019) argues that the link between the picture and reality is dead with tools such as Photoshop. However, in today's world, there is a large segment of the population that is unaware of the existence of digital manipulation. There is even a level of acceptance towards this photo manipulation and rather than labelling them as 'visual lies' they are experienced as 'open editorializing' (Messaris, 2019, pp. 24). This level of acceptance towards these persuasive visuals might be because, today, most users are both creators and consumers.

1.6.4 Impression management and authenticity

Far too often, media experts' advice is to copy the brand marketing of successful politicians, assuming that this is the best way to market one's image. Consequently, popular accounts such as former US President Barack Obama, who is one of the most followed accounts in the world, inspire politicians on how to market a personal brand. However, followers are keen on the authenticity that is projected on the account so what might work for that person does not necessarily work for another one. In addition, there are some tactics that do not appear sincere, such as posting a picture of an ice pack on one's knee after running a marathon with the caption: 'This happens when running a marathon'. This is an indirect way to ask for compliments or boast about doing a marathon (Long, 2021).

Yet, the notion of authenticity is also linked to the privatization dimension of impression management (Miles, 2023; Lalancette & Raynauld, 2023). Before social media, we needed paparazzi to get a snapshot of the real life of celebrities or politicians. On social media, however, celebrities share snapshots of their holidays and loved ones themselves. More than ever, the viewer has a first-hand experience of the 'real' identity behind the celebrity. But is this really the case? Is the constructed image a genuine reflection of reality? The image of the celebrity might be carefully

constructed with depictions that have been strategically filtered, altered, adapted, and selected before their distribution. So, one could wonder to what extent are these pictures linked to reality.

Never have famous people appeared to be this close and familiar to their followers: pictures of Prince Harry, Beyoncé and Justin Trudeau pop up in the followers' feed, as if they are part of a circle of friends and family, only centimetres away on one's screen. But little is known about how people interact with the presented content. So, what is the best way to portray oneself on these popular and powerful platforms? Based on the insights formulated in the next chapters, conclusions can be formulated on what online candidate image garners the most voter support. So, these conclusions serve communication experts, politicians, and the voter who gains greater insight into the strategic communication strategies behind the projected images in the media.

1.6.5 Is IM ethical? The user decides.

To conclude, most people are aware of the visual manipulation. So, the disagreement on the ethics of IM could be settled by Long's argument (2021): It is the eye of the beholder that matters most. The answer to the question whether impression management is ethical, is positive on one condition: when the audience has identified specific behaviour as an attempt to manage the impression by others when they have the impression that they are being led on and the actor has been perceived as tactical and possibly unethical. But when no such intentions have been identified, then there are fewer ethical concerns according to Long (2021). In addition, a possible remedy to control for manipulation is to consult multiple sources and not use social media as the only or primary news source.

1.7 Proposed model of theory

In the field of political communication, a growing number of politicians are reaching out by posting pictures of their upbringing, loved ones, and hobbies on social media networks. The growing popularity of these platforms in political communication can be explained by several socio-economic trends, including ongoing personalization and visualization, which have affected the style and content of political messages in an unprecedented manner (Lilleker, 2014; Lilleker, 2019). These platforms, especially visually oriented platforms such as Instagram, offer an ideal avenue for self-presentation and are a powerful tool for (digital) storytelling aiming to construct an ideal image. Subsequently, this changed dynamic has affected political communication.

Pictures are a logical means of communication in the construction of an ideal, desired candidate image, especially on social media platforms. And within a context of increasing privatization, personalization, and visualization it should not come as a surprise how these emotional and intimate visuals thrive well with followers. On Instagram, these pictures have the potential to appeal to a large audience as they are easy to understand since they surpass language barriers. It offers politicians the

possibility to construct a favourable image and share with potential voters a glimpse into their private lives to come across as more 'human' (Liebhart & Bernhardt, 2017).

Within the field of political psychology, political communication and political marketing, the IM theory assumes that a politician's (online) image can not only be managed but also manipulated and constructed (impression construction). IM is not a static, one-way process but a dynamic mechanism between the politician and the voter. The aim of the politician is to create a favourable persona with the voter — via impression formation- which in turn affects voting attitudes and ultimately, voting behaviour. In low-information and low-interest politics, voters are increasingly dependent on impressions — at the expense of content — while making voter decisions. These impressions, received from candidates' physical appearance, are predominantly via media messages including social media (Simge, 2021). Consequently, political messages are becoming more superficial, and voters are relying increasingly on style at the expense of content (De Landtsheer, De Vries, & Vertessen, 2008). This evolution has not only been observed in Belgium or the United States, but also in African countries for instance, such as Ghana (Asomaning & Ababio, 2020) or Nigeria (Ismaila, Ayanda, Ayodele, & Abdurasak, 2020). Other more recent studies also provide evidence for the correlation between a candidate's physical appearance and self-presentation, on the one hand, and voting intention, on the other hand (Jung et al., 2017; Lindholm, Carlson, & Högväg, 2021, Peng (2021). Hence, neither the potential nor the power of online visuals can be underestimated.

Previous research has shown that in the television era a formal, businesslike presentation contributes to the notion of political suitability (De Landtsheer, 1999, 2004; De Vries, 2007). However, the ongoing privatization of political visual communication seems to suggest that social media has changed the image of political suitability amongst voters. This increasing privatization in pictural communication is a popular political marketing technique to present one's human side, and the personal private side of the politician, like pictures with their children, on holiday with a partner, or playing sports (Farkas & Bene, 2021; Jung et al., 2017; Peng, 2021; Lindholm, Carlson, & Högväg, 2021). Yet, it remains to be seen whether this self-presentation strategy is rewarded at the ballot box.

The most supported self-presentation style for a candidate's online image will be evaluated by measuring both online engagement (likes and comments on Instagram) and offline engagement (candidate selections). This engagement will be compared for two online self-presentation styles: Instagram images picturing the candidate in an easy-going informal style — in casual dress in a private setting, off duty — will be compared to pictures of the same politician in a professional, formal style — wearing business dress in a professional context, on duty. Figure 1. summarizes the aforementioned concepts into one image:

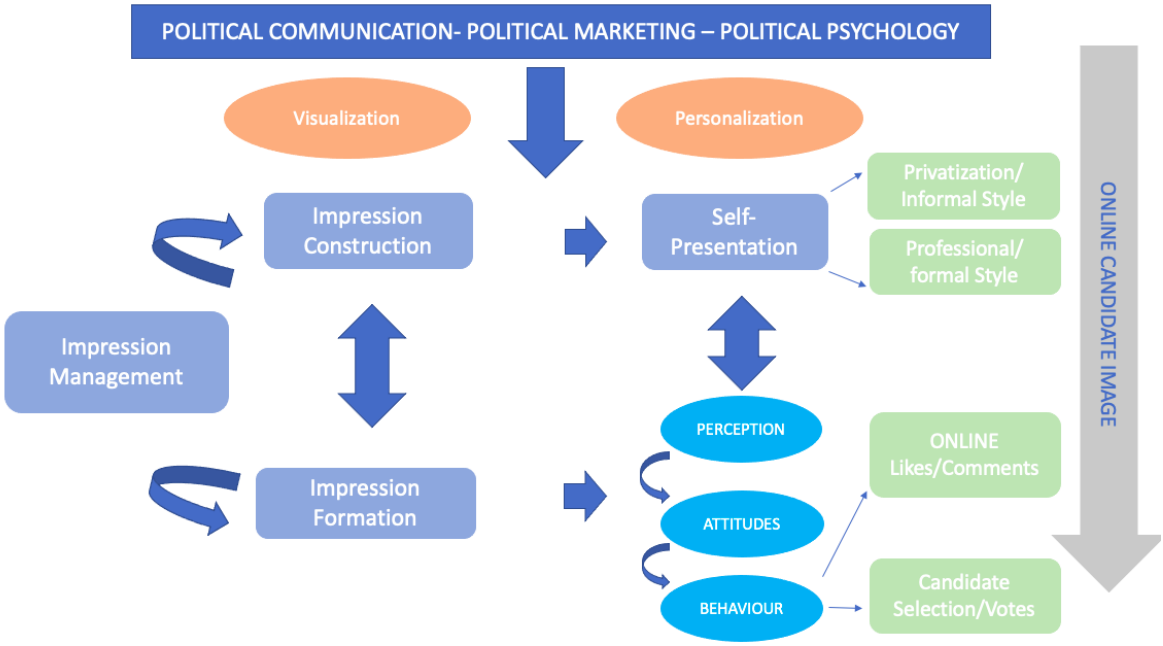

Figure 1. Proposed theoretical model for online image and impression management.

1.7.1 Main Research Question

In the next chapters, these conclusions will be tested for pictures of politicians on online platforms. The perception of political suitability is still contingent on competence and leadership, or whether their importance is declining in favour of likeability and physical attractiveness, will be explored. Thus, we will see whether the conclusions about impression management from De Landtsheer (2004) and De Vries (2007) still stand in this social media age. In addition, regional differences in preferred presentation styles between Belgium and abroad as well as between high- and low-profile candidates will be examined. So, drawing on the IM framework, the main research question is whether social media has affected previous conclusions on impression management. So:

Does a less formal and casual appearance contribute to perceived political suitability and garner more voter support than a formal appearance on Instagram?

1.7.2 The Different Chapters: A Summary

In general, the existing literature on visual political communication is still scant and the present thesis aims to fill various gaps:

- Testing a politically suitable candidate image in a digital context.
- Providing a methodology for performing visual object analysis, suitable for large datasets like those produced by social media platforms.
- Adding to the existing framework of political marketing with a better understanding of the voters' wants and needs on online candidate image.
- Providing recommendations to the field of political marketing by formulating effective digital storytelling strategies, tested on a Belgian and a global level.

To give a clear outline of the thesis, a summary of every chapter is given below:

1.7.2.1 *Chapter 2: To tweet or not to tweet. An Analysis of Twitter Use During the 2014 Belgian Elections.*

The next chapter is a pilot study: a quantitative impact study of Twitter use on preferential votes, compared for Flemish and Walloon politicians. It seeks to understand, establish, and present my observations about social media use by Belgian politicians eight years ago. Although the set-up of the research as well as the theoretical framework were relevant in 2014, I am aware of the topicality issues linked to this study since social media evolves rapidly. However, it is relevant in providing insight into the social media behaviour of Belgian politicians at that time to provide a starting point as a retrospective to better understand the current strategies. It shows how some early adopters from a selective number of parties embraced the 'new media' as a communication tool. At that time, it was questionable whether social media were relevant for Belgian politicians in their strategy. This chapter was the motivation to further research the effects of online strategies. However, in 2014, it was unthinkable for Belgian politicians to reach out to their constituency via Instagram. Since then, political media campaigns have become increasingly professionalized and have fully embraced social media as one of the many channels to reach out to their constituency (Mangolds & Faulds, 2009; Karlsen & Enjoiras, 2016). Consequently, other (visual) platforms, including Instagram, have become increasingly popular and mainstream, so an in-depth analysis of the visual self-presentation strategies is needed . From an impression management point of view, Instagram is the perfect tool for self-presentation to shape an online image. Using the platform, one can highlight the facets of a desired online persona via images and downplay less desired facets. Consequently, in the next chapters, Instagram will be the platform of choice for further analysis.

This pilot study aims to answer three main questions. First, who are the politicians using Twitter for campaigning purposes and what variables can predict Twitter use? Second, when do Belgian politicians use it and how frequently? And third, do tweeting politicians perform better at the ballot box? This study describes how Twitter began as a campaign tool mainly used by Flemish politicians and less so by Walloon candidates: a Flemish candidate was 18.7% more likely to have a Twitter account compared to a candidate from the French community. It is popular amongst young politicians (20-35 years old) and incumbent politicians, regardless of ideology, party size, gender, or media attention. Additionally, this study showed that in 2014, Twitter was a campaign tool mostly used right before the elections but barely used outside the elections. Lastly, Twitter provokes a feeling of closeness: a trend towards significance was observed for Flemish politicians between the number of tweets and the number of preferential votes. However, the impact on voter preference votes can now be discussed since almost all politicians have an online presence. So, the competitor advantage of an online account has disappeared.

1.7.2.2 *Introduction of a Data Collection Method for Visual Analysis of Instagram Pictures*

The next chapter of this thesis focuses on the interdisciplinary method that was created for data collection to deal with the data challenges posted by social media. Since social media is a relatively recent phenomenon, current data collection methods simply cannot manage the challenges imposed by these networks. This chapter aims to fill in this gap. Since the data method collection of choice is rather new and revolutionary, especially for the field of social sciences, a short but independent chapter offers more detail on the methodology. Although social media has matured in its two decades of existence and a growing body of research focuses on visual online political communication, many research questions remain unanswered due to the lack of a useful data collection method. The task of collecting vast amounts of data from unstructured sources such as Instagram pictures can be a challenging one.

Further, human analysis of a large visual dataset would be too time-consuming. Therefore, the researcher chose a neural network and automated object detection analysis. The usefulness of visual analysis via automated object detection has been demonstrated in other fields, such as surveillance cameras and is constantly improving. This chapter demonstrates its usefulness for social sciences and how it can be applied.

So, this chapter elaborates further on a state-of-the-art methodology, called 'YOLO' or You Only Look Once. The main purpose of this chapter is to investigate the usefulness of this method that enables us to collect data on pre-existing visuals. The method was tested and fulfilled three main purposes: 1) It needed to detect a list of items in both an effective yet efficient way on a picture; 2) It had to quantify several KPIs for these pictures to measure user engagement; 3) The methodology needed to be able to scrape this data from social networking platforms. Although some knowledge of computer science is required, or cooperation with another academic is recommended, YOLO was proven to be a useful and trustworthy solution for any academic in search of collecting visual features in a fast and systematic way. Moreover, as it is open-source technology, YOLO will continue to improve and the list of objects that can be detected will only grow longer.

1.7.2.3 *Making Sense of Political Images on Instagram: Analysing the Online Image and Impression Management of World Leaders versus Belgian Politicians. A Comparison of Two Case Studies.*

One of the main advantages of the data collection method, YOLO, is that it can be easily set up and repeated on different datasets. This allows for instance to compare different geographical regions, as proposed in this third study. This chapter aims to identify the online candidate image that generates the most voter support. So, it compares the online engagement of the two most observed self-presentation styles on a candidate's Instagram: first, a business formal style and second, a casual, informal, personal presentation style. The theoretical framework is drawn from the impression management research by De Landtsheer in 2004 which suggested that perceived political suitability is bound to a formal presentation and garners the most voting support. However, the observation of a growing informality in the online branding strategy of politicians suggests that these conclusions might be challenged in

an online environment. Thus, there is a need for ongoing research on candidate image and visual rhetoric in a social media environment — and this study responds to this call.

This strategy of increasing privatization adheres to the informal character of social media in general, but Instagram in particular. The informal nature of Instagram encourages politicians to display and expose not only their official pictures but also to offer a 'sneak peek', a behind-the-scenes view of their personal lives. This should contribute to the perceived authenticity of the sender, which, in turn, should be beneficial for voters' support. This visual rhetoric strategy has been observed by politicians all over the world (for examples, see the introduction).

The first experiment focuses on 671 low-profile Belgian candidates, inspired by the original experiment by De Landtsheer (cfr. 1.6.1 for a detailed description) to control for pre-existing opinions or party affiliation. The set-up of this study, however, differs in several aspects from the original experiment due to its nature: the focus of this research is on *online* visual communication. So, for this research, it is suggested that online engagement (the likes and comments that accompany a candidate's post) is a meaningful factor to measure voter support. The original experiment used a questionnaire to measure perceived political suitability. This data collection will be used in the final chapter where the same questions were distributed via an online survey and online engagement was added to the questionnaire.

The first experiment was then repeated on a selection of high-profile 423 world leaders (see annex in chapter 4 for the full list). So, in total, the entire Instagram profile of 1094 candidates was analysed. This large dataset is an essential difference from the original experiment.

Since this is about online candidate image, there is no such thing as country boundaries. International leaders, like the US president, have followers from all over the world. So, the pictures they share become part of an online visual rhetoric. Thus, it is of interest to test the validity of the first experiment's conclusions on high-profile candidates. Interestingly, the results from both experiments were equal: a formal image resonates best with the voter, regardless of their age, gender, social media use, education, or ethnicity. Since these results corroborate with the research of De Landtsheer and De Vries (2008), it can be argued that political communication thrives on different dynamics than commercial marketing and communication. The conclusions of this research suggest the existence of a specific stereotype in voters' minds for how a politician should look like.

1.7.2.4 *Judging a Book by its Cover. Political Impression Management on Instagram: Privatization and voter engagement*

The last chapter of this thesis looks at a quantitative study of voters' evaluation of self-presentation styles. This study uses an online survey, like the questionnaire by De Landtsheer's experiment but supplemented with questions measuring online liking intention (see full questionnaire in the annex, chapter 5). Results corroborated with previous experiments confirming a politician with a formal style still receives the highest support amongst respondents across the world, despite increasingly observed privatization. This corresponds to the traditional media era, and therefore, one might conclude that social media has not affected the perception of political suitability. Yet,

it is suggested that the problem lies with the politicians: they lack understanding of the voters' wants and needs, a gap that is filled by this research.

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Hoofdstuk 2

To Tweet or not to Tweet? Do Tweeting Politicians Perform Better at the Ballot Box? An analysis of Twitter Use During the Belgian National Elections in 2014

Chapter published in: *International Journal of Politics, Culture and Socialization,* 1-2, 2017, *107-124.*

Abstract

Social media, and Twitter in particular, are playing an increasing role in the day-to-day activities of politicians (Weber Shandwick, 2014). Before the digital revolution, the relationship between the politician and the voter was mediated by journalists and broadcast media. In contrast to traditional media, social media such as Twitter is presumed to enable politicians to engage directly with the electorate (Kruikemeier et al., 2015). In the last decade, there was a growing interest in the role of social media in election campaigns, triggered by Barack Obama's victory in the 2008 U.S. presidential election and more recently, by Donald Trump's triumph in 2016 (Rodriguez-Andres, 2018). This paper examines three main questions: First, who are the politicians that use Twitter for campaigning purposes and what variables can predict who uses Twitter? Second, when do they use it and how frequently? And third: do tweeting politicians perform better at the ballot box? The main findings reveal that a Flemish candidate has a higher probability (18.7%) of being present on Twitter compared to a candidate from the French community. Another important finding is that there is no significant association between the number of tweets and the number of preferential votes, but there is a trend towards significance for the Flemish politicians.

Keywords: Twitter, social media, elections, Belgium, political communication

2.1 Introduction

Over the past decade, the modernization of politics has encouraged the use of social media in the context of perception politics and political impression management (De Landtsheer et al., 2008). Political parties and candidates increasingly use the possibilities of social media in general, and Twitter in particular, to interact with the public (Vergeer et al., 2013; Weber Shandwick, 2014). Social media in general is extremely useful for self-promotion directly to the public without any intervention of the media not only because of their easy accessibility but also because of their direct and interactive character. Through these channels, politicians can easily engage with the voter or the media (Kruikemeier et al., 2014).

Thus, a well-thought-out combination of social media platforms, such as Twitter, Facebook, Instagram, and YouTube, has become an essential aspect of the campaign repertoire (Jacobs & Spierings, 2016). However, the strategy behind the use of digital tools appears to be building on case-by-case findings rather than consistent theory formation. Consequently, there is a growing need for knowledge: therefore, questions related to Twitter's role in election campaigns have been studied extensively in recent years by researchers from various fields such as political marketing, political communication, or computer science. A clear majority of the existing research is focused on the U.S. (Adams & McCorkindale, 2013; Aharony, 2012; Chi & Yang, 2011; Christensen, 2013; Conway et al. 2013; Golbeck et al. 2010; Hemphill et al., 2013; Hong, 2013; Kreiss, 2016; Lassen & Brown, 2011; Rodriguez-Andres, 2018; Straus et al., 2013; Zhang et al., 2013) and the United Kingdom (Adi et al., 2014; Aharony, 2012; Baxter & Marcella, 2012; Graham et al., 2014; Lilleker and Jackson, 2010; Margaretten & Gaber, 2014). Yet, this does not mean that there is not a wealth of information available for other countries across the globe (Aharony, 2012; Ahmed & Skoric, 2014; Amirullah et al., 2013; Bruns & Highfield, 2013; Enli & Skogerbø, 2013; Gilmore, 2012; Graham et al., 2014; Hsu & Park, 2012; Kruikemeier, 2014; Larsson & Kalsnes, 2014; Larsson & Moe, 2012; Lee & Oh, 2012; Small, 2011; Vaccari et al., 2013; Vergeer & Hermans, 2013; Vergeer et al., 2011; Vergeer et al. 2013; Verweij, 2012). However, in the few cases in which Belgium has been used as a case study for Twitter, the authors focus on a different topic than the present article namely a network analysis of the conversation patterns on Twitter (D'Heer & Verdeghem, 2014). The present study seeks to fill that gap and uses data from both the Flemish and French-speaking parts of the country.

Many of these recent studies have focused on three different topics. Firstly, the research looks at the kind of parties and candidates that tend to adopt Twitter. Second, there is an extensive amount of literature available that addresses questions on how parties and candidates use Twitter by analysing technical features, such as the use of messages or retweets or a content analysis of the tweets. The third group of research contains effect studies, trying to understand the effects of Twitter on users who follow them. This article examines issues relating to the first and the third group of studies by answering the following question: Do tweeting politicians perform better at the ballot box?

2.2 Theoretical Framework

In recent years, social media has become an essential facet of political campaigning with numerous studies being conducted on the topic (Agranodd & Tabin, 2011; Jacobs & Spierings, 2016). Only a few studies examine the underlying online communication strategies of politicians during campaign periods (Jackson & Lilleker, 2011). It is essential to get a better understanding of these different tactics because the strategy has been proven crucial (Graham et al., 2014). We need a better understanding of how social media is included in election campaigns around the world. Previous research argued that politicians who had a website received a significantly higher number of votes compared to those without a website (D'Alessio, 1997). Furthermore, several authors have observed an association between cyber-campaigning and the number of votes a candidate receives (Gibson & McAllister, 2011; Hansen, 2014; Koc-Michalska et al., 2014). Some studies even found a moderate but positive effect of Twitter use on preferential votes (Jacobs & Spierings, 2014; Spierings & Jacobs, 2014; Kruikemeier, 2014; Kruikemeier et al., 2015). Notwithstanding other authors, such as Park and Perry (2008), are rather sceptical about a potential voter bonus. They are convinced that online campaigning will reach people who are already engaged in politics and has the potential to promote other forms of political engagement like money donations, but this will result in additional votes. Therefore, it is argued that if a significant difference were to be found, it would be small (Kruikemeier et al., 2015).

2.2.1 Social presence theory

Due to its interactive character, Twitter facilitates two-way conversations between the candidate and their followers, which resembles features of offline interpersonal communication. Via these personal and interactive messages, the candidate appears to be closer to the reader and is perceived by the voter as more 'present'. This interactive and personal use of messages by the candidate could lead to a feeling of closeness, an enhanced positive feeling towards the candidate from the voter followed by an increase in political involvement. The 'social presence theory' postulates that the 'social presence' of a politician, the feeling of closeness, could result in an 55increased intention to vote for the respective candidate. Hence, politicians would benefit significantly when present on social media (Kruikemeier et al., 2015; Lee & Oh, 2012; Lee & Shin, 2012). However, being present online is not sufficient: the frequency of tweets (Spierings & Jacobs, 2014) and the level of personalized interaction with followers are essential in order to generate a small but significant effect on preferential votes (Kruikemeier et al., 2013). Therefore, Spierings & Jacobs (2014) conclude that politicians who do not update their social media accounts, also referred to as 'social zombies', do not generate any additional votes.

2.2.2 Who uses Twitter and when?

Several studies have examined what background features can predict Twitter use of political parties and candidates. These features will help to answer the second research question: What variables can predict Twitter use and who uses it today?

Surprisingly, the general findings are quite consistent across various countries and election cycles. In general, the variables that might predict higher Twitter use are incumbency, media attention, age, gender, and party ideology. The overall conclusion is that candidates of well-established major parties, incumbent parties, and those with high budgets are more likely to include Twitter in their strategy (Jungherr, 2016). Additionally, it has been observed that populist parties use Twitter less often than non-populist parties (Ahmed & Skoric, 2014; Amirullah et al., 2013; Evans et al., 2014; Gilmore, 2012; Peterson, 2012; Vergeer & Hermans, 2013). Previous studies evaluating the impact of gender observed inconsistent results: some studies find male candidates to be more likely to use Twitter (Graham et al., 2014) while other studies conclude that women are more likely to use Twitter (Gilmore, 2012; Hemphill et al. 2013). Young politicians are more drawn to the medium than old politicians; Twitter is especially popular within the 35–54-year-old age group (Jackson & Lilleker, 2011; Larsson & Moe, 2013; Larsson & Kalsnes, 2014).

Twitter is often used as a channel to broadcast short and powerful quotes, 'soundbites' (De Landstheer et al., 2008) triggered by public events, such as elections. What better way than to use a 280-character message to express an opinion that can be easily shared with the public without journalists intervening (Kruikemeier et al., 2015)? Therefore, we expect to see an increase in the number of tweets in the days before the elections, peaking on 25 May (election day) and 12 October (government formation)

Drawing on the theoretical framework explained above, this article will focus on six distinct hypotheses:

1. Merely having a Twitter account is not sufficient to generate additional preferential votes.
2. Actively tweeting politicians have more preferential votes than politicians who are inactive.
3. Politicians between 35 and 55 years are more likely to have a Twitter account compared to those 20–35 years old and 55–80 years old.
4. Politicians representing major parties are more likely to have a Twitter account than politicians from small parties.
5. Politicians from non-populist parties will more likely have a Twitter account than politicians from populist parties.
6. Tweet frequency will peak on election day, 25 May, and on the day the government forms, 12 October.

2.3 Research design

2.3.1 Federal elections in Belgium

Based on the models of media and politics distinguished by Hallin & Mancini (2004), Belgium represents a democratic corporatist model. Without elaborating extensively on this theory, the features of the respective model described by the authors are media autonomy and journalistic professionalization, early development of mass circulation press, and strong public broadcasting. In the present article, both the Flemish and Walloon regions are taken into consideration, which enables the results

between both regions to be compared. Due to Belgium's multi-party system and the existence of an electoral threshold, coalition governments must be formed and small parties (below 5%) are disregarded. In Belgium, there is compulsory voting: in the Flemish community, voters are restricted to voting for Flemish parties and vice versa in Wallonia.

For this study, the 12 parties of the 2010 government have been included: PvdA (Flemish) as the only populist party on the far left, Groen (Flemish) and Ecolo (French) on the left, SPA (Flemish) and PS (French) are centre-left parties, CD&V (Flemish) and CdH (French) are centre parties, Open VLD (Flemish) and MR are centre-right parties, NVA (Flemish) and FDF (French) are nationalist right-wing parties, and Vlaams Belang is the populist party on the far right for the Flemish community. Incumbent parties in the present study are the Catholic parties CD&V and CDH, the Socialist parties SPA and PS and the liberal parties MR and Open Vld. Despite their electoral success in 2010, N-VA and green parties Ecolo and Groen held the challenger position for the 2014 elections.

In terms of the internet landscape, Belgium makes an ideal case study; in 2014, 84% of the households in Belgium had at least one computer and 83% had an internet connection. The majority of the households (83%) use the internet regularly, which is considerably higher than the rest of the EU (75%). One of the main activities on the internet is social media such as Twitter, Facebook, MySpace, Skyrock, and Netlog (FOD Economie, 2015).

2.4 Data Collection

The Twitter Application Program Interface (Hemphill et al., 2013) allows users to capture tweets containing a certain keyword or hashtag using a free or paying scraping service. For the present study, a free tool called Snapbird was used, in combination with a manual check. The combination of automatic and manual data collection reduces the chance of overlooking any tweets since scraping tools are unlikely to deliver a comprehensive list of tweets. The sample for the present research is the result of a systematic selection of the top two political candidates of each party that had obtained at least one seat in parliament in the 2010 elections. Because of this method, gender is matched for each party because every party is obliged by law to have a difference in gender for the top two candidates since 2002 (Instituut voor de gelijkheid van vrouwen en mannen, 2005).

2.4.1 Timing

Following the procedure described above, the tweets of 146 candidates and 12 different parties were collected over a period of 28 weeks: the start date was 8 weeks before election day on 25 May 2014 until the government was formed on 12 October 2014. This resulted in a total of 36,319 tweets. The respective sample of candidates consists of 83 Flemish candidates representing 7 Flemish parties and 62 Walloon candidates representing 5 Walloon parties.

2.4.2 Data

In total, 13 variables have been mapped for each individual candidate: gender, age on 31 December 2014, grouped according to age in 4 cohorts from 25 to 80 years old, ethnicity (3 different labels for Belgian, Asian, or African origin), party number (labelled from 1 to 12 from left to right wing), media attention (N = amount of mentions of politicians in the media), incumbency (Yes = 1, No = 0), having a Twitter account (yes = 1, no = 0), region (Flemish community = 1, French community = '2' for Wallonia and Brussels-Capital Region combined), province (11 provinces in Belgium), level of education (5 labels from high school to PhD) and the number of tweets. The dependent variable is 'number of preferential votes' (Appendix 1).

The data were collected on the personal website of the respective candidate or the personal profile on the parties' websites. In addition to these websites, their personal social media accounts are a useful source of information on variables such as education level, age, or ethnicity. The candidate was labelled as '1' for having a Twitter account with publicly available tweets. In some rare cases, the handle was kept private, and these candidates were labelled as '0' in the variable 'having a Twitter handle yes or no' since they only use it for private communication and not as a tool in their communication strategy.

To guarantee the authenticity of Twitter accounts, Twitter has launched a Verified Account Program since 2009, which is designed to establish the authenticity of well-known accounts. This does not suggest that accounts without the 'Verified Account' badge are fake since this program is not widespread. Nevertheless, careful attention was given to the authenticity of Twitter accounts[1]. Candidate lists and electoral outcomes for past elections are publicly available on the government's website (FOD Binnenlandse zaken, 2014a; FOD Binnenlandse Zaken 2014b). The variable 'media attention' is defined as the number of mentions of the candidate's name on Gopress, an online monitoring system of print, online, and social media in Belgium. The factor 'Education' was labelled as 'unknown' when candidates did not make the information publicly available.

2.4.3 Method

Statistical analysis was performed using SPSS software. For the association between background features and Twitter use, logistic regression models were utilised. Significance levels were set at the 5% level (p = 0.05). A univariate analysis was applied to the data to answer the first hypothesis with the variable 'the number of votes' as a dependent variable and 'having a Twitter account yes/no' as the independent variable while controlling for incumbency, gender, age group, education, media attention, and party. The data for the variables, 'number of votes' and 'number of tweets,' were normalized and a log for both variables was transformed into 'ln votes' and 'ln tweets' respectively.

[1] Since the time of writing of this article, the verification process has changed. More information: https://help.twitter.com/en/managing-your-account/about-twitter-verified-accounts

2.5 Results

In this section, the results will be discussed. First, on a descriptive level, the results give us insights into who is active on Twitter and when; followed by the results from a multi-regression analysis that tests whether the association between Twitter and preferential votes is significant.

2.5.1 Who tweets and when?

In total, 36,319 tweets have been captured in almost 7 months from 146 individual candidates. Within our sample, 70.5% have an active Twitter account. However, Twitter was much more popular in Flanders than in Wallonia: 81% of the Flemish candidates had a Twitter account, versus 56.5% of the French politicians (for Wallonia and Brussels Capital Region together). As explained, gender has been matched by selecting the top 2 candidates for each party: exactly 50% are female and 50% are male. The difference between male and female candidates is 17.9%: 79.5% of the male candidates had a Twitter account versus 61.6% of the female candidates.

The impact of party size was not significant. CDH, a major party and FDF, a small party, had the least candidates with a Twitter account (respectively 33.3% and 42.9%). Groen, CD&V and Open VLD had the most candidates with a Twitter account (91.7%). From NVA, the biggest party in the country, 83.3% of candidates were active on Twitter. The left-right position of political parties within the Belgian political spectrum did not have any significant impact on Twitter behaviour. No clear pattern could be observed: politicians from the Flemish left party PvdA were not very active on Twitter: only 58.3% had a Twitter account whilst 83.3% of politicians from the extreme right party had 8.3% a Twitter account. Surprisingly, only 11.7% of the incumbent candidates did not have a Twitter account versus the non-incumbents, 32% of whom are not active on Twitter. Twitter was very popular among the younger age groups: 88.2% of the 20–35-year-old candidates had a Twitter account, followed by 73.2% of the 35–50-year-old candidates. Only 25% of the 66–80-year-old candidates had a Twitter account.

What stands out is that Flemish politicians were very active on Twitter compared to French-speaking politicians: the Flemish candidates were responsible for 68.9% of all tweets. Centre-right Flemish party Open VLD, closely followed by the FDF, had the most active tweeting politicians (respectively 14%, 5% and 14.4% of total tweets). CDH, a major Walloon party, had the least active politicians on Twitter; they only represented 0.1% of the tweets. What is striking about the figures in Table 1 is that there appears to be no clear pattern in terms of size, ideology, or party size in Belgium: no parallel could be distinguished between Twitter activity of comparable parties in the Flemish region and the Walloon region. The only similarity between the two was that the right-wing parties were reasonably active on Twitter (Cfr. Table 1) and that centre-left parties Spa and PS produced a similar number of tweets.

To conclude, the 'number of tweets' was counted for all candidates daily to gain insights into *when* politicians tweet the most. Figure 1 shows a significant peak in the number of tweets starting five weeks before the elections. It reaches its maximum in week 21 on election day, 25 May. These data suggest that politicians try to reach out to their potential voters right before the elections but significantly diminish their efforts immediately after the votes are cast on 25 May. Figure 1 illustrates a steep

decline in Twitter activity after election day. There was a second peak on 12 October 2014, the day the government was formed.

2.5.2 The interaction with personal features

To study the association between personal features and having a Twitter account, logistic regression models were fitted. Across all models, having a Twitter account was entered as a binary outcome variable. The personal characteristics were entered as categorical explanatory variables.

First, we tested for an association between region (the Flemish community and the French-speaking community) and having a Twitter account (yes or no). This showed a highly significant association ($p = 0.001$), with the French politicians being significantly less likely to have a Twitter account compared to the Flemish politicians. The log odds of having a Twitter account is 1.187 (st. error 0.378), lower in French politicians compared to Flemish politicians (odds ratio = 0.305) (Table 2). Due to this significant difference, all subsequent analyses were carried out separately on French and Flemish individuals.

2.5.3 The impact of Twitter on preferential votes

With respect to the first hypothesis, the association between 'having a Twitter account' and 'number of preferential votes' was tested. Therefore, multiple linear regression models were fitted with the logarithm of the number of votes as a dependent variable. The independent variables — gender, party, incumbency, education, ethnicity, media attention, and age group — were entered. Separate models were fitted for the French and Flemish politicians. The initial models were simplified using stepwise backward elimination. In both language groups, the final model in Table 3 only included party and media attention as significant predictors of the number of votes. Having a Twitter account had a significant effect in none of the language groups, after correcting for these two latter variables ($p = 0.778$ in the Flemish community and $p = 0.121$ in the French community) (Table 3).

The next step was to test the association between the number of tweets and the number of votes with respect to the second hypothesis which posits that the more a candidate tweets, the more preferential votes they receive. Therefore, the previous linear regression analyses were repeated but included the logarithm (number of tweets + 1) as the explanatory variable instead of the binary variable (having a Twitter account or not). People without a Twitter account were included in this analysis, with their number of tweets set to zero. In line with the previous analysis, the resulting model in Table 4 showed the significant effects of party and media attention. The number of tweets was not significant in the French community ($p = 0.59$) but showed a trend towards significance in the Flemish community ($p = 0.087$) (Table 4).

2.5.4 Personal variables that predict Twitter use

The following step tested the presumed association between having a Twitter account and party, gender, media attention, incumbency, ethnicity, and age category. A significant association in neither of the language groups could be found for any of

these variables. Party, age group, gender, media attention, incumbency, ethnicity, or education were not valid predictors for a candidate's use of Twitter. However, when a politician is running a campaign in the Flemish community there is a higher probability that they will use Twitter as a strategic communication tool.

2.6 Discussion

The insights gained from this study provide a deeper understanding of politicians' online communication strategies of. The reason why there is no significant relationship between Twitter and preferential votes can be found within the network of the politician's followers: the voters that are following a candidate, probably already like them and will not generate a voter bonus. Jacobs & Spierings (2014) argued that relatively few people are active on Twitter in the Netherlands; this might be the case for Belgium as well. However, Twitter could be useful for its agenda-setting potential and to reach out directly to journalists. Political journalist Ivan De Vadder argues that Twitter has contributed to the disappearance of the press conference: nowadays, a politician's opinion is shared via a short tweet without talking to the journalists directly (Van Zandycke, 2017). However, the power of Twitter, and social media in general, should not be overrated, as traditional media are still very powerful within the communication mix (Rodrigues-Andres, 2018).

A major limitation of this study is that it is limited to quantitative analysis; a content analysis of the tweets to measure the level of interactivity of the communication on Twitter would add an interesting dimension. Only two-way conversations with the voter in an interactive and personalized manner could result in an increase in preferential votes (Kruikemeier et al., 2015). However, the data on the frequency and timing of the tweets suggests that, even if there was a dialogue between the politician and voter going on, it ended abruptly after election day: Figure 1 does not mirror an ongoing conversation.

With the upcoming local elections in 2018 and the national elections in 2019 in Belgium, the questions — whether social media will be omnipresent and whether the effects of using Twitter will peak — remain. As the digital revolution is a very rapid one, it remains to be seen what platform politicians will embrace to stand out from the crowd and win extra votes.

2.7 Conclusion

The aim of this article was to assess whether tweeting politicians perform better at the ballot box. With respect to the first hypothesis, this study confirmed that merely having a Twitter account did not generate additional preferential votes. In none of the language groups did having a Twitter account had a significant effect ($p = 0.778$ in Flanders and $p = 0.121$ in the French community) after correcting for media attention and party (Table 3). These findings complement those of earlier studies: so-called 'social zombies', meaning those who are present online but not actively tweeting, do not perform better at the ballot box (Jacobs & Spierings, 2014).

Previous research found a small but positive effect between the number of tweets and the number of preferential votes (Jacobs & Spierings, 2014; Kruikemeier et

al., 2015). Since the voter can reach out directly to the politician when they are active on Twitter, a feeling of closeness will increase the voting intention for the politician. Based on this so-called social presence theory, the second hypothesis suggested that the number of tweets would be associated with the number of preferential votes. However, this study has been unable to demonstrate a significant association between the number of tweets and the number of preferential votes. The relationship between the number of tweets and preferential votes was not significant in the French community ($p = 0.59$) but showed a trend towards significance in the Flemish community ($p = 0.087$) (Table 4). The second hypothesis was, therefore, rejected.

In our descriptive analysis, we observed that Twitter is a very popular medium among the younger age groups: 882% of 20–35-year-olds have a Twitter account, followed by 73.2% of the 35–50-year-olds. Only 25% of 66–80-year-olds have a Twitter account. These results further support the conclusions of previous studies that Twitter is more popular with younger politicians (Jackson & Lilleker, 2011; Larsson & Moe, 2013; Larsson & Kalsnes, 2014). However, there is no clear pattern in the Twitter activity of candidates of major parties across language borders (hypothesis 4): CDH, a major party, and FDF, a small party, have the least candidates with a Twitter account (respectively 33.3% and 42.9%); Groen, CD&V and Open VLD have the most candidates with a Twitter account (91.7%); 83.3% of the NVA, the largest party of the country, is active on Twitter. In addition, in terms of the position of parties on the left-right spectrum (hypothesis 5), no clear pattern was observed. On the one hand, the extreme left party PvdA was not very active on Twitter: only 58.3% of the party's politicians have a Twitter account whereas 83.3% of the extreme right Vlaams Belang were active on Twitter. The absence of a pattern of activity linked to the level of size or party ideology was confirmed by the statistical analysis to test what variables can predict Twitter use. Party, age group, gender, media attention, incumbency, ethnicity, and education were not valid predictors for a candidate's use of Twitter. However, the association between 'region' and Twitter use was strongly significant: when a politician is running a campaign in the Flemish community there is a higher probability (18.7%) that they will use Twitter as a strategic communication tool than a French-speaking candidate (Table 2).

The last hypothesis predicts that there was an increase in the frequency and number of tweets on events. We observed a peak in number of tweets during the two most important events: the day of the elections (25 May 2014) and a second peak, although lower, on the day the government was formed (12 October 2014) (see Figure 1). Therefore, this last hypothesis was confirmed.

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Appendices

Appendix 1: Coding scheme variables

Party number	Scaled from left wing to right wing:
	PvdA=1 Groen=2 Ecolo=3 SP.a=4 PS=5
	CD&V=6 CDH=7 OpenVLD=8 MR=9
	NVA=10 FDF (Défi)=11 Vlaams Belang=12
Education	Ordinal scale of 5 levels: high school=1 Bachelor=2
	Master=3 PhD =4 MBA=5 unknown=6
Region	Flemish speaking community= 1, French speaking
	community (Wallonia and Brussels-Capital Region
	combined) = 2
Province	Antwerp=1 East Flanders=2 West Flanders=3 Limburg=4
	Flemish Brabant=5 Brussels=6 Walloon Brabant 7 Hainaut=
	8 Liège=9 Luxembourg=10 Namur=11
Gender	Binary variable, Female=1 Male =0
Age	Candidate's age on 31/12/2014
Age Group	Grouped cohorts: 20-35, 36-50, 51-65, 66-80
Ethnicity	Grouped: Belgium 0 Northern-African 1 Asian 2
Twitter Account	Binary scale: 0 = no active or public account, 1=active, public
	and valid account
Number of tweets	Nominal figure
Number of votes	Nominal figure
Incumbency	Binary scale: Incumbent =1, not incumbent =0
Media attention	N= number of articles with mentions of politicians' name in Gopress.

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		Ecolo	**PS**	**CDH**	**MR**		**FDF**	Total French community
French		N= 1499, %4,1	N= 1814, %4,9	N= 473 %0,1	N= 2261 %6,2		N=5238 %14,4	N= 11 285 31,1%
	PvdA	**Groen**	**SP.A**	**CD&V**	**Open VLD**	**NVA**	**Vlaams Belang**	Total Flemish community
Flemish	N= 1810 %4,9	N= 4341 %11,9	N= 1059 %2,9	N= 5032 %13,8	N= 5250 %14,5	N= 4410 %12,1	N= 3132 %8,6	N= 25034 68,9%
Belgium								N= 36319

Table 1. Number of tweets by candidates per party ordered from left to right wing

REGION (Flemish of French) AS PREDICTOR FOR TWITTER ACCOUNT			
	B	Sig.	Exp(B)
TAAL	1	.002	.305
Constant	2 634	.000	13 934
a. Variable(s) entered on step 1: TAAL.			

Table 2. Region labelled as 'TAAL' as a predictor for Twitter use by a politician

Tests of Between-Subjects Effects	
Dependent Variable: LnVotes	
Source	Sig.
Partynumber	.005
Twitter	.778
Mediaattention	9.9E-7
Error	
Total	
Corrected Total	
French	
Source	Sig.
Party Number	3,4E -11
Twitter	.121
Mediaattention	4.0E-5
Error	
Total	
Corrected Total	
a. R Squared = .479 (Adjusted R Squared = .422)	
b. R Squared = .755 (Adjusted R Squared = .728)	

Table 3. Model for having Twitter (yes, no) and the number of preferential votes (LnVotes)

Tests of Between-Subjects Effects	
Dependent Variable: LnVotes	
Flemish	
Source	Sig.
Corrected Model	.000
Intercept	.000
Partynumber	.008
Mediaattention	.000
LnTweets	.087
Error	
Total	
Corrected Total	
French	
Corrected Model	.000
Intercept	.000
Partynumber	.000
Mediaattention	.000
LnTweets	.598
Error	
Total	
Corrected Total	
a. R Squared = .499 (Adjusted R Squared = .444)	
b. R Squared = .745 (Adjusted R Squared = .717)	

Table 4. Model for the number of tweets (LnTweets) and the number of preferential votes (LnVotes)

Week 21 = 25 May 2014 (election day); week 41 = 12 October 2014 (government formation)

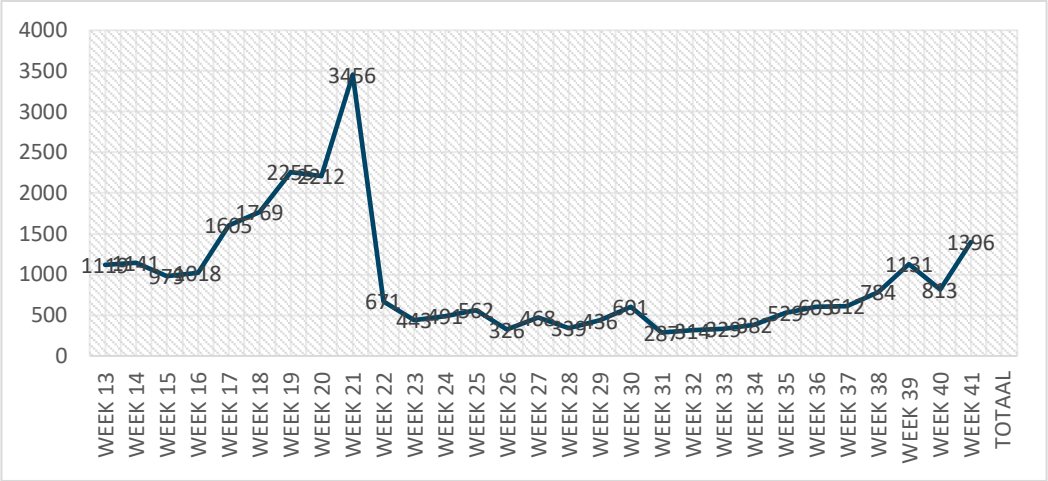

Figure 1. Total number of tweets per week

Hoofdstuk 3

Introduction of a Data Collection Method for Visual Analysis of Instagram Pictures

3.1 Introduction

Although political communication has always had a visual dimension, pictures remain understudied in political communication (Lilleker, 2019). According to Pauwels (2019), this may be due to the fact that despite the seemingly wide array of analytical tools — such as semiotics, discourse analysis, content analysis, framing analysis, iconography, and rhetoric — few scholars have attempted to develop a practical, all-compassing model for visual analysis. Consequently, many research questions are left unanswered. Moreover, on social media platforms, which are increasingly shifting away from text to visuals, a variety of visual imagery is used — including pictures, videos, and memes — which serve as powerful tools to convey political messages but also contribute to the complexity of analysis (Karlsen & Enjolras, 2016; Lilleker, Tenscher & Stetka, 2015; Muñoz & Towner, 2017).

The central research question of this thesis is focused on analysing which digital self-presentation styles (formal vs. casual) garner the most voter support and online engagement. So, a large number of pictures need to be visually analysed in order to label a picture as formal or casual. There are several methodological challenges such as the vastness of the data but also the non-numeric nature of the data. These challenges explain why until now, far too little attention has been given to the analysis of visual political communication on social media platforms. Therefore, the focus of the present chapter is the presentation of a novel method from the field of computer vision, which enables researchers to collect and analyse this kind of data systematically. Yet, it can be applied by anyone who wishes to extract statistical information from a dataset of images. Using Deep Neural Networks (DNN), we discuss one specific use case built on that module called the 'You Only Look Once' (YOLO) algorithm: a state-of-the-art, real-time object detection program (Redmon, Divvala, Girshick, & Farhadi, 2016). This algorithm is an improved one-stage algorithm, hence the name.

First, the concept of neural networks will be explained, followed by a further explanation of the chosen algorithm, YOLO. Next, we will discuss the challenges and describe the objectives that the data collection method must achieve. Lastly, the results will be discussed after testing the method, followed by a list of suggestions for future avenues of research.

3.2 What is a neural network?

A neural network is a network or circuit of biological neurons. An artificial neural network is composed of artificial neurons or nodes, used for artificial

intelligence. It is a computer system modelled on the human brain and nervous system (Picton, 1994; Wang, Zhao, & Mortier, 2022). So, artificial neural networks come from attempts by scientists to mimic how biological neural systems work (Wang, Zhao, & Mortier, 2022). The basic unit of a neural network is an 'artificial neuron', often simply called a 'neuron'. It mainly simulates the structure and characteristics of a biological neuron, receiving a group of input signals and generating outputs (Lei & Nandi, 2022). According to some authors, they were introduced in the 1950s (Lei & Nandi, 2022), others even believe it was as early as the 1940s (Wang, Zhao, & Mortier, 2022), and they have been developed ever since.

Essentially, a neural network is a pattern classifier. Recognizing something simple — for example, a cat in an image — is a trivial task for a human but still an active area of research in the computer vision field. As there are many variations to depict a cat, the neural network needs to recognize the different parts and classify the pattern as 'a cat' (Picton, 1994). Or, as argued by Picton (1994, p.2): 'Its function is to receive input patterns and produce a pattern on its output which is correct for that class'. Subsequently, parallel to how a human brain works, this pattern classification system can become 'smarter' through deep learning or recognizing a series of patterns. In particular, Deep Neural Networks (DNN) are able to achieve extraordinary performance on visual recognition tasks, matching or even exceeding human performance in some domains (Wang, Zhao, & Mortier, 2022). In this case, the training model is the COCO dataset, a pre-trained model that is capable of recognising 80 objects on a picture (see 3.7 for the full list).

3.3 Useful applications of neural networks

For the past few years, object detection methods have been increasingly introduced in our daily lives. For instance, self-driving vehicles would be impossible without object detection. Deep learning has obtained highly successful results, mainly in the realm of image classification, object detection, and language processing (Srivast, 2020). At present, neural networks have gained popularity in various fields and have achieved great success, especially in the field of engineering via infrared image technology (Wu, Li, & Zhou, 2021), speech recognition (Schwarz, Huemmer, Mas, & Kellerman, 2015; Yuan, 2022), surveillance cameras for industrial inspection (Weimer, Scholz-Reiter, & Shpitalni, 2016) and national defence (Lei & Nandi, 2022).

The majority of the available (big) data collection methods focus on text analysis. Text mining analyses have many useful practices including sentiment analyses on news articles, thus providing insights into the relationship between media coverage and voter outcome (Junque de Fortuny, De Smedt, Martens, & Daelemans, 2012). They are also a possible alternative for polls by linking Twitter mentions and voting results (De Pauw & Daelemans, 2014).

In this chapter, we explore their meaningfulness to the field of visual object analysis for social sciences.

3.4 Challenges for methodology

In order to understand voters' preferences in terms of candidate image, data needs to be collected on the user engagement (the likes and comments) with candidates' Instagram posts on one hand and on the picture's frame (formal or informal) on the other hand. These kinds of data are usually challenging to collect for three different reasons:

1. Vastness of the data
2. Technical features of the platform
3. Non-numeric format of the data

The first and second challenges are imposed by the platform itself: Instagram limits the systematic 'scraping' of data so it can only be done on a small scale. However, a large amount of data is needed to answer the research question. An additional requirement is that the set-up should be easily repeated in a timely manner to separate datasets so comparisons in patterns can be made between different regions or between high-profile and low-profile candidates (Chapter 4). Ideally, these comparisons will shed some light on the patterns of user engagement with the aforementioned self-presentation strategies. Or, as Pauwels (2019, p. 75) states:

> *Researching the visual aspects of its different actors, visual methods may disclose significant patterns in not only 'what' is depicted, but also the manner of depiction, aiming to link these observations to past or current social processes and normative structures.*

The second challenge is the platform. Often social media platforms, including Instagram and LinkedIn do not allow the systematic scraping of the data. Lastly, the third and last challenge is the readability of the data itself, which is non-numeric. Indeed, the present task goes one step further as it concerns the 'reading' of a vast number of pictures that are inherently unlabelled, unstructured, and non-numeric.

3.5 Introducing the method: 'You Only Look Once'

For any statistically significant model, a large amount of data is needed. There are several sources to draw upon for this information. We can roughly classify them into two categories. The first category consists of data that are inherently labelled. For example, meaningful numeric information or results from questionnaires both lend themselves to statistical modelling. The second type comes from more unstructured sources. In this case, we take existing information and extract those parts we can use for our analyses. The methods we describe below involve this extraction.

The data we use, which fits this second category, originates from social media platforms such as Instagram. These sources generate a large amount of unstructured and unlabelled information. Certain metrics can be extracted easily such as word counts and the number of likes or comments. Other more complex and often more interesting features cannot be extracted using these simple rules. Traditionally, the only remaining option would be a manual interpretation of the features, but this

would put a strict limit on the size of the dataset that can be used. It would also exclude a substantial amount of research involving social media. A manual analysis is certainly not a viable option for extracting data from the many thousands of Instagram posts we wish to analyse.

However, the size of the dataset is not the only issue when considering Instagram posts. The fact that we are dealing with images makes it significantly harder to automate the process. In the past, this meant certain research questions could not be answered. Questions regarding the influence of the content of images on the behaviour or response of the viewers could only be answered in a very limited way. In addition, when manual labelling is done, it is very hard to get results rapidly. To solve this problem, we can draw on the field of computer science. In the last few years, major improvements have been observed in the field of computer vision and object detection. Early versions of object detection technology, created for example Felzenszwalb et al. (2009), involved finding certain features on images that are easy to recognise first, for example, a wheel or a mouth. These features were then used to recognize more complex objects, such as a bicycle or a face. A few years later, large strides were made by using neural networks to solve part of the problem. Girshick et al. (2014) used these methods to find regions of interest in an image, areas that seem to contain single objects. These regions of interest were then classified into different objects with algorithms similar to, at the time, existing methods. Recently, another major improvement was made by using a single neural network for region detection and region classification. This algorithm was called the 'You Only Look Once' algorithm, a state-of-the-art, real-time object detection program developed by Redmon, Divvala, Girshick, & Farhadi (2016). Its name highlights its key difference from earlier methods that used two-stage procedures (region detection and region classification). Since then, it has undergone several iterations, the latest being v8 in January 2023 (Terven & Cordova-Esperaza, 2023).

The authors of this method have released a pre-trained model. This model was based on a known dataset, called COCO, developed by Lin et al. (2014), which is often used in the field of computer vision. The features it can detect in images stem from the features that are annotated in this dataset. We use this pre-trained model to help us obtain statistically interesting information from our Instagram dataset.

3.5.1 Useful applications of YOLO in particular

Since YOLO is a popular object detection model known for its speed and accuracy, it has successfully been applied in various fields. Recent examples can be found in the field of natural sciences where the ripeness of tomatoes has been determined via object detection, maintaining the consistent quality of one of the most popular crops in the world (see Appe, Arulselvi, & Balaji, 2023). Another example can be found in industrial manufacturing where YOLO enables surface defect detection of architectural buildings, assessing their compatibility with industrial standards (Hussain, 2023). Another entirely different application for YOLO is the classification of protozoa, essential in establishing sustainable ecosystems. Traditionally, this would be performed by time-consuming molecular biological methods only able to be done by an experienced laboratory operator. By using YOLO, the classification accuracy and speed have substantially improved (Yang, Shen, Shen, & Shi, 2023). In the field of

psychology, a software model using YOLO has demonstrated its effectiveness in reducing procrastination, useful for students and researchers facing academic deadlines. The model helps complete a task by sending reminders and will notify the user not only via text but also verbally (Jaybhaye, 2023). These are just a few examples of YOLO's applicability.

The benefits of YOLO, instead of other object detection methods, were reinforced by Srivast (2020) who compared YOLO to other existing algorithms. In his paper, YOLO was identified as the best option in terms of both timing and accuracy. Moreover, it performs well not only for pictures but also for video posts. So, YOLO showed the best overall performance when compared to other existing methods, including the latest and most advanced object detection algorithms (Srivast, 2020). For a more detailed explanation and comparison of the alternatives to YOLO, see Srivast (2020).

Despite its proven accuracy and speed, YOLO has been scarcely used in the field of social sciences. Thus, this thesis aims to demonstrate its usability for analysing visuals on social media.

3.5.2 Objectives of the methodology

To sum up, there are two main objectives to evaluate the success of the presented method:

- Objective 1. Download a vast amount of Instagram images in a timely, systematic way as well as the metrics on user engagement for these pictures (= receiver's end).
- Objective 2. A model that detects a list of useful items in a systematic, accurate way on these Instagram pictures in order to categorize them to a formal or an informal presentation style (= sender's end).

3.5.3 The steps of the method

A significant amount of data and images needs to be gathered in order to answer the research question. In the next chapter, the dataset consists of 302,326 Instagram posts of both Belgian and international leaders. Therefore, an automated approach is a necessity. Due to the fast development time, the Python programming language was chosen. Because of the many available libraries, a lot of tasks can be done using existing code. For the task at hand, there are two main steps:

1. The first step is to gather all the required data from Instagram. An existing library can be modified to fit this purpose (Instagram Scraper Library, n.d.). We repurpose it to give us an image and the required data for each post. The extra data consists of the number of likes, comments, the length of the text added by the poster, hashtags, and the content type (video or photo). This way, a total of 53,000 posts were gathered: 48,000 posts for the 575 candidates' accounts and an additional 5,000 posts for the 96 party handles.
2. The second step is harder to automate. It involves recognizing what is on the image, a trivial task for a human but still an active area of research in the computer vision field.

The different steps of the proposed methodology have been visualized in Figure 3.1.

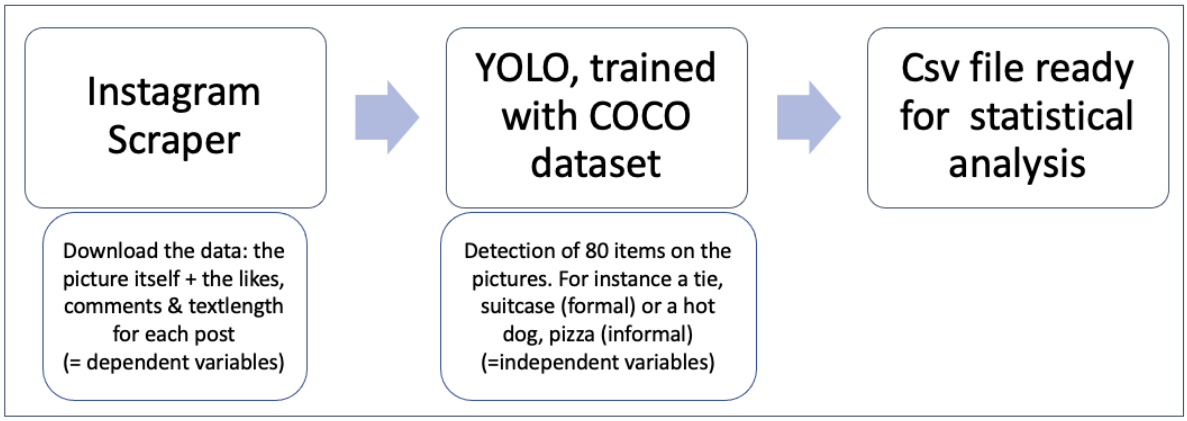

Figure 3.1 The different steps for visual object analysis with YOLO.

In the next chapter (chapter 4), data needs to be collected and compared for two entirely different and quite large datasets of Instagram accounts. In total, over 302,000 pictures need to be analysed. Hence, the system we use needs to be robust in different contexts. For example, in our case an image might be edited, or certain filters might be applied. The authors of the chosen method show that both on paintings and real-life images accuracy is good, indicating that these types of input will not drastically affect results.

First, a manual cross-check with the results of YOLO for a small sample of 50 posts was conducted. This sample consisted of the first 50 posts of the dataset. So, these were the first 50 random posts that were collected with the Instagram scraper. For each of these 50 posts, an independent manual check of the items from the lists (a tie, a suit, a table, etc. cfr. 3.7) was executed by both researchers and compared these items with the model's output list. Since the outcome of the model was equal to the analysis of both researchers , they proceeded with the chosen algorithm for the total dataset.

However, it should be noted that no system is perfect so mistakes will always exist. Due to its design, there are two areas where this object detection system often makes mistakes in our case. When an image contains very small objects, they tend to be missed. Further, a large group of similar objects (for instance a group of people or animals) sometimes gets detected as one single object. Because of this, the number of people in a group will generally be reported as less than in reality.

3.6 Results

Neural networks are a popular technique for analysing image data. However, one of the biggest disadvantages is that it can be hard to create a model. This model contains all the information the computer uses to recognize objects. Large amounts of example data (i.e., images with objects annotated by people) are needed to create it, which is time-consuming. The creators of the YOLO method have provided a model online that is already trained and configured. This pretrained model is based on the COCO dataset (Lin et al., 2014) and can be downloaded (see, Pretrained Object

Detection Model, 2018). This model can recognize 80 different objects. It works with the open SCV (Open-Source Computer Vision) library, which can be used in Python. The code we wrote is available online (see: Pinxteren, n.d.). It consists of the library and a script that can be used with an Instagram handle. The images will then be downloaded and analysed. A file is then generated containing all the information on engagement and the 80 different objects gathered for the requested Instagram posts. A detailed description of how to use the application is given on the same file. This processing took 8 hours on a server with a 32-core CPU. During this time, no manual input is needed.

The list of 80 items initially recorded by the chosen method in the posts is[2]:

Person, bicycle, car, motorbike, airplane, bus, train, truck, boat, traffic light, fire hydrant, stop sign, parking meter, bench, bird, cat, dog, horse, sheep, cow, elephant, bear, zebra, giraffe, backpack, umbrella, handbag, tie, suitcase, frisbee, skis, snowboard, sports ball, kite, baseball bat, baseball glove, skateboard, surfboard, tennis racket, bottle, wine glass, cup, fork, knife, spoon, bowl, banana, apple, sandwich, orange, broccoli, carrot, hot dog, pizza, donut, cake, chair, sofa, potted plant, bed, dining table, toilet, tv monitor, laptop, mouse, remote, keyboard, cell phone, microwave, oven, toaster, sink, refrigerator, book, clock, vase, scissors, teddy bear, hair drier, and toothbrush.

From this list, a hot dog, pizza, or a doughnut, for instance, suggests a casual setting such as a family lunch or dinner with friends. A laptop, tie, or suitcase, on the other hand, suggests a professional context. In the next chapter, this list of 80 items will be recategorized in SPSS in order to label a picture as 'formal' or 'informal' (cfr 4.2.8.1) and analyse engagement with one of these items present in the pictures.

3.7 Conclusion

The present chapter was concerned with the introduction of a novel methodology from the field of computer vision, which enables researchers to collect data in a systematic way. The main purpose was to assess the usefulness of the YOLO method for the visual analysis of Instagram posts. It can be concluded that the chosen method was successful on both proposed objectives:

[2] Other models that are also based on the COCO dataset can show similarities to the list of objects our model can detect. Such as the model used by Jason Brownlee (2018) in 'How to Use Mask R-CNN in Keras for Object Detection in Photographs, Deep Learning for Computer Vision, Machine Learning Mastery'. Link: https://eur03.safelinks.protection.outlook.com/?url = https%3A%2F%2Fmachinelearningmastery.com%2Fhow-to-perform-object-detection-in-photographs-with-mask-r-cnn-in-keras%2F, & amp;data = 01%7C01%7Cchristopher.pich%40ntu.ac.uk%7C086ade7e14ed42e00b5108d7643875c2%7C8acbc2c5c8ed42c78169ba438a0dbe2f%7C0, & amp;sdata = CGi8LefXXNELbQwGE67pk8P4JBAjIZYUe%2B1TVM%2BKVXA%3D, & amp;reserved = 0

- Instagram Scraper library (n.d.) is successfully repurposed to download a vast amount of Instagram images in a timely, systematic way as well as provide the respective metrics on user engagement.
- The YOLO algorithm is a systematic and accurate object detection model for Instagram pictures

Although YOLO is rarely used by social scientists, it has a proven track record of accuracy and speed in various fields (for some recent examples, see 3.5.1) and is an excellent tool that should be used by social science researchers.

The basis of these methods, automated object detection, can be applied by anyone who wishes to extract statistical information from a dataset of images. The size of these datasets is only limited by the amount of time or computational resources available, which makes the YOLO algorithm extremely suitable for big data. Yet, it is limited in the number of specific objects that can be detected. The list is limited to the aforementioned 80 objects; at this stage, data collection on gender, emotions, or age group, for instance, is not yet possible. However, it will be possible in the near future to go into more detail as the deep learning algorithm behind the Python script is becoming smarter. As the COCO dataset is open source, researchers continue to contribute to improve its performance. Ideally, this study might inspire other scholars to engage in the effort to develop a more detailed visual analysis such as the recognition of specific leaders. However, a multi-disciplinary approach needs to be considered by social scientists when choosing this method since both the requisite software knowledge and the necessary hardware are usually to be found in the computer sciences department.

So, this methodology, which enables researchers to collect data in a systematic way, can be applied by anyone who wishes to extract statistical information from a dataset of images. One of the main advantages of the chosen method is that, once an experimental setup has been created, it can quickly be repeated on any dataset. Consequently, gathering and analysing the data is fairly straightforward: it can be done quickly and efficiently. This also makes it a suitable method for research on recent or time-sensitive data. Once an experimental setup has been created it can be quickly repeated on any dataset. This means the same experiment can be repeated in several ways. An analysis can be done several times as new data becomes available. Therefore, for example, historical changes in behaviour can be tracked. Because of the short time between the data being available and the analysis being done in this case, these changes become apparent quickly. Another interesting avenue for repeating experiments is to compare different contexts such as geographical areas or different social groups. Such a comparison of geographical areas and different profiles of politicians (well-known versus low-profile candidates) will be described in the next chapter. But first, the methodology will be described, next, the results, and lastly, the advantages and limitations of the developed data collection method. Suggestions for future research using the YOLO method, mainly within the field of social sciences, are indicated.

- Analysing the style of politicians belonging to different political parties including the extreme right and how this is tied to cultural differences.
- During election campaigns, this method can serve as an alternative to polls. The algorithm can learn to recognize the faces of specific politicians and based on the

number of mentions in combination with an analysis of online engagement including sentiment analysis of the accompanying comments, election outcome forecasts could be formulated.

- The relation between food and populist communication can be researched: how certain types of food appear in politicians' communication and what purpose they serve. A very well-known example of this is Donald Trump and how he liked to portray himself with or while eating fast food, specifically, hamburgers — the American classic.
- Compare users with different social statuses: differentiate large accounts with a substantial number of followers from small accounts and analyse/compare their content and voter engagement.
- Content analysis across platforms: Video and pictures can be extracted from Instagram, Facebook, and TikTok, for instance, and can be compared to one another in terms of impact and user engagement.
- Outside politics: This method could be used for (crisis) communication experts so alerts can be received when a specific person's picture has been posted in combination with specific (negative) text mentions.
- Issue ownership linked to gender: Whereas 'soft' topics such as healthcare or education are often attributed to female politicians, male politicians defend the hard topics. Using the YOLO method, how this is visualised in their online communication could be explored.
- Analysing facial expressions in political online communication.

In cases when YOLO would not be suitable, there are two solutions: the first possible solution is to find another model that has been pretrained. Some researchers make the models they create available. The second option is to create your own model, which detects exactly those objects that are required. A model can only be created if enough labelled data is available. Labelling could be done manually but this only moves the problem of manually processing the original data. However, describing in detail how a model can be created is outside the scope of this paper.

For the present research though, the available objects list is sufficient in order to label the pictures as a private or a formal presentation style. Consequently, gathering and analysing the data was fairly straightforward: it can be done quickly and efficiently. This makes it also a suitable method for research on recent or time-sensitive data. Once an experimental setup is created, it can quickly be repeated on any dataset.

Lastly, this method comes with a major limitation. Although we aimed to explain the different steps and concepts in a clear and practical way to ensure they can be easily understood by scholars with no computer science background, it is however recommended to have some pre-existing knowledge of programming to carry out the data collection. While how YOLO conducts visual object detection technically might appear enigmatic to social scientists, the technical explanation is outside the scope of this thesis. An elaborate description of how YOLO identifies images and how the different versions of YOLO have improved over time can be found in Terven & Cordova-Esperaza (2023). Moreover, the present analysis has been conducted on a supercomputer. This is highly recommended due to the vast dataset and the desire to accelerate data analysis. Admittedly, this type of computer is not usually standard

equipment. This limitation can be overcome by working together with a researcher from the computer sciences department, as proposed in this chapter.

So, moving on to the next chapter, the experiment will be repeated on two different datasets in terms of geography and profile: a sample of local, low-profile Flemish candidates compared to a sample of well-known world leaders. Based on this comparison, conclusions will be formulated on effective digital self-presentation strategies.

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Hoofdstuk 4

Making Sense of Political Images on Instagram: Analysing the Online Image and Impression Management of World Leaders versus Belgian Politicians. A Comparison of Two Case Studies.

Accepted for publication in: *Journal of Politics, Culture & Socialization*.

Abstract

For the past decade, informality seems to be playing an increasing role in the branding strategies of politicians around the world. Ongoing individualization and privatization have encouraged candidates to share personal pictures of themselves on social media platforms, highlighting the human side behind the leader. Although visuals are omnipresent in digital media, little is known about how people interact and engage with the presented content. Perception politics and impression management techniques can help to create a favourable public persona (Diedkova, De Landtsheer & De Vries, 2019) — in this case through an Instagram post — in a context of permanent and increasingly personalized campaigning (Larsson, 2016). Drawing on the perception politics management framework, which postulates that a more serious and formal presentation of a political candidate leads to higher support and an elevated perception of political suitability for candidates, it is assumed that the presence of formal attributes on a post has a positive effect on engagement. In order to explore voter's perception of political suitability, a comprehensive visual analysis was repeated within two different geographical contexts: 1) Belgian politicians and parties and 2) world leaders. This resulted in 302,326 Instagram posts from 1094 leaders — 423 world leaders and 671 Belgian accounts — aiming to identify

which images received higher levels of engagement.
Data was collected via a state-of-the-art, real-time object detection program called 'You Only Look Once' in the programming language Python. For the regression analysis, linear mixed models were fitted using R, version 3.5.3 (R core team, 2019) and the lme4 package (Bates, Maechler, Doler, & Walker, 2015). For both experiments online, user engagement was positively affected by a formal, professional setting, and conversely, it was negatively impacted by a casual setting. These results indicate that — though one might expect that political communication should adhere to the informal character of social media to garner more voter engagement — the image that resonates best with the voter is a formal one — similar to the pre-social media age.

Keywords: Instagram; visual analysis; impression management; political communication; political marketing; big data

4.1 Introduction

For the past decade, the technological innovation of social media has radically changed political communication. With the introduction of new communication technologies, (political) communication is being transformed. De Landtsheer (2004) argues that political communication underwent a transformation when television was introduced: political messages became shorter, superficial, and increasingly visualized. Suddenly, ratings dominated in an ongoing marketized media environment and defined mass media, turning political leaders into actors performing a show on stage and entertaining the masses. With the arrival of social media, candidates have gained unforeseen control over the creation and distribution of their published images, and they are no longer dependent on journalists (Kruikemeier, 2013). Additionally, there has been a steep decline in voters' interest and turnout since the 1990s (Solijonov, 2016). Consequently, a growing need for politainment has arisen — a combination of entertainment and politics — in order to gain attention from possible voters.

An obvious way to attract the audience's attention is by posting an image (photo or video) of oneself — and social media is a convenient distribution channel for these images. Subsequently, for the past couple of years, social media platforms have increasingly been shifting away from text in favour of pictures (Muñoz & Towner, 2017). This explains the growing popularity of visual-centric platforms such as TikTok, YouTube, and Instagram. Pictures are so appealing to both the sender and receiver because they can overcome language barriers; they are easy to understand and accept. An image is a way to express oneself that goes beyond the written or spoken word, beyond what can be said. Therefore, it is obvious that pictures are thriving on social media and are able to seize the attention of big audiences. Hence, pictures on social media are an ideal communication tool for politicians to construct an ideal persona. They allow the construction of an appealing candidate image, one that

garners voters' support, by highlighting specific aspects that make them look more authentic, powerful, or competent for the job (Lilleker, 2019). There appears to be an intuitive acceptance of images. Often, however, the creation and selection process that lies ahead of the distribution remains unnoticed by the observer. Subsequently, the power of images cannot be underestimated. The saying 'A picture never lies' suggests that imagery speaks directly to our unconscious and so, this saying might be considered as a dangerous assumption (Lilleker, 2019).

Drawing on the impression management framework, it has been postulated that perceived political suitability benefits from a formal, conservative, and professional self-presentation style. Yet, it has been observed that politicians are increasingly turning to social media platforms such as Instagram to post *private* images, picturing the candidate's loved ones, their upbringing, or their hobbies. This informal self-presentation strategy has been adopted by many well-known world leaders, including former US President Barack Obama and current Prime Minister of Canada Justin Trudeau. It seeks to highlight the human dimension of the leader, suggesting a certain authentic communication between the politician and the follower (Hinsliff, 2019; Jung et al., 2017, Poulakidakos & Giannouli, 2019; Russmann, Svenssonn & Larsson, 2019). A possible motivation to share these 'behind the scenes' pictures could be to evoke a level of intimacy, which in turn, can create a feeling of connectedness and closeness between the candidate and their followers (Kruikemeier, 2013; Liebhart & Bernhardt, 2017).

In their almost two decades of existence, social media platforms have matured and gained authority, including Instagram. In Belgium and the United States, 42% of adults use social media as a primary news source; in countries such as Kenya, the Philippines, and Malaysia, it is close to 80% (We Are Social and Hootsuite, 2022). So, is it possible that the dominant presence of social media imagery has affected the perception of political suitability amongst its users? Subsequently, the question arises: what image resonates best with the voter in this social media era? Therefore, the main research question of this thesis is: Does a less formal and casual appearance add to perceived political suitability and receive more voter engagement than a formal appearance on Instagram?

The experiment in this chapter will be repeated for two entirely different datasets in terms of geography and type of candidates: namely Belgian low-profile leaders vs. well-known world leaders. This was chosen to research whether the findings are similar across borders and to analyse voters' evaluations of different types of politicians. For instance, voters might have pre-existing views regarding high-profile leaders. So, it is interesting to research whether there is a universal voter response. Consequently, it makes sense to compare voters' responses to high-profile leaders' images with those of politicians where these kinds of opinions or emotions are absent. Combined for both datasets, 1094 candidates' profiles were analysed. Yet, the differences between the Belgian political system and the American one must be noted. First, Belgium is a parliamentary democracy, and the US has a presidential system. Secondly, the Belgian political landscape is highly fragmented, limiting the personalization of Belgian politics, while America is dominated by two major parties and is highly personalised. In addition, most Belgian politicians and political parties do not have enormous financial opportunities and the associated professionals, political marketers, and political consultants. Some even label Belgian campaigning as very

amateur (De Vries, 2007). Consequently, comparing the results for both contexts may shed some light on the image of political suitability in the social media age. What follows are some important insights on the *how*: on the visual strategies behind the Instagram posts of political actors that impact user engagement. These results can offer a framework for politically suitable production and distribution of digital content (Bossetta, 2018).

The present chapter unfolds in the following way: first, the theoretical framework of impression management will be discussed, followed by two different case studies using the YOLO (You Only Look Once, cfr. Chapter 2) method. The first case study analyses voter engagement on the Instagram pictures of 423 world leaders. The second study includes the data of 575 low-profile Belgian politicians. In the last section, these results will be compared and discussed.

4.2 Theoretical Framework

4.2.1 Impression Management (IM)

The context of the aforementioned marketization of the media, combined with globalization and commercialization and increasing personalization of politics, have given rise to the growing importance of *impressions*. Citizens are making electoral decisions based on the impressions or cues that they receive from the candidate's physical appearance and style — at the expense of objective arguments and content (De Landtsheer, 2004). Moreover, based on physical appearance, assumptions are being made about the personal qualities of the person. For example, women with blond hair are supposedly less intelligent and an overweight person is assumed to have lost control and be less disciplined (De Landtsheer, 2004; De Vries, 2007). Consequently, the physical appearance of politicians has become a dominant factor, shaping voting attitudes and ultimately, voting behaviour (De Landtsheer, De Vries, & Vertessen, 2008). A politically suitable appearance comes with a list of physical traits: some of them can be manipulated, such as style, hair, make-up, or jewellery, whereas others cannot be manipulated such as height. Drawing on the impression management research by De Landtsheer (2004), De Landtsheer et al. (1999, 2000), and the experiments by De Vries (2007) and De Vries & De Landtsheer (2013), it has been shown that a candidate with a politically suitable appearance receives significantly higher voter intention. This politically suitable appearance was identified as a formal, business-style presentation with conservative style, hair, and make-up. These results were based on data from the Netherlands and Belgium and corroborated previous research on political suitability in the US by Rosenberg (1986). However, the impact of digital strategies in visual e-representation is still overlooked, especially in the political field. Although visuals are omnipresent in digital media, little is known about *how* people interact and engage with the presented content and the impact of image attributes on voter engagement is understudied, particularly within the political context. A great deal of recent literature examines *who* uses social media platforms (O'Connell, 2018; Selva-Ruiz, & Caro-Castaño, 2017) and the reasons *why* politicians are turning to Instagram: Filimonov, Russmann, & Svensson (2016) demonstrated that Instagram is most likely used by politicians to broadcast a message, rather than mobilize or market an image. Bakhshi, Shamma & Gilbert (2015) demonstrated that

faces on Instagram posts are 38% more likely to receive likes and 32% more likely to receive comments. More recently, research on social media also confirmed the results from the IM theory before the arrival of social media while exploring the effect of a professional frame on the number of Instagram likes and comments (Jung et al., 2017; Muñoz & Towner, 2017; Poulakidakos & Giannouli, 2019; Russmann, Svensson & Larsson, 2019). The results from these studies corroborated previous research, demonstrating that professional framing led to the highest image engagement.

4.2.2 Impression Formation

Candidate image is heavily mediated, and its perception is subject not only to individual behaviour but also to collective behaviour and opinion-making. Therefore, an individual's perception of a candidate image or impression formation is a complex psychological process that consists of intertwined cognitive and emotive dimensions (McGraw, 2003; De Landtsheer, 2022; De Vries, 2007).

Since there is a decrease in interest in political debates, citizens depend a great deal on their impressions of candidates rather than arguments and content. These impressions are highly emotional and tap into voting heuristics such as stereotypes. These emotions cannot be underestimated and are strong predictors of voters' perceptions and preferences (Marcus, Neuman & MacKuen, 2000). Wattenberg (1987), for example, found that almost a third of voters have strong feelings towards political candidates even though they know almost nothing about them. In other words, impression formation lies at the basis of voting attitudes, which in turn, can manifest themselves in voting behaviour. Consequently, self-presentation becomes increasingly important for political leaders.

The 'good' news is that politicians can manage and control the impression they make, especially on social media platforms such as Instagram. This is where impression management comes into play: it is the attempt of a politician to influence or manipulate others via cues or impressions for ingratiation (to be liked) or for self-promotion (De Landtsheer, 2004). Impression management techniques can help to convey a desired image to voters through permanent and increasingly personalized campaigning (Diedkova, De Landtsheer, & De Vries, 2019; Larsson, 2016).

4.2.3 Instagram for Impression Management

There are many social media platforms, but as an 'image-first, text-second' platform, Instagram is an ideal tool for visual political communication and consequently is the platform of choice for this research. Due to Instagram's growing popularity and potential constituent reach it is an ideal electoral tool to construct this desired public persona. Moreover, empirical evidence indicates that within political communication the boundary between public and private life is vanishing on Instagram (Poulakidakos, & Giannouli, 2019) and Instagram is less formal than Facebook (Friebe, 2020). Comparable to many other social networks, followers can express their approval of a post by liking and commenting on the image. However, Instagram is positioned differently: if Facebook is about friendships and Twitter is about opinions, Instagram is about *experiences*. Unequalled by any other platform, it offers a glimpse into others' lives, anywhere in the world (Friebe, 2020). Bypassing the traditional

media, Instagram is the perfect avenue for self-representation for politicians enabling them to construct a carefully built media image via strategically curated photos directly to their followers (Friebe, 2020).

4.2.4 A politically suitable appearance

'Don't judge the book by its cover' or 'make a good first impression': these sayings suggest the close link between physical appearance and the perception of personality. Although there is no established proof, it is a popular belief there is a relationship between hair colour and intelligence. For example: a blond woman is often referred to as a 'dumb blond', questioning her intelligence without any reason except for her appearance. In the same logic, there are physical features that increase the perception that a candidate is politically suitable. While there are characteristics one cannot change such as age and height, there are several features that can subject be manipulated, such as style of dress and hair. In her research on impression management, De Landtsheer (2004) and De Landtsheer et al. (1999) demonstrated how voters' evaluations increased when low-profile candidates were styled in a politically suitable way. During an experiment in Belgium and the Netherlands, unknown candidates who were restyled with a conservative appearance received higher evaluations on intelligence and competence and consequently, appeared more 'fit for the job', which resulted in an increased voting intention. This experiment enabled the development of a detailed description of a 'politically suitable image': dark or grey hair, a conservative style of dress, preferably in a suit and shirt in contrasting colour, for men, a tie and for women, light make-up and some jewellery but not too much.

Moreover, a politically suitable appearance is proven to be closely linked to perceptions of intelligence, leadership qualities and trustworthiness (De Vries, 2007; De Landtsheer, 2004). These results corroborated existing research on the influence of physical appearance in politics (Foti, Fraser, & Lord, 1982; Hinckley, Hofstetter, & Kessel, 1974; Jacobson, 1981; Kinder & Abelson, 1981; Lau, 1984; Lilleker & Koc-Michalska, 2013; Mann & Wolfinger, 1980; Markus & Converse, 1979; Miller, Wattenberg, & Malanchuk, 1982; Ragsdale, 1980; Wright, 1974). These studies indicated that impressions of intelligence, leadership, and trustworthiness contributed significantly to a politically suitable image (Rosenberg, Bohan, McCafferty & Harris, 1986; Rosenberg, Kahn, Tran, & Le, 1991).

So, the goal is controlling and enhancing the political candidate's personal appearance and style of dress, crafting their political image. This raises the question: Which images or styles are advantageous for political candidates to portray, and which are not (De Vries, 2007)? And is this also the case for well-known global political leaders or only low-profile candidates?

4.2.5 Social media and political engagement

In order to qualify engagement with the presented content, two essential aspects of Instagram are used to express engagement: likes and comments. The number of likes signals to what extent the image is interesting. The number of comments is a different form of engagement, which quantifies the level of discussion.

Bakhshi, Shamma, & Gilbert (2014) explored how Instagram photos with faces relate to engagement. Their results showed that photos with faces significantly increase engagement. However, the number of faces, age, and gender did not have an effect.

Previous research confirmed this and demonstrated that Instagram pictures with people increase engagement (Jaakonmäki, Müller, & von Brocke, 2017). This could be explained within the context of the personalization and celebritization of politicians, which impacts both user engagement and involvement (Shanahan, Tran, & Taylor, 2019).

4.2.6 Hypotheses

Drawing on the theories explained above, the following hypotheses can be formulated for both case studies:

- *H1. Posts with formal attributes (tie, suitcase, etc.) will receive more engagement compared to posts without formal attributes.*

Based on this first hypothesis, we can formulate the opposite hypothesis:

- *H2. Posts of politicians with informal attributes (e.g., domestic setting) will receive less engagement compared to posts without informal attributes.*

And lastly:

- *H3. Posts with at least one face will receive more engagement compared to posts without a face.*

4.3 Data collection

In the previous chapter, I described how a state-of-the art object detection program in Python was used to identify the objects and/or persons and collect the variables for engagement for a significant amount of data, followed by clarifying the statistical methods that were used to conduct the analysis. In this chapter, data will be collected with the method of choice and will be repeated for two different datasets. But first a description can be found on how the 80 items that were detected on the Instagram pictures were recategorized into different self-presentation styles. The next section explains how this categorization in SPSS was executed. For instance, a suit and a tie belong to the formal self-presentation style. This simplifies the analysis and allows conclusions to be drawn regarding the audience's evaluation of different styles.

4.4 Analysis

A quantitative approach was employed to investigate the relationship between a person or object (referred to as, 'items') and engagement. The list of 80 items initially recorded in the posts is:

person, bicycle, car, motorbike, airplane, bus, train, truck, boat, traffic light, fire hydrant, stop sign, parking meter, bench, bird, cat, dog, horse, sheep, cow,

elephant, bear, zebra, giraffe, backpack, umbrella, handbag, tie, suitcase, frisbee, skis, snowboard, sports ball, kite, baseball bat, baseball glove, skateboard, surfboard, tennis racket, bottle, wine glass, cup, fork, knife, spoon, bowl, banana, apple, sandwich, orange, broccoli, carrot, hot dog, pizza, donut, cake, chair, sofa, potted plant, bed, dining table, toilet, tv monitor, laptop, mouse, remote, keyboard, cell phone, microwave, oven, toaster, sink, refrigerator, book, clock, vase, scissors, teddy bear, hair drier, and toothbrush.

These items stem directly from the dataset that was used to create the object recognition model. (Lin, et al. 2014). As this list is quite long, the next section explains how these items have been recoded into categories in order to simplify the analysis.

4.4.1.1 *Recoding into categories via SPSS*

Recoding into seven indicator variables, matching the hypothesis based on impression management theory was carried out using the scheme shown below (Table 2):

Category	Recoded Items
1. Traffic	bicycle, car, motorbike, airplane, bus, train, truck, boat, traffic light, fire hydrant, stop sign, parking meter and bench.
2. Pets	cats, dogs
3. Formal	umbrella, handbag, tie, suitcase, laptop, mouse, remote, keyboard and cell phone
4. Animals	horse, sheep, cow, elephant, bear, zebra, giraffe, bird
5. Sports	frisbee, skis, snowboard, sports ball, kite, baseball bat, baseball glove, skateboard, surfboard, tennis racket
6. Informal	backpack, chair, sofa, potted plant, bed, dining table, toilet, tv monitor, microwave, oven, toaster, sink, refrigerator, book, clock, vase, scissors, teddy bear, hair drier, and toothbrush
7. Food	bottle, wine glass, cup, fork, knife, spoon, bowl, banana, apple, sandwich, orange, broccoli, carrot, hot dog, pizza, donut, cake.

Table 2. Items recognized by YOLO on Instagram posts recoded into seven category variables.

Additionally, when a human was detected in the pictures, this was added to the visual analysis labelled as ‘person’. This variable ‘person’ was entered twice: first as a quantitative variable representing the number of persons on the post, and second as a binary variable (present vs. not present). This latter variable is referred to as ‘person_bin’. In addition, we studied combinations of a person (present/not present) and all the seven other items listed above. All these variables were recoded as ‘1’ for both items (say, ‘person + sports’) being present, and ‘0’ for all other cases. In case both a formal item and an informal item were detected, the picture was measured twice. Further, when a person was detected with a formal and an informal item, engagement was measured for both.

Two additional variables were considered: the number of tags (N = number of persons that are tagged in the post), and the text length underneath the post (Tag amount and Tag length). Tag length was always treated as a quantitative (numeric) variable. For Tag amount, both a quantitative version and a binary version (tag amount = 0 or tag_amount>0) were entered. This latter is referred to as ‘tag_amount_bin’. Lastly, the presence of a video post (instead of a picture) was added to the study. This resulted in a list of 13 independent variables (cfr. Table 3).

Categories of Variables	
1. Traffic	7. Formal Self -presentation style
2. Animals	8. Informal Self-presentation Style
3. Pets	9. Number of persons
4. Sports	10. Person on the picture (Binary)
5. Food	11. Tag Amount
6. Text Length Comments	12. Tag Amount Binary
	13. Video

Table 3. List of 13 categories – independent variables analysed from the candidate's Instagram post.

Moreover, categories 1 to 7 were analysed in combination with the presence of a face or person. This resulted in seven supplementary variables. So, in total, 20 different independent items were researched. The full list of dependent and independent variables, recoded in SPSS, can be found in Annex 1.

Since the data of the dependent variables, i.e., likes and comments are extremely skewed with several outliers, the logarithms of the number of likes and comments were used in statistical calculations to comply with the assumptions of the statistical tests. In other words, significance was tested on the log-transformed values of likes and comments, i.e., variables 'Log Likes' and 'Log Comments'.

4.4.1.2 *ANOVA*

To establish whether the presence of the 20 items listed above influences the number of likes and comments, linear mixed models were fitted. This is a type of regression/ANOVA model that considers the non-independence of observations in this study, an Instagram post, coming from the same person. The classic ANOVA/T-test/regression assumes all observations are independent, but that assumption does not hold here: posts from the same person are not independent, as some politicians have more followers than others and will overall receive more likes than others. To filter out the differences between persons (i.e., account for the popularity) and provide valid hypothesis tests in the presence of non-independent observations, we added person ID to the linear mixed model as a random effect. The number of likes (respective comments) was entered as dependent variables, and the items listed above were (one-by-one) entered as a fixed effect. The significance of the fixed effect was tested using a likelihood ratio test. So, in other words, outliers did not need to be tested because the mixed model controls for this: since the outcome is on a Likert scale (from 1 to 5) politicians with an extreme number of posts will weigh a bit more, but it is not the case that politicians who post double the number of posts will weigh double as much in the analysis.

Statistical analyses were carried out using the software package R, version 3.5.3 (R core team, 2019), and the lme4 package (Bates et al., 2015). For each of the items the following will be discussed:

1. The expected effect size (expEffSize) from the linear mixed model[3].
2. The stErr = standard error of the effect size (to be reported together with the effect size).
3. The p-value: to test the null hypothesis that the presence/absence of the item has no effect on the number of likes or comments.

Now the data is ready for analysis, the results of two different samples will be discussed:

- Case study 1: 423 heads of state around the world
- Case study 2: 575 low-profile, local Belgian candidates and 96 parties.

4.5 Case Study 1: World Leaders

The first case study consisted of a sample of 423 world leaders' Instagram accounts. The list can be consulted in Annex 2. Inclusion criteria for sample selection was the head of state's Instagram account being official, valid, and active.

So, to test the effect of several items on engagement, we recorded 80 initial items in posts from 423 politicians, which were re-coded into 20 items. To measure engagement, the likes and comments of 423 world leaders were recorded. For the analysis, the experimental unit was one Instagram post or picture with each politician posting multiple posts. For each post, the presence of 80 different items was investigated. These initial 80 variables were summarized into seven indicator variables, encoded '0' if none of the items were present and '1' if at least one of the items was present, according to the recoding scheme in 4.3.1.1.

[3] Since the outcome of the regression analysis was the natural logarithm of the number of likes (resp. comments), the regression coefficient from the regression model (column Effsize) represents the difference in Log Likes (resp. Log comments) per unit increase of the parameter. The exponentiated value of this regression coefficient (expEffSize) represents the multiplicative increase in the outcome per unit increase in the independent variable. That is the factor by which the number of likes (resp. comments) increases if the independent variable increases by one unit. In case the exponentiated effect size is below 1. This means that an increase in the parameter is associated with a decrease in the outcome. For a binary independent variable, on the other hand (for instance 'Food'), the exponentiated effect size represents the factorial increase in the number of likes (resp. comments) in case the parameter (e.g., food) is present. In general, an exponentiated effect size above 1 means that the presence of the binary parameter (binary parameter = 1) is associated with an increase in the number of likes, whereas an exponentiated effect size between 0 and 1 implies that the presence of the parameter is associated with a decrease in the number of likes (resp. comments).

4.5.1 Results

The effect of these items on engagements was modelled using linear mixed models. Figure 1 visualizes the hypothetical features of Instagram posts that may have an impact on engagement. The results of the linear regression models are shown in Tables 4 and 5, grouped for likes and comments.

4.5.1.1 *A formal context receives more likes but less comments*

The first hypothesis tests whether formal features in a post have a positive impact on engagement. The results, as shown in Table 4 and Table 5, are quite revealing in many ways. Strong evidence was found that the presence of a formal item in combination with a person or face has a very strong and positive relation with the number of likes on a leader's post (exponentiated effect size = 1.06). This means that posts with a person and a formal item have on average 1.06 times the number of likes (that is, 6% more likes) compared to a post without people and formal items. Surprisingly, the link with comments is also significant but in the opposite direction: an exponentiated effect size of 0.99, implying a 1% decrease in the number of comments on posts with at least one formal feature compared to a picture without, with only a marginally significant value (p = 0.04).

Interestingly, a similar picture is observed when a formal object is pictured without a person in the photo: a highly significant positive effect (p = 5.45 E-63) has been observed for likes (exponentiated effect size = 1.05, i.e., a 5% increase). However, for comments, no such correlation was observed.

4.5.1.2 *Less likes and comments for casual pictures*

The second hypothesis addressed the impact of the presence of any informal items on engagement for a world leader's post. A negative and strong significant correlation was observed on every level: when an informal object — alone or in combination with a face — is depicted, a decrease in both likes and comments is observed. This is in favour of hypothesis 2.

4.5.1.3 *Higher user engagement with personalised pictures*

The third and last hypothesis addressed how personalization affects engagement. Expected engagement is higher when at least one face is detected on the Instagram post (Bakhshi, Shamma, & Gilbert, 2014). However, based on previous research, the number of persons ('N persons') would not have an impact. As shown in Tables 4 and 5, across all likes and comments, the single most striking observation to emerge from the data comparison was the positive impact of the binary variable of 'person': a strong significant and positive relation has been observed on the number of likes of a post: exponentiated effect size = 1.21, a 21% increase (confident interval: 20-22%). In addition, the number of likes increases when the number of faces increases on the picture: exponentiated effect size = 1.002, which is a 0.2% increase per face added to the post. This is in favour of hypothesis 3.

On the level of comments, however, no such significant link was observed in posts with and without faces. However, a negative relation was observed for the

quantitative variable of 'person': the comments decrease when the number of faces increases (expEffSize = 0.98, a decrease of 2%). This finding is not in line with the theory that presumes the absence of any impact.

4.5.1.4 *Remaining results*

The object detection algorithm offered a visual analysis of six supplementary category items, namely: traffic, pets, animals, sports, food, and video. Additionally, the impact of two photo features were analysed: text length and tags. The section below describes some noteworthy results for these eight categories:

- **Pets and animals**: What stands out in the tables is the striking result for the category 'pets'. A cat or a dog, with or without a human in the picture has the strongest positive effect of all categories on likes and comments, closely followed by 'person': exp. effect size = 1.27, so 27% more likes for posts with a cat or a dog and 38% more comments (int. confidence 19-36% resp. 29-48%). In combination with a person, the effect is even larger: an average increase of 49% is expected in likes and 47% in comments (int. confidence 37-62% resp. 35-60%). By contrast, animals other than pets do not have a similar impact; farm animals even have a negative but smaller impact (expEffSize = 0.95) limited to the comments of a post.
- **Traffic:** Further analysis showed that a car, bicycle, or any other item belonging to the category 'traffic' in combination with a person has a positive effect on likes and comments. The positive relation remains significant when depicted without a human face.
- **Food:** Strong evidence was found that food items have a negative impact on likes and comments in combination with a person (Person + Food).
- **Number of tags**: There was a significant positive correlation between the 'Tag Amount' and the number of likes received. No significant differences were found regarding the comments between posts with and without tags.
- **Text length underneath the post**: The results, as shown in Tables 4 and 5, indicate a significant positive relation between text length and likes and comments.
- **Video**: The format of the post has an impact on engagement. When a video is posted instead of a regular picture the number of likes doubles and there is a 50% increase in comments. This is a rather remarkable result.

4.5.2 Conclusion for world leaders

The first question sought to determine whether formal objects on a politician's Instagram post led to a higher number of likes and comments. This study confirmed that there is a higher user engagement for formally framed political posts: when at least one formal attribute is present on the picture of a politician, the number of likes and comments is significantly higher. In addition, the combination of a person with a formal attribute (tie, cell phone, etc.) has a strong and positive impact on the number of likes received. Additionally, this study found that the presence of any informal item has an undoubtedly negative association with the number of likes and comments

when depicted alone and in combination with a human face. These results corroborate the findings of a great deal of the previous work within the context of impression management in several countries such as Greece (Poulakidakos & Giannouilli, 2019); Hungary (Farkas & Bene, 2021), Singapore (Jung et al., 2017); Finland (Lindholm, Carlson, & Högväg, 2021); and Scandinavia (Filimonov, Russmann, & Sensson, 2016; Russmann, Svensson, & Larsson, 2019).

Surprisingly, a formal frame has a negative impact on the number of comments. A possible explanation might be that social media provokes comments from those with extreme opinions or emotions. Adi, Gerodimos, & Lilleker (2018, p.320) argue that social media in general, and Instagram in particular, appears to favour 'impulsive, symbolic affective expression rather than rational or critical dialogue'. Consequently, when someone agrees with what they see rationally in the absence of extreme emotions such as surprise, love, or hatred, they might be less motivated to comment on the picture.

Another important finding was that, besides a formal or informal frame, tagging another user can increase engagement. In addition, when the number of persons increases in a picture, the number of likes and comments on an Instagram post increased. Thus, both tagging and personalising a post have a positive impact on engagement. These results are in accord with recent studies demonstrating the positive effect on engagement of personalizing a picture (Bakhshi, Shamma, & Gilbert, 2014; Jaakonmäki, Müller, & von Brocke, 2017; Shanahan, Tran, & Taylor, 2019). Finally, the single most effective item on the list is pets: they have the strongest effect on likes and comments received. Further significant factors are traffic, sports, food, and text length. Lastly, the results revealed that the format of a post has a strong impact on engagement: the number of likes doubles when a video is posted. This fits into the context of the growing visualization of media messages.

The results in this section indicate that there are several variables in the visual analysis that have a considerable effect on the engagement of a post by candidates and parties. In the next section, the experiment will be repeated for unknown Belgian candidates, so general recommendations can be made regarding online storytelling strategies.

4.6 Case Study 2: Belgian low-profile candidates

The second dataset consists of a stratified sample of candidates who participated in the local Flemish elections on 14 October 2018. Official results of these elections are available online, with data on all participants, parties, and voting results (Open Data Flanders, 2018). Over 36,000 candidates competed for a seat of which the most prominent 575 candidates were selected for this study. The primary inclusion criteria for these 575 candidates were threefold. Firstly, their place on the list: only candidates in the first and second place on the election list were considered to control for incumbency. As these were local elections, it could still be assumed that these candidates were not known to the greater public. Next, the candidate had to achieve a result of at least one thousand votes. Third, the candidate needed to have a valid and public Instagram account or handle. For this last criterion, a manual check was conducted for every single candidate. In case there were multiple handles, a Google search was conducted to verify the identity of the candidate. Alias handles were not

included (posting under a different name) since it is assumed that Instagram is used to convey a public image and an alias is a way to post anonymously, out of sight of the electorate. The Instagram handles of the parties, both local and national accounts, were also included in the sample which resulted in 96 handles in total. Overall, this resulted in a total of 671 handles of political parties and candidates or 53.000 Instagram pictures that were taken into consideration for this study. This processing took 8 hours on a server with a 32-core CPU. During this time, no manual input is needed. A detailed description of how to utilize this data collection method is given in chapter 3.

4.6.1 Recap Research Hypotheses

Drawing on the impression management framework by De Landtsheer (2004) and De Vries (2007) the following hypotheses were formulated:

H1. Engagement will be positively affected by the presence of items suggesting a formal, professional business-like context in the politician's Instagram post (cfr. Table 1: a handbag, a tie, a suitcase, a laptop, a mouse, a remote, a keyboard, a cell phone, or an umbrella).

Conversely, the opposite can be suggested:

H2. Engagement will be adversely affected by the presence of informal items (cfr Table 1: items that suggest a domestic, casual setting such as a restaurant, family dinner, or at home. For instance: a clock, a vase, scissors, a teddy bear, a hairdryer, and a toothbrush).

Based on the research on personalization of online self-presentation, the last hypothesis is:

H3. Personalizing an Instagram post will positively affect user engagement.

To establish whether the presence of the 19 items listed above influences the number of likes and comments linear mixed models were fitted. This is a type of regression/ANOVA model that considers the non-independence of observations, in this study, an Instagram post, coming from the same person. The classic ANOVA/T-test/regression assumes all observations are independent, but that assumption does not hold here: posts from the same person are not independent, as some politicians have more followers than others and will overall receive more likes than others. An overview of the detected variables that might impact engagement has been visualised in Figure 1.

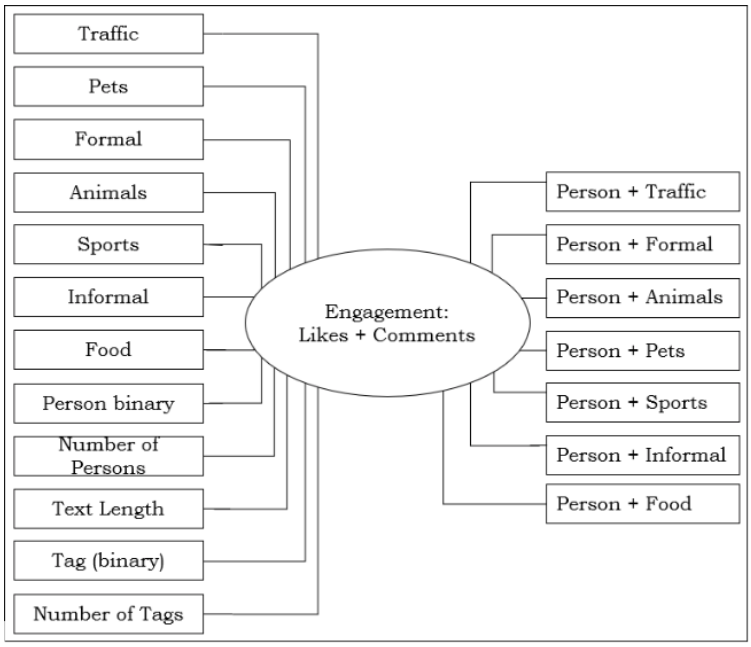

Figure 1. Hypothetical model: Categories on pictures that may impact engagement.

Like the first case study, for each of the items, the following will be discussed:

- The expected effect size (expEffSize) from the linear mixed model.
- The stErr = standard error of the effect size (to be reported together with the effect size).
- The p-value: To test the null hypothesis that the presence/absence of the item has no effect on the number of likes or comments.

4.6.2 Data collection

To test the effect of several items on engagement, we recorded 80 initial items with YOLO (Chapter 3) in the Instagram posts from 475 politicians and 96 parties. In order to measure engagement, the likes and comments on these 571 Instagram handles were collected. For the analysis, the experimental unit was one Instagram post or picture with each politician posting multiple posts. For each post, the presence of 80 different items was investigated. This list of 80 items was re-coded into 19 variables, encoded '0' if none of the 80 items were present and '1' if at least one of the items was present, according to a recoding scheme shown in the methods section.

4.6.3 Results

Before analysing the relationship between voter engagement and formality, the number of informal pictures was calculated to illustrate the observation of growing informality in politicians' visual rhetoric.

4.6.3.1 *Growing privatization: the figures*

The central question of this chapter is regarding what type of self-presentation style resonates best with the voter: a formal, appropriate for office image or a casual image.

Despite the recommendation for what is politically suitable, according to the IM studies (i.e., a formal image), a growing informality has been observed in the (online) branding strategies of politicians. This observation becomes apparent in the tables below: the formal and the informal items that were detected on the selected posts were counted in the crosstabs table below. The right diagonal shows that 8121 pictures of a total of 48,663 pictures (16.6%) contained at least one informal item, as opposed to 'only' 4605 pictures with at least one formal item (9.4%). Of these formal pictures, 3095 contained only formal items, whereas 6611 pictures had only informal items.

The zero hypothesis is that the number of pictures with formal items is equal to the number of pictures with informal items. However, this hypothesis has been rejected by the highly significant outcome of the McNemar test: a p<0.001 (exact p-value = 2,0E-256) (Table 1). So, twice as many informal pictures, compared to formal pictures, have been posted by Belgian politicians.

Count

		Formal		
		.00	1.00	Total
Informal	.00	37447	3095	40542
	1.00	6611	1510	8121
Total		44058	4605	48663

Chi-Square Tests

	Value	Exact Sig. (2-sided)
McNemar Test		<,001[a]
N of Valid Cases	48663	

a. Binomial distribution used.

Table 1. Cross table and McNemar test for formal and informal items that were analysed on Belgian candidates' Instagram posts.

Next, the effect of the 80 items on engagements was modelled using linear mixed models (Cfr. Figure 1). The results of these linear regression models are shown in Tables 6 to 9, grouped for likes and comments and divided for candidates and parties, and illustrated in the models in Figures 2 to 5.

4.6.3.2 *Candidates' formal posts receive more likes*

The first hypothesis tests whether formal features in a post have a positive impact on engagement. The results, as shown in Tables 6 to 9, are quite revealing in many ways. Strong evidence was found that the presence of a formal item, alone and in combination with a person or face, has a very strong and positive link with the number of likes on a leader's post (exponentiated effect size = 1.05, resp. 1.08). This means that posts with a formal item receive on average 5% more likes compared to a post without any formal item from the list we screened for. Therefore, the first

hypothesis is confirmed. Surprisingly, for parties, no such correlation was observed. The results have been visualised in a model (Figure 2 and 3).

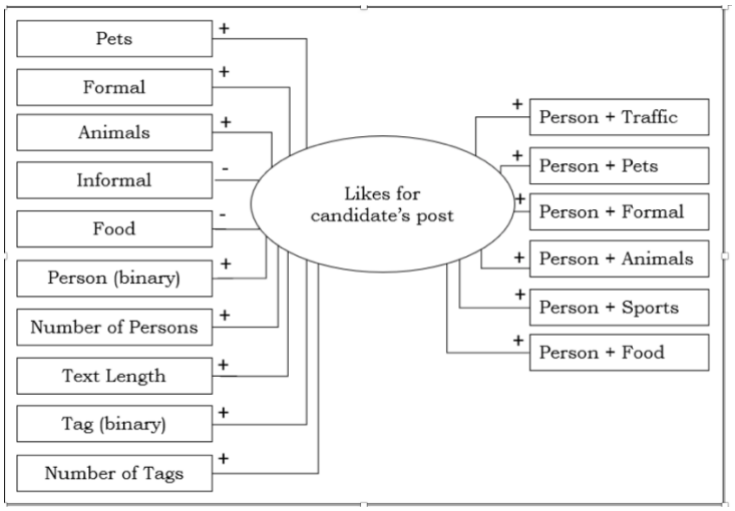

Figure 2. Result Model: Picture items that impact likes on a politician's Instagram post.

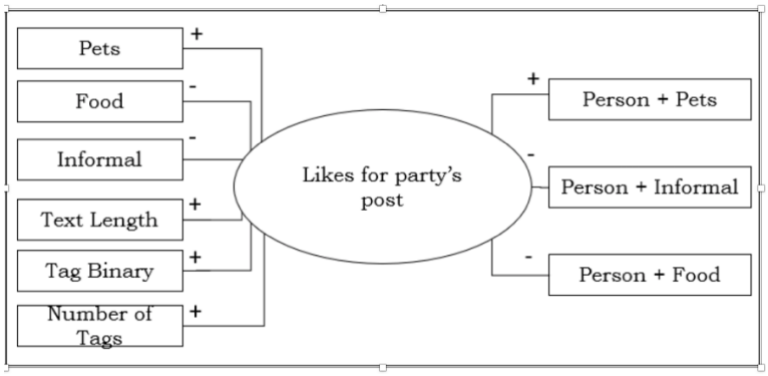

Figure 3. Result Model: Picture items that impact likes for a party's Instagram post.

4.6.3.3 *Informal posts receive less likes*

The second hypothesis addressed the impact of the presence of any informal items on engagement for a Belgian politician or party running in the 2019 elections. A negative and strong significant correlation was observed on every level: when an informal object, for example, a homely environment with a couch is depicted alone or in combination with a face; a decrease in both likes and comments is observed for parties and candidates (Tables 6 to 9). Interestingly, the effect is the strongest for parties' posts: an informal setting on a picture receives an average of 25% fewer likes. These results are in favour of hypothesis 2.

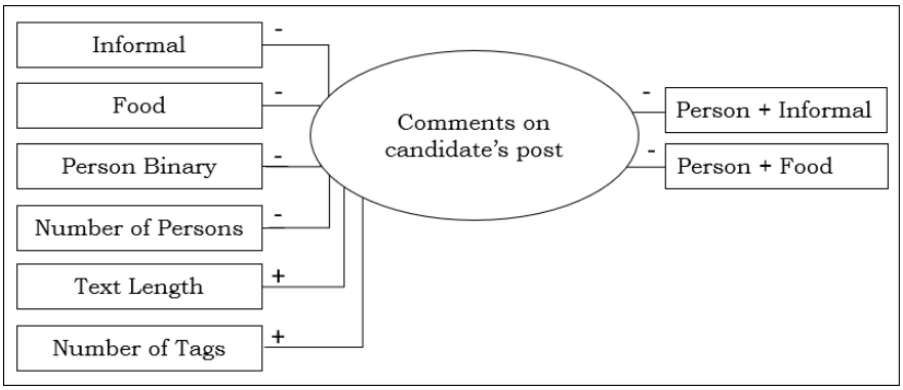

Figure 4. Result Model: Picture items that impact comments on a politician's Instagram post.

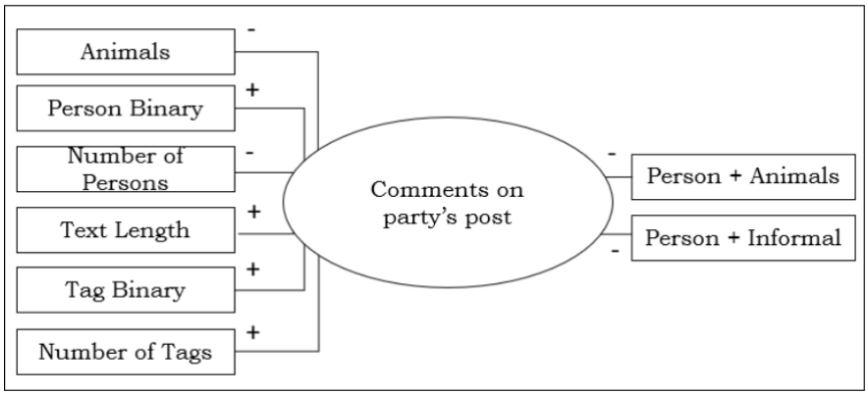

Figure 5. Result Model: Picture items that impact comments on a political party's Instagram post.

4.6.3.4 *The more persons, the more likes*

The third and last hypothesis addressed how personalization affects engagement. Engagement was expected to be higher when at least one face was detected on the Instagram post (Bakhshi, Shamma and Gilbert, 2014). However, based on previous research, the number of persons (N persons) would not have an impact. In the present research, personalization was measured by detecting the presence of a face (person (binary and numeric)) and tags (binary and numeric) on a post.

As shown in Tables 6 and 7, one of the most striking observations to emerge from the data comparison was the positive impact of these four variables for personalization on the number of likes for a politician: an increase of 43% for tagged pictures, compared to non-tagged posts and 34% when a person was observed. Additionally, there is a positive correlation between the number of likes and the number of faces: exponentiated effect size = 1.012, which is a 0.1% increase per face added to the post. Parties' posts, on the other hand, are liked significantly more when another Instagram user is tagged in a post, although the effect is smaller: 10% more likes for tagged posts compared to posts without tags, and 7% more likes for every additional tag (binary variable of tags). Further analysis revealed a positive correlation between the comments a party's post received and the number of tags (expEffSize = 1.03). These results are in support of hypothesis 3.

Surprisingly, a small, negative correlation was observed between comments and the numeric variable of 'person' for both parties and candidates (Table 8 and 9): the conversation from followers decreases with an average of 1% fewer comments for

every face added to the picture. This finding is not in line with the personalization theory and previous research that presumes the absence of any impact.

4.6.3.5 *Remaining results*

The object detection algorithm offered a visual analysis of six supplementary category items, namely: traffic, pets, animals, sports, food, and video. Additionally, we analysed the impact of one additional photo feature, i.e., the description beneath the post, referred to in this study as 'text length'. The section below describes some noteworthy results for these seven categories:

Pets and animals: What stands out across all tables is the striking result for the category 'pets' and 'animals'. Posts of politicians with a pet receive 7%, with any other animal even 8% more likes compared to photos without pets or animals (int. confidence 1%-16% resp. 2%-15%). In combination with a person, the effect is even larger: an average increase of 30% is expected in likes for pets and 18% for the remaining animals (int. confidence 19%-41% resp. 9%-29%). Parties' posts were observed to receive 33% more likes when pets are in the picture, and 39% more likes with a person (int. confidence 6-68% resp. 5-85%). By contrast, animals were observed to have a negative impact on the number of comments on a candidate's post: a decrease in comments of 5% was recorded, and 6% when in combination with a face.

Traffic: Further analysis showed that a car, bicycle, or any other item belonging to the category 'traffic' in combination with a person has a positive effect on likes on a politician's Instagram feed. This positive link disappears when depicted without a person in the picture.

Food: Strong evidence was found that food items have a negative impact on Instagram likes of both parties and politicians. Surprisingly, this correlation remains negative for parties' likes and comments when in combination with a person (exp. effect size = 0.83) but turns positive on a politician's feed (exp. effect size = 1.05).

Text length underneath the post: The results, as shown in Table 6 to Table 9, indicate a significant positive relation between text length and likes and comments of parties and politicians. In other words, followers tend to like and start the conversation more often when there is a description beneath the post.

The results in this chapter indicate that there are several variables in the visual analysis that have a considerable effect on the engagement of posts published by candidates and parties. In the conclusion, we move on to discuss the repercussions of these results.

4.6.4 Conclusion on low-profile Belgian candidates

This first experiment on Belgian politicians set out to gain a better understanding of how people engage with the presented content on Instagram and to make an inventory of the features in Instagram posts that elicit the most user engagement, quantified by likes and comments.

In reviewing the literature, the impression management theory demonstrates that a more serious and formal presentation of a political candidate leads to higher support and perception of political suitability for candidates (De Vries, 2007).

Consequently, our first question sought to determine whether formal objects on a politician's Instagram post led to a higher number of likes and comments. This study confirmed that a professional context positively affects engagement: the number of likes significantly increases when at least one formal object (a tie, laptop, etc.) is pictured.

With respect to the second research question, this study found that user engagement was negatively impacted by objects suggesting a non-professional setting including a restaurant or a homely setting for both politicians and parties.

Another important finding was that, besides a formal or informal frame, tagging another user can increase the engagement level. Also, when the number of persons increases on a picture, the number of likes and comments on an Instagram post increases. Thus, personalising a post has a strong positive impact on engagement. These results concur with recent studies demonstrating the positive effect of personalizing a picture on engagement (Bakhshi, Shamma and Gilbert, 2014; Jaakonmäki, Müller, & von Brocke, 2017; Shanahan, Tran, & Taylor, 2019). `

4.7 Discussion, results, and conclusion of case studies 1 & 2

In this chapter, voters' engagement has been compared for the formal style and the informal style. Aiming to analyse voter engagement on different levels, two different samples were compared: one on a global level including data from all world leaders, and the second on a local, Belgian level with a list of unknown politicians. This study has shown that in order to increase likes a politician should be:

1) Pictured on an Instagram post in a formal setting
2) Accompanied by other people
3) Tagging other Instagram users
4) Adding a caption to the post

What is striking about these results is that the conclusion for both world leaders and low-profile candidates is similar for both datasets namely: a business-like, formal self-presentation style generates the most likes and comments. Additionally, personalizing the post by adding other people to the picture or by tagging them, increases voter engagement. These conclusions are valid regardless of whether the candidate is a well-known leader or a brand-new candidate entering the field of campaigning. Additionally, it appears to be valid across borders, regardless of any cultural differences. These results suggest social media did not change anything to the impression management theories and to the voting standards in voters' minds. Further research should investigate whether these results can be explained by a deeply rooted stereotyped image of a politician.

Contrary to expectations, a (small) decrease in comments was observed for formal posts in both samples. A possible explanation might be found in the work of Adi, Gerodimos, & Lilleker (2018) who argue how social media in general, and Instagram in particular, appears to favour 'impulsive, symbolic and affective expression rather than rational or critical dialogue'. Consequently, when someone agrees with what they see, such as when they are confronted with a formal picture of a politician,

the absence of extreme emotions might explain the decreased motivation to comment on the picture.

A note of caution on the interpretation of these results is due to the number of detectable items being limited to a list of 80 objects excluding gender, emotions, or age, these latter categories cannot (yet) be analysed. However, it will be possible soon to go into more detail as the deep learning algorithm behind the Python script will increasingly get smarter. Hopefully, this study offers a foundation for future studies that use big data and aim to conduct a more detailed visual analysis of highly engaged images on social media platforms like Instagram. It would also be most interesting to control for political ideology and party-specific attributes in the analysis.

A strength of this research, however, is the data analysis, which controls for fake likes, namely by adding person IDs to the linear mixed model as a random effect. Therefore, the differences in likes between the candidates were controlled because the random intercept (the difference in likes between posts of the same account) was used for comparison.

A major limitation of the present study is that it analyses the link of each detected (in)formal item independently with engagement (likes and comments), not specifying the results for images picturing both types of items. Because of the vastness of the data, it is not expected this would change the conclusions. However, it could be an interesting avenue for future research on how informal dress style would be perceived in formal contexts or vice versa.

When exploring online engagement and analysing what triggers likes, one cannot help but wonder: Do we want to contribute to this frantic search for likes? A world where people are desperate for approval, where the most liked and followed accounts are the most powerful. But the downsides are also becoming apparent and are being acted on: recently, Instagram's policy has become a lot stricter and will delete Instagram handles that pay for likes and comments (Belghmidi, 2018). Therefore, it is important to understand the visual strategies that are presented online, not only on the production side but also on the receiver's end.

This chapter offered insights as to which digital self-presentation strategies are the most effective in garnering higher rates of voter engagement on the one hand and understanding the tactics that are being used on the producer's end. This should generate ideas and offer guidance to political communication consultants and marketeers but also provide insights for the receiver. Hence, the described findings can influence both the production and distribution of digital content and improve much-needed social media literacy.

The next chapter will research the voter's perspective directly via questionnaire, aiming to identify whether this formal presentation style on Instagram not only correlates with increased online engagement but also results in increased voting intention.

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List of Tables

Table 4. Effect on Likes on World Leaders' Instagram Posts

	Eff. size	St. Err	Exp.(Eff. size)	Lowlim	Uplim	p- value
text_length	0,000427	6,57E-06	1,000427	1,000414	1,00044	0
tag_amoun	0,00524	0,00056	1,005253	1,00415	1,006358	8,43E-21
video	-0,03789	0,307095	2,008784	1,83351	2,200814	1,12E-50
person	0,002437	0,00048	1,00244	1,001498	1,003383	3,80E-07
traffic	0,090006	0,009088	1,094181	1,074864	1,113845	4,02E-23
pets	0,239728	0,032781	1,270903	1,191816	1,355239	2,62E-13
formal	0,059874	0,003992	1,061703	1,053429	1,070042	7,66E-51
animals	-0,02727	0,023016	0,973097	0,930174	1,018001	0,236069
sports	0,044868	0,020099	1,04589	1,005488	1,087915	0,025594
food	-0,0864	0,006171	0,917231	0,906204	0,928392	1,58E-44
informal	-0,06779	0,004579	0,934459	0,92611	0,942882	1,41E-49
person_bin	0,191755	0,005024	1,211373	1,199502	1,223361	0
tag_amount_bin	0,062887	0,004696	1,064907	1,05515	1,074754	7,00E-41
personInformal	-0,04694	0,004767	0,954143	0,945269	0,9631	7,16E-23
personFormal	0,067319	0,004018	1,069637	1,061247	1,078093	5,45E-63
personFood	-0,08113	0,006352	0,92207	0,910661	0,933621	2,37E-37
personSport	0,061605	0,022767	1,063542	1,017126	1,112075	0,006812
personPets	0,397626	0,04177	1,488288	1,371297	1,61526	1,75E-21
personAnimal	0,013138	0,031927	1,013225	0,951763	1,078656	0,680701
personTraffic	0,116721	0,01081	1,123806	1,100245	1,147871	3,58E-27

Table 5. Effect on Comments of World Leaders' Instagram Posts

	Eff. size	St. Err	Exp. (Effsize)	Lowlim	Uplim	p- value
text_length	0,000291	6,94E-06	1,000291	1,000277	1,000305	0
tag_amount	-0,00066	0,000589	0,999345	0,998191	1,0005	0,266084
video	-0,07688	0,323171	1,543484	1,40209	1,699138	9,33E-18
person	-0,01688	0,000504	0,983263	0,982293	0,984235	1,65E-245
traffic	0,039687	0,009562	1,040485	1,021166	1,06017	3,32E-05
pets	0,323262	0,034486	1,381627	1,291325	1,478244	7,05E-21
formal	-0,00697	0,004201	0,993059	0,984916	1,00127	0,097312
animals	-0,05183	0,024215	0,949487	0,905476	0,995638	0,032314
sports	0,028139	0,021146	1,028538	0,98678	1,072064	0,183304
food	-0,10297	0,006491	0,902156	0,89075	0,913707	1,22E-56
informal	-0,12135	0,004814	0,885724	0,877406	0,89412	4,50E-140
person_bin	-0,00116	0,005299	0,998836	0,988516	1,009263	0,826076
tag_amount_bin	0,02327	0,004942	1,023543	1,013677	1,033505	2,49E-06
personInformal	-0,12643	0,005011	0,881232	0,872619	0,88993	2,63E-140
personFormal	-0,00859	0,004229	0,991443	0,983259	0,999694	0,042123
personFood	-0,11259	0,006682	0,893519	0,881894	0,905297	1,11E-63
personSport	0,045275	0,023953	1,046316	0,998328	1,096609	0,058737
personPets	0,383869	0,043947	1,467952	1,346801	1,600003	2,45E-18
personAnimal	-0,05329	0,03359	0,948104	0,887694	1,012625	0,112625
personTraffic	0,02968	0,011375	1,030125	1,007412	1,05335	0,009076

Table 6. Effect on Instagram Likes for Belgian Political Candidates

Independent Variable	Eff. size	St. Err	Exp(effsize)	Low lim	Up lim	p-value
Traffic	0,018818429	0,013607129	1,018996612	0,992179199	1,046538867	0,166690598
Pets	0,070550113	0,027718931	1,073098344	1,016353283	1,133011596	0,010924099
Formal	0,052329403	0,012638781	1,053722785	1,027940609	1,080151613	3,46948E-05
Animals	0,081268633	0,030618583	1,084662233	1,021483733	1,151748308	0,007950595
Sports	0,056578049	0,034730593	1,058209204	0,988571889	1,132751933	0,103301363
Informal	-0,066869038	0,009732619	0,935317685	0,917644727	0,953331006	6,46E-12
Food	-0,035605047	0,010459504	0,965021356	0,945439222	0,98500908	6,64E-04
Person (binary)	0,29797455	0,007936877	1,347127502	1,326333371	1,368247642	4,0176E-304
Person	0,011962084	0,001109736	1,012033915	1,009835051	1,014237567	4,62522E-27
Text length	0,001549542	4,37E-05	1,001550743	1,001464883	1,00163661	1,98E-271
Tag (binary)	0,360031832	0,009035376	1,433375042	1,408214366	1,458985265	0
Tags	0,084530351	0,001527082	1,088205871	1,084953653	1,091467839	0,00E+00
Person + Traffic	0,100185991	0,016472283	1,10537649	1,070258616	1,141646668	1,19412E-09
Person + Pets	0,263640761	0,04371957	1,301660506	1,194766065	1,418118678	1,64729E-09
Person + Formal	0,08067597	0,013167578	1,084019585	1,056400651	1,112360599	9,01854E-10
Person + Animals	0,173910241	0,044073306	1,189948752	1,091471254	1,297311338	7,95639E-05
person + Sports	0,102688776	0,039589757	1,108146474	1,025410327	1,19755826	0,009493007
Person + Informal	0,010656791	0,011644766	1,010713777	0,987906769	1,034047312	3,60E-01
Person + Food	0,0562771	0,012779766	1,057890785	1,031721492	1,084723853	1,06598E-05

Table 7. Effect on Instagram Likes for Political Parties

Independent Variable	Eff.size	St.Err	Exp(effsize)	Low lim	Up lim	p-value
Traffic	-0,0374332	0,0490902	0,9632587	0,8748961	1,0605457	0,44551756
Pets	0,29157681	0,1185613	1,3385364	1,0609838	1,6886966	0,01393454
Formal	-0,0505457	0,0375571	0,9507105	0,8832407	1,0233342	0,17876032
Animals	0,06538477	0,1644301	1,0675697	0,7734469	1,4735402	0,69113279
Sports	-0,0068353	0,129048	0,993188	0,7712294	1,2790259	0,957652
Informal	-0,2947044	0,0373597	0,7447517	0,692166	0,8013325	3,68E-15
Food	-0,1809529	0,043462	0,8344747	0,766333	0,9086754	3,18E-05
Person (binary)	-0,0058602	0,0309088	0,9941569	0,9357178	1,0562458	0,85080316
Person	-0,0047473	0,0036739	0,9952639	0,988123	1,0024564	0,19665479
Text length	0,00097198	0,0001034	1,0009725	1,0007697	1,0011753	7,50E-21
Tag (binary)	0,10265977	0,0394749	1,1081143	1,0256113	1,1972541	0,00928499
Tags	0,07449755	0,0066473	1,0773427	1,0633973	1,091471	7,48E-29
Person + Traffic	-0,0409359	0,0563972	0,9598906	0,8594399	1,072082	0,46794155
Person + Pets	0,33334248	0,1464578	1,3956252	1,047373	1,8596714	0,02286438
Person + Formal	-0,0263202	0,0382754	0,9740232	0,9036258	1,049905	0,49240003
Person + Animals	-0,0202592	0,2464909	0,9799446	0,6044832	1,5886156	0,93436655
person + Sports	-0,0142119	0,1493116	0,9858886	0,7357517	1,3210657	0,92405317
Person + Informal	-0,2852302	0,0402672	0,7518412	0,6947843	0,8135836	1,59E-12
Person + Food	-0,1797157	0,0465137	0,8355077	0,7627061	0,9152584	0,00011297

Table 8. Effect on Instagram Comments for Belgian Politicians

Independent Variable	Eff.size	St. Err	Exp(effsize)	Low lim	Up lim	p-value
Traffic	-0,011786288	0,010058678	0,988282898	0,9689897	1,007960237	0,241230621
Pets	-0,019809986	0,020480131	0,980384942	0,941810641	1,020539154	0,333437222
Formal	-0,000114716	0,009342953	0,99988529	0,981741833	1,018364055	0,990630659
Animals	-0,05574662	0,022636856	0,945778747	0,904733497	0,988686106	0,013792875
Sports	0,019858396	0,025683177	1,020056885	0,96997922	1,072719939	0,439418548
Informal	-0,008880213	0,007197835	0,991159099	0,977274241	1,00524123	2,17E-01
Food	-0,00502599	0,007731914	0,994986619	0,980021723	1,010180028	0,515645693
Person (binary)	0,050182961	0,005942292	1,051463456	1,039288214	1,06378133	3,11944E-17
Person	-0,010196691	0,000819675	0,989855119	0,988266131	0,991446661	1,80E-35
Text length	0,000613195	3,25E-05	1,000613383	1,000549551	1,000677219	6,94E-79
Tag (binary)	0,039656114	0,006754926	1,040452915	1,026768466	1,054319747	4,36188E-09
Tags	0,026584943	0,001152674	1,026941475	1,024623986	1,029264206	4,53E-117
Person + Traffic	0,005342358	0,012182171	1,005356654	0,981636014	1,029650489	0,661032012
Person + Pets	-0,013476597	0,032327168	0,986613806	0,926040003	1,051149842	0,676769443
Person + Formal	-0,001259077	0,009735186	0,998741715	0,979865421	1,017981645	0,89753015
Person + Animals	-0,065767665	0,032593282	0,936348385	0,878402381	0,998116942	0,043615551
person + Sports	0,021058315	0,029276346	1,021281606	0,964328453	1,081598407	0,471975296
Person + Informal	-0,025982076	0,00860759	0,974352554	0,958052259	0,990930182	2,54E-03
Person + Food	-0,019267435	0,009448364	0,980916996	0,962918763	0,999251639	0,041430707

Table 9. Effect on Instagram Comments for Political Parties

Independent Variable	Eff. size	St.Err	exp(effsize)	lowlim	uplim	p-value
Traffic	0,03109105	0,0344617	1,0315794	0,9642026	1,1036645	0,36717981
Pets	0,04904132	0,0833069	1,0502637	0,8920436	1,2365471	0,55619683
Formal	-0,0289365	0,0263659	0,9714781	0,92255	1,0230012	0,27311965
Animals	0,1820925	0,1154216	1,1997252	0,9568259	1,5042866	0,11474618
Sports	-0,0112043	0,0906381	0,9888582	0,8279065	1,1811003	0,90161255
Informal	-0,1357423	0,0263032	0,8730676	0,8291978	0,9192585	2,53E-07
Food	-0,0983026	0,03051	0,9063746	0,8537625	0,9622288	0,00127759
Person (binary)	-0,0673604	0,0216392	0,9348582	0,8960373	0,9753612	0,00187518
Person	-0,010777	0,0025711	0,9892809	0,984308	0,9942789	2,81E-05
Text length	0,00041036	7,27E-05	1,0004104	1,0002679	1,000553	1,75E-08
Tag (binary)	-0,0180634	0,0275138	0,9820988	0,9305397	1,0365146	0,51232253
Tags	0,03649395	0,0046487	1,037168	1,0277608	1,0466614	5,10E-15
Person + Traffic	0,01200406	0,0395937	1,0120764	0,9365058	1,0937451	0,76192743
Person + Pets	0,00412453	0,1029065	1,004133	0,8207208	1,2285337	0,9682395
Person + Formal	-0,0216849	0,0268672	0,9785485	0,9283517	1,0314595	0,42051972
Person + Animals	-0,0671127	0,1731152	0,9350899	0,6660314	1,3128406	0,69800561
person + Sports	0,00499607	0,1048662	1,0050086	0,8182874	1,2343367	0,96197628
Person + Informal	-0,1323549	0,0283286	0,87603	0,828715	0,9260465	3,04E-06
Person + Food	-0,1206744	0,0326331	0,8863225	0,8314074	0,9448648	0,00021895

Annex 1: Index of Variables, recoded in SPSS:

Dependent variables (engagement)

1. Likes: Numeric variable. N = number of likes
2. Comments: Numeric variable. N = number of comments.

Independent variables

1. Traffic: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
2. Pets: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
3. Formal: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
4. Animals: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
5. Sports: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
6. Informal: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
7. Food: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
8. 'person_bin': Person: Binary variable. 0 = if no persons were present, 1 = at least 1 person was present
9. Person: Numeric variable. N = number of persons identified on the post
10. Tag amount: Numeric variable. N = number of persons that are tagged.
11. Tag_amount_bin: Binary variable: 0 if nobody was tagged, 1 = at least one person tagged.
12. Text length: Length of accompanying text under the post Nominal variable: N = number of characters.
13. Video: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present
14. Person + Traffic: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
15. Person + Formal: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
16. Person + Animals: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
17. Person + Pets: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
18. Person + Sports: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
19. Person + Informal: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories
20. Person + Food: Binary variable. 0 = if none of the items were present, 1 = at least 1 item present of both categories

Annex 2: List of world leaders

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
1	President of Algeheria, Abdelaziz Bouteflika	@abdelaziz_bouteflika
2	Algeria MFAوزارة الجزائر الخارجية	@algeria_mfa
3	João Manuel Gonçalves Lourenço	@cdajoaolourenco
4	Présidence du Bénin	@presidencebenin
5	President Mokgweetsi Masisi	@officialmasisi
6	ROCH MARC CHRISTIAN KABORE |PF	@rochkaborepf
7	President of Burundi, Pierre Nkurunziza	@pierrenkurunziza
8	Paul Biya (Page Officielle)	@presidentpaulbiya
9	Presidência da República CV	@presidenciacv
10	Governo de Cabo Verde	@governodecaboverde
11	Beit Salam	@beitsalam
12	Gouvernement Congo/Brazzaville	@congo.brazzaville
13	Joseph Kabila	@kabilajoseph
14	Léonard She Okitundu	@sheokitundu
15	IOG	@ismaelomarguelleh
16	Abdelfattah Elsisi	@alsisiofficial
17	Foreign Affairs of Ethiopia	@mfaethiopia
18	Ali Bongo Ondimba	@president_abo
19	Primature Gabon	@primaturegabon
20	Primature Gabon	@gabonprimature
21	Nana Akufo-Addo	@nakufoaddo
22	Hon. Shirley Ayorkor Botchway	@ayorkorbotchwey
23	#AlphaConde2015 #VoteAlpha2015	@alphaconde2015
24	PRG	@presidence_gn
25	Gouvernement Guinéen	@gouvgn
26	Umaro Mokhtar Sissoco Embalo	@u_embalo
27	Alassane Dramane Ouattara	@adosolutions
28	Amadou Gon Coulibaly	@amadougon
29	Gouvernement de Côte d'Ivoire	@gouvci.officiel
30	Primature CI	@primatureci
31	Uhuru Kenyatta к□	@ukenyatta
32	Presidency Kenya	@statehouseke
33	Ministry Of Foreign Affairs Ke	@foreignofficeke
34	George Weah	@foreignofficeke
35	Arthur Peter Mutharika	@president_mutharika
36	Malawi Government	@malawigovernment
37	Ibrahim B. Keita	@ibk_2013
38	Kamissa Camara	@kamissacamaradc
39	Mohamed Ould Abdelaziz	@presidentaziz
40	President of Mozambique, Felipe Nyusi	@filipenyusi
41	GOVdigitalMZ	@govdigitalmoz
42	Issoufou Mahamadou	@issoufoumhm
43	President of Niger	@presidenceniger
44	Muhammadu Buhari	@muhammadubuhari
45	Federal Government of Nigeria	@theasovilla
46	Min of Foreign Affairs, Abuja	@mfa.abuja
47	President Paul Kagame	@paulkagame
48	Government of Rwanda	@rwandagovt
49	Macky Sall	@macky_sall
50	Présidence du Sénégal	@pr_senegal
51	Danny Faure	@dannyarfaure
52	State House Freetown	@statehousesl
53	Somali Prime Minister	@somaliprimeminister1
54	Ministry of Foreign Affairs	@mofasomalia
55	Wasaaradda Arrimaha Dibadda	@mfasomalia
56	South African Government	@governmentza
57	DIRCOZA	@dircoza
58	Ikulu Mawasiliano	@ikulu_mawasiliano
59	Prof. Robert Dussey	@rdussey
60	Bejice	@bejiceofficial
61	Yoweri K Museveni	@yowerikmuseveni
62	Uganda Media Centre	@ugandamediacentre
63	Edgar Chagwa Lungu	@edgarclungu
64	Emmerson Dambudzo Mnangagwa	@presidentmnangagwa
65	Ashraf Ghani	@ashrafghani.af
66	ARG	@arg1880
67	Dr. Abdullah Abdullah	@abdullahabdullah.af
68	Dr. Abdullah Abdullah	@afgexecutive
69	Ministry of Foreign Affairs AF	@mfa_afghanistan
70	Նիկոլ Փաշինյան Nikol Pashinyan	@prime.minister.arm
71	Government Of Armenia	@arm_gov
72	MFA Armenia	@mfa_of_armenia
73	İlham Əliyev	@azpresident
74	President Azerbaijan	@presidentaz
75	MFA Azerbaijanʌ□	@azerbaijanmfa

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
76	King Hamad bin Isa Al Khalifa	@hamadbinisa
77	اخبار سمو ولي العهد	@bahraincpnews
78	iGA Bahrain	@igabahrain
79	Khalid Alkhalifa	@khalid_bin_ahmad
80	MoFA — وزارة الخارجية	@bahdiplomatic
81	His Majesty King Jigme Khesar	@kingjigmekhesar
82	Jabatan Penerangan Brunei	@infodept.bn
83	GOV.BN	@govbn
84	China SCIO	@chinascio
85	Georgian Government	@government_geo
86	David Zalkaliani	@david_zalkaliani
87	President of India	@presidentofindia
88	Narendra Modi	@narendramodi
89	Prime Minister of India	@pmoindia
90	Indian Diplomacy	@indiandiplomacy
91	Ministry of External Affairs	@meaindia
92	Joko Widodo	@jokowi
93	Kantor Staf Presiden	@kantorstafpresidenri
94	Sekretariat Kabinet	@sekretariat.kabinet
95	Kementerian Luar Negeri RI	@kemlu_ri
96	Ayatollah Seyed Ali Khamenei	@khamenei_ir
97	Ayatollah Seyed Ali Khamenei	@khamenei_ar
98	President Rouhani 📷 حسن روحاني	@hrouhani_media
99	Hassan Rouhani • حسن روحاني	@hrouhani
100	Javad Zarif	@jzarif_ir
101	Ministry of Foreign Affairs	@mfa_ir
102	حامیان وزارت امور خارجه ایران	@mfa_gov
103	إبراهيم الأشيقر الجعفري	@aljaffaary
104	Reuven Ruvi Rivlin	@presidentruvi
105	Benjamin Netanyahu	@b.netanyahu
106	Benjamin Netanyahu	@israelipm
107	Israel Ministry of Foreign Affairs	@israelmfa
108	إسرائيل بالعربية	@israelarabic
109	Israel	@stateofisrael
110	安倍晋三	@shinzoabe
111	首相官邸	@kantei
112	MofaJapan外務省	@mofajapan
113	Queen Rania Al Abdullah	@queenrania
114	Royal Hashemite Court	@rhcjo
115	Foreign Ministry	@foreignministry
116	Foreing Ministry Jordan	@foreignministryjo
117	AkordaPress	@akordapress
118	Новости |События |Брифинги РК	@sckastana
119	Карим Масимов	@kmassimov
120	Новости Премьер-Министра РК	@primeministerkz
121	Kazakhstan Foreign Ministry	@mfa_kz
122	Sheikh Sabah Al Ahmad Al Sabah	@hhshksabah
123	البوابة الإلكترونية الرسمية	@egovkw
124	مجلس الوزراء	@kuwaiticm
125	وزارة الخارجية — دولة الكويت	@mofakuwait
126	Алмазбек Атамбаев	@atambayev
127	President Michel Aoun ©	@generalmichelaoun
128	Lebanese Presidency	@lbpresidency
129	Saad Hariri	@saadhariri
130	Gebran Bassil	@gebranbassil
131	Dr Mahathir Mohamad	@chedetofficial
132	government.malaysia	@malaysia_gov
133	Saifuddin Abdullah	@saifuddinabd
134	Kementerian Luar Negeri	@mofamalaysia
135	The President's Office	@presidencymv
136	Халтмаагийн Баттулга	@haltmaa
137	Aung San Suu Kyi	@aungsansuukyii
138	وزارة الخارجية — سلطنة عمان	@mofaoman
139	Dr Arif Alvi	@dr.arifalvi
140	Imran Khan	@imrankhan.pti
141	Govt of Pakistan	@govt_of_pakistan
142	Shah Mahmood Qureshi	@smqureshi.pti
143	Mahmoud Abbas	@president_abbas
144	د. رامي الحمد الله	@rami.hamdallah
145	Palestine.PMO	@palestine.pmo
146	Rody Duterte	@rodyduterteofficial
147	Presidential Communications	@pcoogov
148	Philippine Government	@govph
149	Alan Cayetano	@alanpetercayetano
150	DFA Philippines	@dfaphl

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
151	بوابة حكومي — قطر	@hukoomi.qatar
152	وزارة الخارجية — دولة قطر	@mofaqatar_a
153	الملك سلمان بن عبدالعزيز	@kingsalman
154	وزارة الخارجية s□	@ksa_mofa
155	Halimah Yacob	@halimahyacob
156	Lee Hsien Loong	@leehsienloong
157	gov.sg	@gov.sg
158	Vivian Balakrishnan	@vivianbalakrishnan
159	Ministry of Foreign Affairs SG	@mfa_sg
160	문재인	@moonjaein
161	대한민국 청와대	@moonjaein
162	대한민국 청와대	@cheongwadae
163	Governement of Korea	@korea_net_
164	국무총리실	@primeministerkr
165	외교부	@mofa_kr
166	MOFA, Republic of Korea	@mofakr_eng
167	Maithripala Sirisena	@maithripalas
168	Ministry of Foreign Affairs SL	@mfa_srilanka
169	Syrian Presidency	@syrianpresidency
170	Эмомали Рахмон	@e.rahmon
171	MFA Thailand	@mfa_thailand
172	Ministry of Foreign Affairs	@mfathai
173	Mbz	@mbz_photos
174	Mohammed bin Rashid Al Maktoum	@hhshkmohd
175	Government UAE	@uaegov
176	UAEmGov	@uaemgov
177	MOFAIC UAE	@mofauae
178	Office of Foreign Minister	@ofmuae
179	Shavkat Mirziyoyev	@mirziyoyev_sh
180	Shavkat Mirziyoyev	@mirziyoyev_sh_eng
181	Bộ Ngoại Giao	@mofavietnam
182	Edi Rama	@ediramaal
183	Ditmir Bushati	@ditmir.bushati
184	Albanian MEFA a□	@albanianmefa
185	Govern d'Andorra	@governandorra
186	Alexander Van der Bellen	@vanderbellen
187	Sebastian Kurz	@sebastiankurz
188	Bundeskanzleramt Österreich	@bundeskanzleramt.gv.at
189	Außenministerium Österreich	@mfa_austria
190	Foreign Ministry of Belarus	@belarusmfa
191	CharlesMichel	@charlesmichel
192	Belgium.be	@belgium.be
193	Didier Reynders	@didierreynders
194	Ministry of Foreign Affairs в□	@belgiummfa
195	Sefik Dzaferovic	@sefik.dzaferovic
196	Boyko Borissov	@boyko.borissov
197	Ekaterina Zaharieva	@ekaterina_zaharieva
198	Kolinda Grabar-Kitarović	@predsjednicarh
199	Vlada Republike Hrvatske	@wwwvladahr
200	Nicos Anastasiades	@nicosanastasiades
201	Úřad vlády České republiky	@strakovka
202	DET DANSKE KONGEHUS	@detdanskekongehus
203	Lars Løkke Rasmussen	@larsloekke
204	Anders Samuelsen	@anderssamuelsen1
205	Denmark.dk d□	@denmarkdotdk
206	Kersti Kaljulaid	@kerstikaljulaid
207	Presidendi kantselei kaameraga	@kadrioru_kaamera
208	VKB	@kadrioru_kaamera
209	Donald Tusk	@donaldtusk
210	Council of the European Union	@eucouncil
211	EU Council TVNewsroom	@eucounciltvnews
212	European Commission e□	@europeancommission
213	EEAS	@eudiplomacy
214	Sauli Niinistö 2018	@sauli2018
215	Tasavallan presidentin kanslia	@tpkanslia
216	Juha Sipilä	@juhasipila
217	Finnish Government	@finnishgovernment
218	Emmanuel Macron	@emmanuelmacron
219	Présidence de la République	@elysee
220	Edouard Philippe	@edouardphilippepm
221	Gouvernement	@gouvernementfr
222	Jean-Yves Le Drian	@ledrian2015
223	France Diplomatie	@francediplo
224	Frank Walter Steinmeier	@frankwaltersteinmeier
225	Angela Merkel	@bundeskanzlerin

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
226	Heiko Maas	@maas.heiko
227	Auswärtiges Amt	@auswaertigesamt
228	Alexis Tsipras, Αλέξης Τσίπρας	@alexistsipras
229	Orbán Viktor	@orbanviktor
230	Guðlaugur Þór Þórðarson	@gudlaugurthor
231	Utanríkisráðuneytið	@utanrikisraduneytid
232	Michael D Higgins	@michaeldhiggins2018
233	Uachtarán na hÉireann	@presidentirl
234	Merrionstreet	@merrionstreet
235	Simon Coveney TD	@simoncoveney
236	Quirinale	@quirinale
237	Giuseppe Conte	@giuseppeconte_ufficiale
238	Farnesina i□	@italymfa
239	Hashim Thaçi	@hashimthaciofficial
240	Behgjet Pacolli	@pacollibehgjet
241	Raimonds Vejonis	@vejonisr
242	Valsts prezidents	@valsts_prezidents
243	Valdības māja	@brivibas36
244	edgarsrinkevics	@edgarsrinkevics
245	Latvian MFA	@latvianmfa
246	Dalia Grybauskaitė	@daliagrybauskaite
247	Cour grand-ducale Luxembourg	@courgrandducale
248	Xavier Bettel	@xavier.bettel
249	Gjorge Ivanov	@macedonianpresident
250	Зоран Заев	@zoranzaev
251	Влада на Република Македонија	@mkvlada
252	Marie-Louise Coleiro Preca	@president.mt
253	Joseph Muscat	@josephmuscat_jm
254	Government of Malta	@maltagov
255	DOI	@doimalta
256	Carmelo Abela	@carmelo.abela
257	Dodon Igor	@dodon_igor
258	MFA Moldova	@mfamoldova
259	Gouvernement de Monaco	@gvtmonaco
260	Milo Đukanović	@predsjednik_cg
261	Vlada Crne Gore	@vlada_cg
262	Mark Rutte	@markopinsta
263	Ministerie van BZ	@minbz
264	Erna Solberg	@erna_solberg
265	Regjeringen	@regjeringen
266	Utenriksdepartementet	@utenriksdept
267	Andrzej Duda	@andrzej.duda
268	Prezydent RP Andrzej Duda	@prezydent_pl
269	Kancelaria Premiera	@premierrp
270	.:POLSKA:::POLAND:.	@polska.pl
271	Marcelo Rebelo de Sousa	@presidentemarcelo
272	António Costa PM	@antoniocostapm
273	República Portuguesa	@govpt
274	Presedintele Romaniei	@klausiohannis
275	Guvernul României	@gov.ro
276	MFA Romania	@mfaromania
277	Дмитрий Медведев	@damedvedev
278	Краснопресненская, 2	@photogovernment
279	МИД России / Russia's MFA	@mid.rus
280	روسيا بالعربية	@russia_ar
281	Luca Santolini	@luca_santolini
282	Mirko Tomassoni	@mirkotomassoni
283	Aleksandar Vucic	@aleksandar_vucic
284	SerbianPM	@serbianpm
285	Andrej Kiska	@andrejkiska
286	Peter Pellegrini	@peter_pellegrini
287	Borut Pahor	@borutpahor
288	Marjan Šarec	@sarec.marjan
289	Vlada Republike Slovenije	@gov.si
290	dr. Miro Cerar	@mirocerar
291	Pedro Sánchez	@sanchezcastejon
292	La Moncloa	@desdelamoncloa
293	EXTERIORES.MAEC	@exteriores.maec
294	Kungahuset	@kungahuset
295	Stefan Löfven	@stefanlofven
296	Sveriges regering	@sverigesregering
297	Margot Wallström	@teamwallstrom
298	Sweden MFA	@swedenabroad
299	Alain Berset	@alain.berset
300	Ignazio Cassis	@ignaziocassis

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
301	Recep Tayyip Erdoğan	@rterdogan
302	رجب طيب أردوغان	@rterdogan_ar
303	T.C. Cumhurbaşkanlığı	@tcbestepe
304	Turkish Presidency	@trpresidency
305	Turkish Presidency	@tr.presidency
306	رئاسة الجمهورية التركية	@tcbestepe.ar
307	Basın Yayın ve Enformasyon	@basbakanlikbyegm
308	T.C. Başbakanlık KDK	@kamudiplomasisi
309	Mevlüt Çavuşoğlu	@mevlutcavusoglu
310	T.C. Dışişleri Bakanlığı	@tcdisisleri
311	Петро Порошенко	@poroshenkopetro
312	Володимир Гройсман	@volodymyrgroysman
313	МЗС України | MFA of Ukraine	@mfa_ukraine
314	Theresa May	@theresamay
315	UK Prime Minister	@10downingstreet
316	Jeremy Hunt	@jeremyhunt1071
317	Jeremy Hunt	@jeremy.hunt
318	Foreign, & Commonwealth Office	@ukforeignoffice
319	Gaston Browne	@brownegaston
320	Hongaston Browne	@hongastonbrowne
321	Hon. Dr. Hubert A Minnis	@hubertaminnis
322	DarrenHenfieldFNM	@dahenfieldfnm
323	gisbarbados	@gisbarbados
324	Govt of Belize Press Office	@gobpressoffice
325	Justin Trudeau	@justinpjtrudeau
326	Chrystia Freeland	@chrystiafreeland
327	Global Affairs | Aff mondiales	@gacanada.amcanada
328	Carlos Alvarado Quesada	@carlosalvq
329	Casa Presidencial Costa Rica	@presidenciacr
330	Epsy Campbell	@epsycampbell
331	Cancilleria de Cuba	@cubaminrex
332	Roosevelt Skerrit	@skerritr
333	Danilo Medina	@danilomedina
334	Presidencia Dominicana	@presidenciard
335	Miguel Vargas	@miguelvargasm
336	Cancilleria RD	@mirexrd
337	Salvador Sánchez Cerén	@salvadorpresidente
338	Presidencia de El Salvador	@presidenciasv
339	Secretaria de Comunicaciones	@secretariadecomunicacion
340	Jimmy Morales	@jimmymoralesgt
341	Gobierno de Guatemala	@gobiernodeguatemala
342	Président Jovenel Moïse	@jovenelmoise
343	Jean Henry Céant	@jeanhenryceant
344	Primature Haïti	@primature_ht
345	Juan Orlando Hernández	@juanorlandoh
346	Casa Presidencial de Honduras	@presidencia_hn
347	Relaciones Exteriores HN	@cancilleriahn
348	Hon. Andrew Holness	@andrewholnessjm
349	Office of the Prime Minister	@opmjamaica
350	Kamina Johnson Smith□	@kaminajsmith
351	Ministry of Foreign Affairs	@mfaftja
352	Enrique Peña Nieto	@epn
353	Presidencia de la República	@presidenciamx
354	gob.mx	@gob.mx
355	SRE	@sremx
356	Juan Carlos Varela	@jcvarelapty
357	Presidencia de Panamá	@presidenciapma
358	Isabel Saint Malo de Alvarado	@isabelsaintmalo
359	Cancilleria de Panamá	@cancilleriapma
360	rossellonevares	@ricardorossello
361	La Fortaleza	@fortalezapr
362	Mark Brantley	@magbrantley
363	SKN Government	@skngov
364	Government of Saint Lucia	@saintluciagovernment
365	Keith Rowley	@drkeithrowley
366	Office of the Prime Minister	@opm_tt
367	Ministry of Foreign Affairs TT	@mfagovtt
368	President Donald J. Trump	@realdonaldtrump
369	The White House	@whitehouse
370	USAGov	@usagov
371	Secretary Pompeo	@secpompeo
372	U.S. Department of State	@statedept
373	USAdarFarsi	@usadarfarsi
374	Economic and Business Affairs	@econengage
375	USAbilaraby	@usabilaraby

List of IG accounts of World Leaders		
Nr	Name of World Leader	Instagram Handle
376	Scott Morrison	@scottmorrisonmp
377	The PMO	@thepmo
378	Marise Payne	@marisepayne6
379	DFAT	@dfat
380	FijianGovernment	@fijiangovernment
381	Fiji Foreign Affairs	fijiforeignaffairs
382	Republic Of Nauru	@republic_nauru
383	Jacinda Ardern	@jacindaardern
384	Winston Peters	@winstonpetersnzfirst
385	Government of Samoa	@samoagovt
386	Tonga Govt Portal	@tongagovtportal
387	Siaosi Sovaleni	@ssovaleni
388	Mauricio Macri	@mauriciomacri
389	Casa Rosada	@casarosadaargentina
390	Jorge Faurie	@jorgefaurie
391	Cancilleria Argentina	@cancilleriaarg
392	Michel Temer	@micheltemer
393	Secretaria de Governo PR	@secretariadegovernopr
394	Planalto	@planalto
395	Governo do Brasil	@governodobrasil
396	Aloysio Nunes Ferreira	@aloysio_nunes
397	MRE Brasil — Itamaraty	@itamaratygovbr
398	Sebastian Piñera Echenique	@sebastianpinerae
399	Presidencia De Chile	@presidencia_cl
400	Gobierno de Chile	@gobiernodechile
401	Cancilleria Chile c□	@cancilleriachile
402	Iván Duque	@ivanduquemarquez
403	Presidencia de Colombia	@infopresidencia
404	Carlos Holmes Trujillo	@cancillercarlosholmestrujil
405	Cancilleria de Colombia	@cancilleriacol
406	Lenin Moreno	@leninmorenog
407	Presidencia Ecuador	@presidenciaec
408	SECOM	@comunicacion_ec
409	Cancilleria Ecuador	@cancilleria_ecuador
410	MOTPGuyana	@motpguyana
411	OPM Guyana	@opmguyana
412	MaritoPresidente	@maritopresidente
413	Presidencia Paraguay	@presidenciaparaguay
414	Luis A. Castiglioni	@castiglioniluisalberto
415	Presidencia Perú	@presidenciaperu
416	César Villanueva Arévalo	@cesarvillanuevaoficial
417	PCMPERU	@pcmperu
418	Presidencia del Uruguay	@presidenciauruguay
419	Nicolás Maduro	@nicolasmaduro
420	Prensa Presidencial-Venezuela	@presidencialven
421	Jorge Arreaza v□	@jaarreaza.ve
422	Volodomir Zelenskiy	@zelenskiy_offiicial
423	Cancilleria de Venezuela	@cancilleriave

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Judging a Book by its Cover. Political Impression Management on Instagram: Privatization and Voter Engagement

Chapter published in: *Handbook Visual Politics*, edited by Lilleker, D. and Veneti, A. (2022)

5.1 Introduction

Every single day we are exposed to an almost unstoppable flow of images, which has only been encouraged by the rise of social media platforms like Instagram and YouTube. The potential of these social media channels has not remained unnoticed nor unexplored by politicians and political parties. Social media platforms in general, but especially visually oriented platforms such as Instagram, encourage a shift from discussions about political issues to the construction of an appealing public persona (Diedkova, De Landtsheer, & De Vries, 2019). By drawing on De Landtsheer's political impression management framework (1999, 2000, 2004), it is argued that a formal political appearance taps into perceptions of leadership, intelligence, and political suitability in the eye of the beholder. Nevertheless, social media play a new and unparalleled role in political campaigning (Bossetta, 2018; Filimonov, Russmann, & Svensson, 2016; Lilleker, Tenscher, & Stetka, 2015) and may add a significant new dimension to the existing theoretical framework. Because of the increasing digitalization, visualization, and personalization of the media, politicians have increasingly been sharing their private lives to convey a feeling of closeness and establish a face-to-face relationship with their voters (Poulakidakos & Giannouli, 2019; Russmann, Svensson, & Larsson, 2019). This might change perceptions of political suitability, advocating that a less formal and more casual political appearance adds to the perception of political suitability. So, the central question of the present chapter is: Has a social media platform like Instagram contributed to a shift in voters' perception of political suitability from a formal image towards an increasingly informal image?

In this analysis, data were collected using a survey in Qualtrics amongst a heterogeneous group of 905 respondents assessing the perceived political suitability for low-profile politicians' Instagram pictures. Two Instagram pictures per politician were evaluated by the respondents: an informal, privatized style picture versus a professional, formal style one (Jung et al., 2017). For the regression analysis, linear mixed models were

fitted using R, version 3.5.3 (Team, 2019) and the lme4 package (Bates, Maechler, Doler, & Walker, 2015).

This study set out to investigate the usefulness of storytelling strategies on voters' image formation through visuals on Instagram. The specific objective is to compare the impact of the two most observed visual self-presentation strategies online (formal versus informal presentation), first on the overall impression of the candidate, but second, on voters' online and offline engagement (measured respectively by online liking and voting intention). This impact was controlled for gender, age, political orientation, and social media use. Several suggestions for this research have been proposed (Liebhart & Bernhardt, 2017; Russman, Svensson, & Larsson, 2019; Poulakidakos & Giannouli, 2019). Furthermore, this chapter attempts to show to what extent online support is echoed in voting behaviour. The results from this research have implications for future political impression management strategies employed by political candidates and contribute to a better understanding of voter evaluations of these strategies.

This chapter is structured in this way: first, the trend of privatization within political impression management and the l with Instagram will be discussed. Subsequently, the methodological procedures are outlined related to data collection and analysis. Lastly, the results will be revealed on the central research question of this study.

5.2 Theoretical Framework

5.2.1 Instagram and political impression management

Instagram's story started in 2010 as a photo-sharing application, but it now has changed the way we interact with the world around us. Consequently, empirical evidence indicates that within political communication the boundary between public and private life is evaporating (Poulakidakos & Giannouli, 2019). Bypassing the traditional media, Instagram is the perfect avenue for self-representation for politicians enabling them to construct a carefully built media image by strategically curated photographs directly to their followers (Friebe, 2020). The 'image first, text second' rule of Instagram is gaining an increasing number of followers, which can be explained by ongoing digitalization and visualization. Last year, Instagram's users grew to 1.22 billion users around the world. Just over half the audience is female (50.8%) and 62.7% of the users are between the ages of 18 and 34 (We Are Social & Hootsuite, 2021). Like many other social networks, followers can express their approval of a post by liking and commenting on the image. However, Instagram is differently positioned: if Facebook is about friendships and Twitter is about opinions, Instagram is about *experiences*. Unequalled by any other platform, it offers a glimpse into anyone else's life, anywhere in the world (Friebe, 2020). Instagram has many functions, such as mobilizing and informing (see Lalancette & Raynauld, 2019; Lilleker et al., 2011; Liebhart & Bernhardt, 2017) but in this chapter, the focus lies on the image management function through visuals or posts (Liebhart & Bernhardt, 2017; Lilleker, Tenscha, & Stetka, 2015; Russmann, Svensson, & Larsson, 2019).

5.2.2 Privatization and impression management

Several studies have demonstrated how social media is used by campaigning politicians to reinforce a positive image and create a feeling of closeness (Lalancette & Raynauld, 2019; Liebhart & Bernhardt, 2017; Russmann, Svensson, & Larsson, 2019). In order to do so, they sometimes share a glimpse of their private moments, which can help the voter to identify with the political candidate. Thus far, several sources have reported how Instagram is increasingly being used to show politicians' human side by posting pictures of their private lives (Hinsliff, 2019; Jung et al., 2017; Poulakidakos & Giannouli, 2019; Russmann, Svenssonn, & Larsson, 2019). There are key examples of high-profile candidates that illustrate this trend of an increasingly visual and personalized outreach to the public. Instagram pictures of Justin Trudeau with his family (Lalancette & Raynauld, 2019) or Putin pictured horse-riding half-nude are being used to construct a favourable self-image. In the present study, however, we focus on low-profile candidates who use this image-building technique. They have every right to do so because visuals can be quite powerful and convey as much meaning and emotions as any accompanying words (Lilleker, 2019). In addition, photographs are much better than text for self-expression and impression management since people perceive nonverbal messages such as Instagram pictures as credible (Lalancette & Raynauld, 2019; Poulakidakos & Giannouli, 2019; Russmann, Svensson, & Larsson, 2019). Yet, a critical note is that increasing access to cameras and more means of manipulating results in a fading boundary between persuasion and entertainment (Messaris, 2019).

According to Van Aelst, Schaefer, & Stanyer (2011), the concept of privatization is defined as a dimension of individualization that refers to the shift in focus from the politician's public role to their private life. By drawing on this concept, a list of four types of images is provided that fall under the label 'privatization': posts of politicians' family, past life. upbringing, leisure time. and love life (Van Aelst, Sheafer, & Stanyer, 2011). Farkas & Bene (2021) conclude that Instagram is much more informal than Facebook and more related to this privatization dimension of personalization. However, it remains to be seen whether these privatized pictures contribute to a politically suitable image.

5.2.3 Formality and political impression management

For this research, the technology of Instagram is relevant as it enables the owner of the post to have full control over the production, selection, and dissemination of the image. Since politics is increasingly about creating and maintaining a specific image and less about content, Instagram is the perfect campaigning tool for constructing such a favourable image. This study has to be interpreted within the context of existing research on voting intentions, which emphasizes the electoral significance of the achievements of political parties and leaders within the domain of economy and finance. In the impression management process, one cannot neglect the role of a politician's rhetoric, besides their personality traits and appearance (De Landtsheer, De Vries, & Vertessen, 2008). Voters, nevertheless, attribute a personality to a political candidate depending on their physical appearance, with some physical appearance characteristics being more suitable for

political leadership and success. More recent attention has focused on the provision of political impression management strategies behind images (Bakhshi, Shamma, & Gilbert, 2017; Jung et al., 2017; Lilleker & Koc-Michalska, 2013). De Landtsheer (1999, 2000, 2004) and De Vries (2007) demonstrated the importance of physical appearance rather than debates or content on the perception of political suitability for both male and female politicians. In studies for Belgium and the Netherlands, using photos, videos, and campaign flyers during mock elections, De Landtsheer demonstrated how the level of perceived political suitability is bound to a *formal* self-presentation style. Together, these studies describe what a politically suitable politician looks like. For a male candidate, this is a high forehead, dark or grey hair combed in parts and a conservative suit. Female candidates should also be conservatively dressed, well-groomed, and dark-haired. Candidates with this 'favourable' political appearance are perceived as intelligent leaders (De Landtsheer, 2004; De Landtsheer, De Vries, & Vertessen, 2008). These results corroborate previous research conducted in the United States of America (Rosenberg, Kahn, & Tran, 1991). It can be argued that depending on economic conditions, ideology, culture and fashion, audiences may prefer more or less formal appearances and presentation styles (Gaus et al., 1995).

In addition, these political impression management studies which focus on physical and visual elements were conducted in a print and television era and need to be updated to the new social media context. Thus far, research on Instagram is still scant but several studies have begun to research the impact of formality on (online) engagement. The studies presented provide evidence that a formal appearance is positively correlated with voter perception and voting intention (De Munter, De Vries, & Pinxteren, 2019; Jung et al., 2017; Lindholm, Carlson, & Högväg, 2021). Conversely, Peng (2021) claims that non-political informal images lead to an increase in online engagement. All of the studies reviewed here, except for the latter, support the following hypothesis:

> H1. *Depiction of a politician in a formal Instagram post will lead to higher online and offline voter engagement compared to an informal post.*

5.2.4 Predictors of online and offline voter engagement

In De Landtsheer's (1999, 2000) analysis of impression management in Belgium and The Netherlands, she employed a questionnaire to measure the traits of a politician perceived by the voter in relation to the perception of political suitability by the voter. This questionnaire, which was inspired by Rosenberg, Kahn, & Tran (1991), consists of five questions, each one developed to evaluate five different dimensions of perceived political personality. These dimensions are leadership, competence or intelligence, trustworthiness, sympathy, and physical attractiveness. Lastly, the voting intention was measured by asking for a rating on political demeanour. Results convincingly demonstrate that voters' perception of these five qualities does contribute, though to a decreasing extent, to the perception of political suitability. Combined, the sum of these five core questions results in a score: the 'Impression Management Score' or (IMS) (De Landtsheer, 2004). The five different (personality) traits appear as empirically separable dimensions of

political personality (Kinder in McGraw, 2003). Firstly, *intelligence* refers to the extent a leader is perceived as qualified, competent, and 'fit for the job', while *leadership* refers to the 'heroic' dimension, often captured by the term 'inspiring', also described as 'not weak'. *Trustworthiness* is the extent to which a leader is ethical and moral, whereas *sympathy* is the extent to which the leader is compassionate, understanding and connected to the 'common man'. To determine the effect of each dimension on voting intention, studies indicated that the 'sympathy' and 'attractiveness' dimensions have the lowest agreement with voting intention with leadership and competence being the highest predicting traits (De Landtsheer, 1999, 2000, 2004; McGraw, 2003, Rosenberg, Kahn, & Tran, 1991; Warner & Banwart, 2016; Franklin & Zebrovitz, 2016). Based on these theoretical insights, the following hypothesis can be formulated:

> *H2. Perceived intelligence and leadership are the highest predicting factors of voting intention.*

Perceived personality traits are the most basic components of a candidate's image, which happens to significantly influence voter choice (Hoegg & Lewis, 2011). In spite of the admonition 'Don't judge a book by its cover', it is clear that people have a strong tendency to follow their intuition based on first impressions rather than rational arguments. Appearance has often been concluded to positively add to the success of a politician since most people are relatively inattentive to politics and rely on simple information — such as candidates' physical appearance — to make political judgments (Lau & Redlawsk, 2001; Popkin, 1994). In contemporary politics, a trend evolution from content to style has been observed (De Landtsheer, De Vries, & Vertessen, 2008). Consequently, the question of the sources of trait inference becomes important and voting heuristics such as stereotypes come into play (Lau & Redlawsk, 2001; McGraw, 2003). First impressions are found to predict electoral success with the 'attractiveness halo effect' concept being important: we tend to see attractive individuals as possessing other positive attributes, such as being more competent or socially adept (Franklin & Zebrovitz, 2016). The finding that companies with good-looking directors are more successful (Bosman & Pfann, 1997) invites us to examine further the differences between the political world and the business environment. Since images on Instagram are a powerful tool for creating a favourable image, and this is supposed to colour the perception of the individual as a whole, the halo effect, we expect that:

H3. Perceived physical attractiveness is the highest predicting factor for online liking.

5.2.5 Online engagement and voting behaviour

To conclude this theory section, we address the correlation between online and offline engagement. Segaard (2017) argued that social media can reach out to segments of the population that are harder to reach for traditional media. In particular, younger voters, women and less educated people have a stronger tendency to perceive social media as a suitable arena for political communication. However, other results suggest

that political interest is the main driver for online political engagement, rather than educational background, gender, age, or ethnicity (Franklin & Zebrovitz, 2016; Melis & Keating, 2017). Previous research has established that social media use does not seem to be a valid predictor of voters' perception or voting behaviour (Dimitrova, & Byström, 2013). Social media, in general, and Instagram, in particular, appears to favour 'impulsive, symbolic and affective expression rather than rational or critical dialogue' (Adi, Gerodimos, & Lilleker, 2018). Accordingly, it seems to be more reactive than predictive regarding voting results (Murthy, 2015). Jeremy Corbyn, for instance, was winning on social media in the 2017 UK elections, which was not the case in reality (Polonski, 2017). Hence, the fourth and last hypothesis is:

H4. Online engagement is not mirrored in voting intention.

5.3 Methodology

5.3.1 Data collection

The data for this research was collected via a questionnaire in Qualtrics and was completed by a heterogeneous group of 905 respondents between February and March 2020. The respondents were recruited via university classes and were asked to share the questionnaire with their family and friends. Each individual rated a total of four different pictures (Instagram posts) of four different, unknown politicians that were randomly attributed. The pictures that were presented to each respondent were balanced for gender, formality, age, and ethnic background. Each respondent was asked to answer seven questions on a five-point Likert scale designed to analyse the perceived likeability and political suitability.

Eight socio-demographic variables on the respondents were collected: gender, age, political orientation, continent of origin, school level, whether they voted in the last election, have an Instagram account, and lastly, the social media frequency. The sample was representative of the Instagram audience with respect to gender and age (see 5.2.1 for Instagram population statistics): just over half the respondents (54%) were female. In addition, the majority of the respondents (86%) were aged between 18 and 35. Most of the respondents were European (84%), and a minority belonged to the remaining continents: African and Asian respondents comprised 4%, closely followed by Canada (3%) and the United States (2%). As expected within this age category, 76% of the respondents have an active Instagram account. They can be described as 'heavy users': 61% use the platform on a daily basis and 32% check the app every hour. Regarding political orientation, there is only 1% who belong to the extreme right. Extreme left is represented by 4%. Yet, the majority belong to the centre (41%), left (36%), and right (19%). 84% of the respondents are politically active and voted in the last election.

5.3.2 Sample: Instagram posts from low-profile candidates

The sample of 18 Instagram photos (see List of visuals) was selected manually for nine politicians, balanced for gender, age category, and ethnic origin. Criteria for selecting candidates' Instagram posts were as follows: first, a picture of a low-profile politician with nothing or nobody else with them on the picture; second, the politician fits the politically suitable physical appearance as described by De Landtsheer (1999, 2000, 2004) and third, they have an active Instagram profile. Primary inclusion criterion was the low-profile criterion because impressions can be ambiguous, and perceptions tend to be consistent in evaluation (McGraw, 2003): people with positive pre-existing views will evaluate very differently and give rather positive scores to the same behaviour compared to people with a negative disposition. In addition, this research is interested in the perceived political suitability linked to the physical appearance of the politician on the post, regardless of their issue positions or partisanship. By choosing politicians who are unknown to the greater public, it was ensured that the respondent had no pre-existing views of the individual. Therefore, nine politicians were selected from the European Parliament website. It has been argued in a recent report by the Committee of the Regions (2018) that there is still a gap between citizens and European politicians and that the European Parliament is considered to be too distant from their electorate. So, this strengthens the assumption that the chosen members were not known or little known amongst the respondents. The second eligibility criterion required a physical appearance matching the politically suitable image as described by De Landtsheer (1999, 2000, 2004) which prescribes physical appearance traits such as a short haircut and a dark hair colour. The last inclusion criterion was the post itself: it should only depict the politician to exclude any interference of other persons, animals, or attributes because previous research has demonstrated the positive impact of children or animals on online engagement (De Munter, De Vries, & Pinxteren, 2019).

The design of the questionnaire was based on the questionnaire by De Landtsheer (1999, 2000) but updated to a social media context. In our questionnaire, respondents were presented with four randomly attributed pictures — never for the same candidate — balanced for gender, age category, ethnic origin, and self-representation style (two formal pictures and two informal pictures). The formal presentation style on a picture was visualized by a business context or professional tools, such as a microphone or laptop and a formal dressing style such as a suit, a tie, or a formal shirt. An informal or privatized post was a picture in a homely setting or reflected by a casual dressing style and suggested by informal items such as sunglasses. Figure 1 shows an example from the survey: two Instagram posts depicting a low-profile politician, with both a formal and informal presentation. The complete sample of visuals can be consulted in the 'list of visuals'.

Fig 1. Example of a professional or formal self-representation style (left) and informal self-presentation style (right). Published on the Instagram account of @Simona_bonafe on 19 July 2019 and 12 January 2020 ©

Based on the physical appearance of the politicians in the picture, each respondent was asked to answer seven questions on a five-point Likert scale was used. The first five questions elicited information on the five dimensions of perceived personality referring to intelligence, trustworthiness, physical attractiveness, sympathy, and leadership (De Landtsheer, 2004). Additionally, two questions were used to measure voter engagement: offline: voting intention ('Is this candidate suitable to represent you?') and online engagement (Would you like this picture on Instagram?). This last question was added to the original questionnaire by De Landtsheer (2004) because of the social media context.

5.3.3 Analysis

The aim of the present chapter is to find out which characteristics of the politician in the Instagram post have an effect on the voter's score. The experimental unit of the experiment is the individual picture score. In the data document, each respondent will have four lines (one for each picture) times seven (for the seven questions). The scores given by the same person are not independent and the scores from the same picture are not independent. Hence, both individual ID and photo ID should be included as random effects.

The pictures have been scored on a five-point Likert scale, which is unsuitable for analysis as a continuous variable. Therefore, the following two analyses were carried out:

1. Add up the five questions about the image and treat the sum (image) as a continuous variable. This serves as the outcome for a linear mixed model.
2. Recode the Likert scales into a dichotomous variable (binary outcome):

    - 1-2 = no
    - 3 = missing
    - 4-5 = yes

Use this binary outcome value as dependent variable in a logistic mixed model (also known as a generalized linear mixed model). All statistical analyses were carried out in R using linear mixed models.

5.4 Results

Using the mixed models discussed in the methods, we tested the association between the outcome (sumImage or binary outcomes), on the one hand, and the photo characteristic (PH) — formality — and the eight individual characteristics from the respondent on the other hand (gender, age, continent, school level, political orientation, vote, Instagram account, social media frequency). In addition to the main effects, we tested all two-way interactions between the PH variable (formality) and individual characteristics.

- pInt: Interaction between the photo variable (PH) and the respondent. The null hypothesis is that the effect of photo characteristics and respondent characteristics are independent. In other words, if this p-value is significant (pInt<0.05), it means that the effect of the photo variable is modified by the respondent variable: they influence each other.
- P_photo and p_resp: These are p-values of the main effect for photo characteristic and respondent characteristic respectively. They are only calculated if pInt is not significant.

5.4.1 Impact of Formality on Impression Score and Voter Engagement

The first research question aimed to compare the impact of two self-presentation styles of politicians on Instagram — namely a formal versus a privatized informal style — not only on the perceived image of the politician but especially on voter engagement, both online (liking intention) and offline (voting intention). The results of the analysis are shown in Tables 1, 2, and 3 below.

Table 1. *Impact of Formality on Online Engagement*

Photo Variable	Respondent Variable	P Interaction	P_Photo	P_Respondent
Formal	Gender	0.946	1.22 E-10	0.02
Formal	Age	0.004	NA	NA
Formal	Continent	0.388	2.90 E-10	3.15E-05
Formal	School level	0.599	2.42 E-10	0.147
Formal	Pol. Orientation	0.309	1.90 E-10	0.993
Formal	Vote	0.877	2.27 E-10	0.004
Formal	SM Frequency	0.798	2.17 E-10	0.025
Formal	IG Account	0.663	1.82 E-10	0.000

Table 1 illustrates the significant difference between liking intention and PH formality, specified for each voter category. What stands out is that there is a significant main effect of PH (formality) across all the respondents' categories. In other words, a professional style receives a higher score on liking intention on Instagram compared to an informal style — regardless of the respondent's gender, continent, education level, political orientation, voting history, social media frequency, or presence on Instagram. However, there is interaction for the age category (pInt = 0.004) which suggests that the impact differs across the different age groups. The difference in size effect amongst these groups is specified in Table 2.

Table 2. *Impact of Formality on Online Engagement. Specified per Age Category*

Respondent variable	OR	95CIlowlim	95 CIuplim	P value
18–35	0.40	2.96e-01	5.40e-01	4.12e-10
35–45	0.50	8.87e-02	2.90E + 00	4.25e-01
45–55	0.19	3.87e-02	9.19e-01	1.81e-02
55–65	4.98	6.86e-01	3.62e + 01	7.26e-02
65 +	0.00	1.20e-14	2.73E + 06	3.44e-01

The impact of formality is significant in the youngest and middle age categories of 18–35 and 45–55, suggesting they prefer a formal over a private post. Yet, for the other age groups, this effect disappears.

Table 3 shows similar results for formality on voting intention: there is a significant main effect of PH (formality) across all categories, except for one i.e., 'Vote'. These results indicate that politicians with a formal self-presentation style are perceived to be more politically suitable and receive a higher score on voting intention, regardless of the respondent's gender, age, education level, political orientation, or social media profile.

Table 3 *Impact of Photo Variable Formality on Voting Intention*

Photo Variable	Respondent Variable	P Interaction	P_Photo	P_Respondent
Formal	Gender	0.332	1.40E-07	0.015
Formal	Age	0.723	1.45E-07	0.801
Formal	Continent	0.587	1.45E-07	0.051
Formal	School level	0.199	1.35E-07	0.873
Formal	Pol. Orientation	0.126	1.35E-07	0.704
Formal	Vote	0.028	NA	NA
Formal	SM Frequency	0.139	1.29E-07	0.181

Formal	IG Account	0.920	1.44E-07	0.290

Nonetheless, a closer inspection of Table 3 reveals there is interaction with the variable 'Vote', measuring whether the respondent voted in the last election.

Table 4 *Size Effects for the Impact of Formality on Voting Intention, Whether Respondents Voted in the Last Election is Specified.*

Respondent variable	OR	95CIlowlim	95 CIuplim	P value
NO	6.07	2.41	15.32	1.98e-05
YES	1.72	1.32	2.25	7.39e-05

It is apparent from Table 4 that the impact of the formality on voting intention is significantly lower on respondents who voted in the last election (OR = 1.72) compared to those who did not vote (OR = 6.07).

Lastly, we wanted to understand the impact of formality of Instagram posts on the perceived image of the candidate. These results can be found in Table 5. What stands out in this table is the significant values across all voter categories for the dimensions of intelligence, leadership, and sympathy. This significant impact disappears for the dimension of perceived trustworthiness and physical attractiveness. This suggests that a candidate receives a significantly higher score from all voters on intelligence, leadership, and sympathy with formal presentation styles.

Table 5 *Impact of Photo Variable (formality) on Perceived Intelligence, Leadership, and Sympathy*

Photo Variable	Respondent Variable	P_Photo Intelligence	P_Photo Leadership	P_Photo Sympathy
Formal	Gender	3.11E-22	5.80E-30	2,65E-13
Formal	Age	8.36E-22	4.47E-30	2,61E-13
Formal	Continent	2.71E-22	1.47E-30	2,07E-13
Formal	School level	1.84E-21	1.75E-30	2,62E-13
Formal	Pol. Orientation	8.41E-22	2.61E-30	3.12E-13
Formal	Vote	1.51E-21	9.83E-31	2.69E-13
Formal	SM Frequency	3.11E-22	4.90E-30	1.61E-13
Formal	IG Account	8.36E-22	2.52E-30	2.16E-13

In summary, the results from these tables show that the first hypothesis is confirmed on all three dimensions of voter engagement: politicians with a formal,

business-like self-presentation style will receive a significantly higher liking and voting intention and receive a higher impression management score for intelligence, leadership, and sympathy.

5.4.2 Predicting Traits for Voter Engagement

The second set of hypotheses presupposed which traits from the pictures have the highest prediction power on voter engagement: from the five different dimensions of the IMS (intelligence, leadership, physical attractiveness, sympathy, and trustworthiness) leadership and intelligence are supposed to have the most impact on voting intention, whereas physical appearance should have the highest predictive power for online liking (HALO effect).

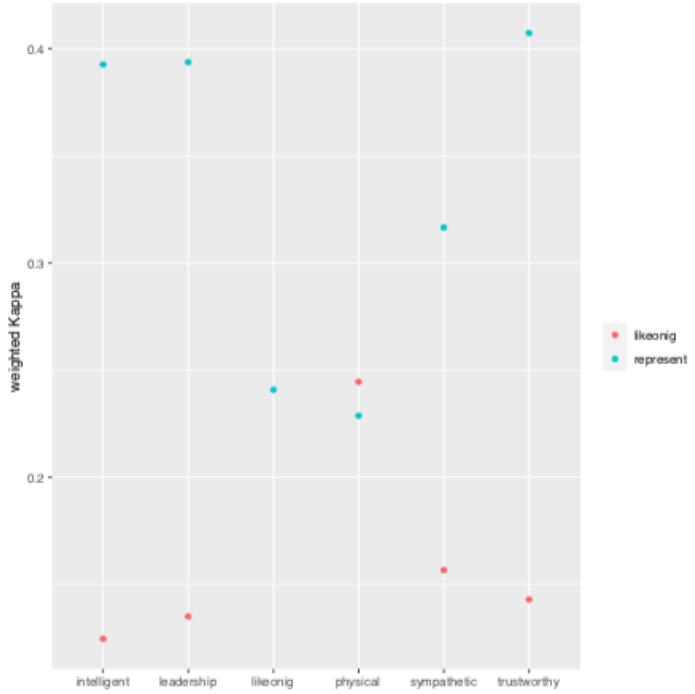

Figure 2. The agreement between voting intention (represent) and liking intention ('likeonIG') and the agreement between the five different dimensions and voting and liking intention.

Figure 2 visualizes the agreement between the ordinal variables 'voting intention' and 'liking intention', on the one hand, and the five traits, on the other hand, all being Likert scales, expressed using a weighted kappa coefficient. Kappa = 0 means the agreement between the variables is not more than between two independent variables. Kappa = 1 means perfect agreement. Red dots show the kappa of liking intention ('likeOnIG') with the questions in the X-axis; blue dots represent the kappa of 'voting intention' ('represent') with the questions in the X-axis. The strongest agreement with voting intention is found for the dimensions of intelligence, leadership, and trustworthiness while there is much less agreement on sympathy and physical attractiveness. Therefore, the second hypothesis is confirmed. Physical attractiveness has

the highest agreement with online engagement ('likeOnIG') but still not very high (Kappa around 0.25). Therefore, we cannot speak of a high HALO effect, but the third hypothesis is confirmed.

The last hypothesis is set to answer the last research question: whether online behaviour is correlated with offline behaviour. This is visualized by the lonely blue dot in Figure 2: the 3rd X-variable 'like on IG': The agreement is not very high either, with kappa around 0.25. suggesting that online behaviour cannot predict voting behaviour. Thus, the fourth hypothesis was also confirmed.

5.5 Discussion

It is undeniable that social media is a game-changer in various aspects of society, including political communication. Social media seem to have triggered a changing, less formal communication style in politicians. However, it appears that social media did not change the standards by which voters cast their electoral vote. The results clearly revealed voters prefer a formal, business-like presentation, similar to before social media was introduced. Leaders with a conservative, formal style are perceived to be more intelligent and 'fit for the job' and receive increased online support. These results suggest the existence of a ubiquitous stereotyped image of a politician in the voters' minds. And this stereotype comes with a traditional, formal self-presentation style. So, it seems that voters are not tapping into the young, informal, and casual communication style that an increasing number of politicians appear to have adopted. These conclusions were significant across all respondent categories, including the continent they were from, though the majority of the respondents were European (84%), 4% of the respondents were African and Asian, 3% Canadian (3%), and 2% American. Hence, this stereotyped image of a political leader appears to be quite universal. Interestingly, the impact of formality on voting intention is significantly lower for respondents who voted in the last election (OR = 1.72) compared to those who did not vote (OR = 6,07). A possible explanation would be that those who are interested in politics (suggested by the fact they voted in the last election) are more educated and consequently less subject to manipulation.

One unanticipated finding is that the age categories of 18–35 and 45–55 years old prefer a formal over a private post but this effect disappeared for the other categories. The reason for this is not clear but it is possible that voter standards vary across these age categories.

Interestingly, there is hardly any correlation between online likes and offline voting behaviour. This observed absence of correlation may be explained by the fact that online followers are already voting for the candidate. So, online support does not necessarily result in a voter bonus. Consequently, it can be assumed that impression management techniques can contribute to constructing and reinforcing a favourable image though online likes are no guarantee of electoral success. Therefore, social media is an ideal storytelling tool to craft a desired image but must be integrated within a wider campaign strategy.

5.6 Conclusion

This study was set out to investigate the impact of political impression management techniques on voter engagement on Instagram. In this investigation, the aim was to assess whether Instagram contributed to a shifting perception of political suitability. Although the literature has highlighted that a formal appearance taps into a higher perceived political suitability (De Landtsheer, 1999, 2000, 2004; De Vries, 2007), a number of studies observed political communication to be characterized by an increasing privatized informal self-presentation style on Instagram (Hinsliff, 2019; Jung et al., 2017; Poulakidakos & Giannouli, 2019; Russmann, Svenssonn, & Larsson, 2019). Based on previous studies and guided by the impression management score of De Landtsheer (2004), it was expected that politicians with a formal appearance would receive a higher score for both liking intention and voting intention.

The most interesting conclusion from this study is that, despite the ongoing privatization observed online, this study has identified the formal self-presentation style as the most successful storytelling strategy for a politician. There was no support found for the hypothesis that there would be a shift in perceived of political suitability towards an informal casual style. A business-like, formal presentation style still receives the highest voter engagement — both online and offline. So, the first hypothesis was confirmed: a higher score was given to formal pictures, from all voters, regardless of their socio-economic background or social media use. The results of this chapter also showed that perceived intelligence and leadership emerged as the highest predictors of voting intention, similar to the television and print era. This confirmed the second hypothesis. Next, we predicted we would find a HALO effect and that candidates who are perceived to be physically attractive would receive a higher liking intention. Interestingly, out of all traits, physical appearance has the highest agreement with online liking, but the relation is not strong enough to speak of a HALO effect. Furthermore, the fourth hypothesis was also confirmed by these results. Lastly, we presupposed that online support is not mirrored offline. So, the last hypothesis was also confirmed by this study.

A limitation of this study is that respondents were not specifically asked if they were familiar with the politician depicted in the picture. It has been argued by a recent report by the Committee of the Regions (2018) that there is still a gap between citizens and European politicians and that the European Parliament is considered to be too distant from their electorate. So, this strengthens the assumption that the chosen members were not known or little known amongst the respondents.

Since the study was limited to a sample of low-profile politicians on Instagram, it is also not possible to extrapolate these conclusions for high-profile candidates or to different platforms other than Instagram. For high-profile candidates, it may prove to be beneficial to show their human side on social networks and create this feeling of closeness with their followers, for instance, by sharing private pictures of family moments.

Despite the relatively limited sample, this work offers valuable insights into effective self-presentation strategies for low-profile politicians. But several questions remain to be answered: whether these results vary across different platforms and whether they are subject to cross-cultural differences. In addition, it must be noted that in the real world, candidates will not only be judged on their physical appearance. Within an election context, issue positions and partisanship are vital in shaping the public's opinion. However, candidate image and trait attributions can have strong implications, especially in low-information elections (De Landtsheer, 2004; McGraw, 2003; Warner & Banwart, 2016).

Considerably more work should be done to assess the power of visuals on social media. The democratic power of social media is entirely dependent on the reach of a post. However, due to the Instagram algorithm, a post will only reach a selection of followers because of the 'echo-chamber' effect where favoured narratives will be promoted and dissident information will be ignored based on the user's likes (Quatrociocchi, Scala, & Sunstein, 2016). Although this is not the central topic of this study, it draws attention to the importance of understanding political impression management techniques from both the producer and the receiver's side.

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List of Visuals

Fig. 1. Formal and informal Instagram posts, white female candidate 20-40 years old

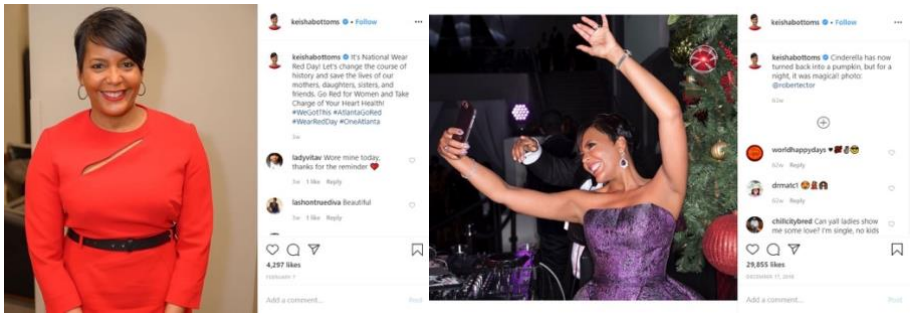

Fig 2. Formal and informal Instagram posts, Black female candidate, 40-60 years old

Fig. 3. Formal and informal Instagram posts, white female candidate + 60

Fig. 4. Formal and informal Instagram posts, white female candidate 40-60 years old.

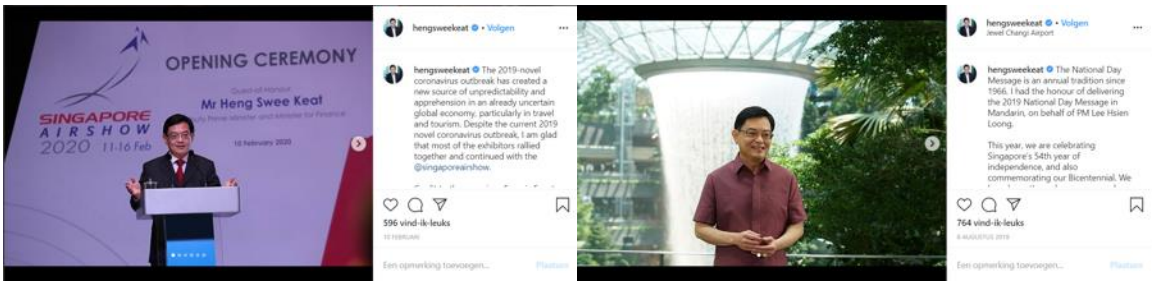

Fig. 5. Formal and informal Instagram posts, Asian male candidate, 40-60 years old

Fig. 6. Formal and informal Instagram posts, black male candidate. 40-60 years old.

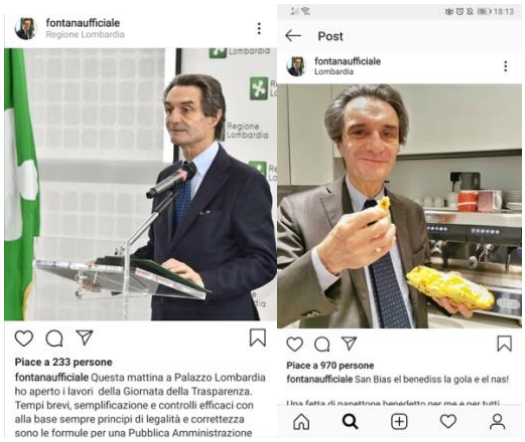

Fig 7. Formal and informal Instagram posts, white male candidate 60 +

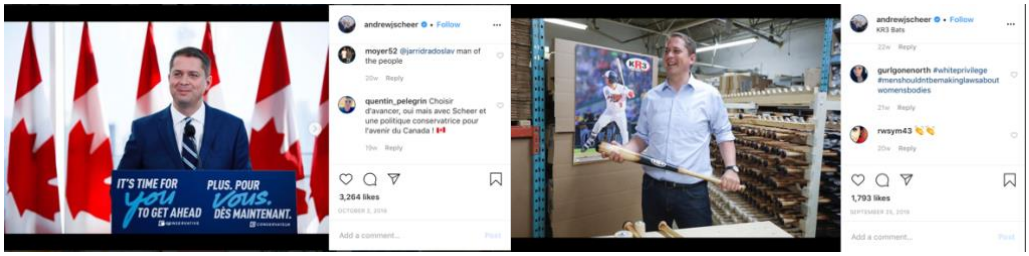

Fig 8. Formal and informal Instagram posts, white male candidate 40-60

Fig 9. Formal and informal Instagram posts, white male candidate 20-40

Example Questionnaire

What is your sex?

- Male
- Female

What is your age category?

- 18–35
- 35–45
- 45–55
- 55–65
- 65 +

What continent are you from?

- Europe
- United States
- Canada
- Asia
- Africa
- South America
- Other

What is the highest level of school that you have completed?

- Less than high school
- High school graduate
- Bachelor's degree
- Master's degree
- Doctorate

What is your political orientation?

- Extreme left
- Left
- Centre
- Right
- Extreme right

Did you vote in the last election?

- Yes
- No

How often do you use social media?

- Never
- Monthly
- Weekly
- Daily
- Hourly

Do you have an active account on Instagram?

- Yes
- No

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree
1. Do you find this person INTELLIGENT?	○	○	○	○	○
2. Do you think this person has LEADERSHIP capacities?	○	○	○	○	○
3. Do you find this person TRUSTWORTHY?	○	○	○	○	○
4. Do you find this person PHYSICALLY attractive?	○	○	○	○	○
5. Do you think this person is SYMPATHETIC?	○	○	○	○	○
6. Would you LIKE this post on Instagram?	○	○	○	○	○
7. Do you think this person is suitable to REPRESENT you in parliament?	○	○	○	○	○

Would you vote for this person?

Least Likely Most Likely

0 10 20 30 40 50 60 70 80 90 100

Vote intention

Hoofdstuk 6

Discussion and Conclusion

Now that no one buys our votes, the public has long since cast off its cares; the people that once bestowed commands, consulships, legions and all else, now meddles no more and longs eagerly for just two things- Bread and Games!

Juvenal, 1st century B.C.

This PhD aimed to establish the type of online self-presentation style that garners the most voter support on Instagram: a formal photo or an informal photo. Since voting behaviour increasingly depends on the impressions or cues the voter receives from the politician, it is paramount information for the candidate to understand which style resonates best with the electorate. Previous research has shown that in the television era a formal, conservative presentation contributed to the notion of political suitability (De Landtsheer, 1999, 2004; De Vries, 2007). However, several studies noted that political communication is characterized by an increasingly privatized informal self-presentation style on Instagram (Hinsliff, 2019; Jung et al., 2017; Poulakidakos & Giannouli, 2019; Russmann, Svensson, & Larsson, 2019). The present research has observed the same phenomenon in Belgium: most candidates' online pictures online are casual and informal at the expense of business -like, formal pictures (see 4.6). Politicians have always been concerned about managing their image. Yet, unlike traditional media, social networking sites — such as Instagram — provide politicians for the first time with the creation and distribution process of these pictures. The power of these pictures cannot be underestimated: pictures are a logical means of political communication in the construction of the candidate's desired image. They have the potential to appeal to a large audience as they are easy to understand and surpass language barriers. It also offers politicians the possibility to construct a favourable image and share a glimpse into their private lives with potential voters to come across as more 'human' (Liebhart & Bernhardt, 2017). Yet, little is known how people respond and engage with these pictures. With the 2024 elections in Belgium ahead, this is paramount information to political communication experts and of course, the candidates themselves. So, this research provides valuable insights on effective *digital* self-presentation strategies in a politician's visual rhetoric.

But *why* are politicians increasingly highlighting their private lives? A possible explanation could be that politicians are convinced that these kinds of images might appear less manipulated and more authentic. Thus, they come across as more likeable and friendly, so the audience might become less resistant to their message. Another explanation could

be that it is a distraction manoeuvre from the candidate. Walgrave (in: De Ceulaer, 2023) argues that it might be a strategic choice to discuss private matters over the candidate's policy so move away from their policy - even when it is bad publicity. If private matters are being discussed, no evaluations are being on the candidate's accomplishments as a politician. The next section discusses the main findings of this thesis which aimed to answer the main research question: what self-presentation style resonates best amongst the voter in the social media age?

6.1 Contributions of this doctoral study to understanding online candidates' impression management

6.1.1 Key findings across the chapters

6.1.1.1 *A formal image resonates best with voters*

The most interesting conclusion from this doctoral study is that, despite the ongoing privatization observed online, this research has identified the formal self-presentation style as the most successful storytelling strategy for a politician. There was no support found for the hypothesis that there would be a shift in perceived political suitability towards an informal casual style. A business-like, formal presentation style still receives the highest voter engagement — both online (likes and comments, see chapter 4) and offline (voting intention, see chapter 5). Examples of such a formal picture is a photo of the politician while working at a desk or office, or a picture of the candidate when giving a presentation.

6.1.1.2 *Perceived intelligence and leadership are more important than sympathy or looks*

Results in chapter 5 showed that perceived intelligence and leadership emerged as the highest predictors of voting intention, like the television and print era. As with mass media, sympathy and physical attractiveness emerged as the factors that are least linked to perceived political suitability. So, perceived political suitability is strongly associated with a formal dress code and context which adds to the notion of perceived intelligence and leadership (chapter 5).

6.1.1.3 *The ideal Instagram post for a politician.*

The results have shown that political suitability is tied to a formal self-presentation style: so, a conservative dress code and a formal context are bound to increase voter engagement online and increase voting intention. A formal picture such as an office, or a picture when giving a presentation. Interestingly, this is the case for any type of politician: high-profile world leaders or low-profile politicians. a politician with a formal f in the company of other people, tag other people, and add a description underneath the photo.

Lastly, results also showed that the presence of children or animals is highly effective for online engagement with photos.

6.1.1.4 *Meta-finding: the rapid evolution of the social media platforms*

The slight outdatedness of chapter 2 on Twitter-use by Belgian politicians in 2014 illustrates the fast pace at which social media platforms evolve could be considered as a limitation of this research. Admittingly, the online campaigning techniques have increasingly become professionalized over the course of this research. Moreover, social media platforms evolve constantly and at the time of writing, Twitter has changed its name to 'X'. The upside of this limitation is that this chapter can serve as a comparison point, to understand how social media have matured over time as a political communication tool.

6.1.2 Introduction of a multi-disciplinary data collection method to social sciences

The second major contribution of this thesis was the description of a new, multidisciplinary method, suitable for data collection from social media platforms, called YOLO. This study has been one of the first attempts to develop such a useful data collection method for the visual analysis of Instagram posts. Prior to this study, it was difficult to find a method that manages to deal with the challenges imposed by social media platforms. Indeed, the vastness of the data and the restrictions of the platforms for scraping large amounts of data have left many research questions unanswered. However, YOLO was proven to be a successful and trustworthy data collection method for any academic in search of collecting visual features in a fast and systematic way.

6.2 Implications of this doctoral thesis

Understanding which image resonates best with voters is paramount since voters increasingly depend on their impressions to make voting decisions at the expense of content. The effect of the evaluations of leaders' personalities counts as much as 10% on the election outcome (in Diedkova, De Landtsheer, & De Vries, 2019). Hence, the described findings in this thesis can influence both the production and distribution of digital content and have significant implications for understanding strategic online storytelling strategies.

6.2.1 The medium is not the message

The conclusions from this research concur with a body of research on impression management in The Netherlands and Belgium published almost two decades ago by De Landtsheer (1999, 2000, 2004) — and later by De Vries (2007). Overall, this thesis strengthens the idea that social media is merely a *medium* of political messaging as it

does not affect the image of political suitability in the voters' minds. Moreover, it appears that the superficiality of Instagram has not changed the parameters for voters' evaluation since perceived intelligence and leadership are still the factors that predict voting intention. Yet, in the evaluation of images on social media, one factor that has gained importance since social media began is perceived 'authenticity'. As explained in the first chapter, the impact of the picture is bound to the perceived level of authenticity regarding the picture. So, in addition to the existing five questions of perceived personality — referring to intelligence, trustworthiness, physical attractiveness, sympathy, and leadership (De Landtsheer, 2004), it would be my recommendation to include the perceived 'authenticity' of social media photos when measuring voter evaluations.

6.2.2 Stereotypical image of a politician

Since informality seems to negatively affect voter support and online engagement and decrease the perceived level of intelligence and competence, it is suggested that politics is a unique cultural sphere adhering to its own rules and logic. So, strategies of effective digital storytelling from commercial brands should not be copied one-on-one for political communication. Moreover, the stereotypical image of a politician who is expected to behave in an appropriate way and dress conservatively appears to be firmly rooted in the voter's mind. In addition, this research has raised many questions in need of further investigation: more research is needed about authority, authenticity, and leadership. Due to a different socio-cultural meaning linked to these concepts, these conclusions might be challenged when performing a cross-country comparison.

6.2.3 Misunderstanding voter's wants and needs

The recommendation of this thesis to post a formal image on Instagram is quite a counterintuitive one, as informality seems to be playing a growing role in the online branding strategies of politicians around the world. Adhering to the informal nature of Instagram, an informal online narrative is increasingly forming a part of a candidate's visual rhetoric. So, politicians often appear to be in a constant tug-of-war. On the one hand, they display their ordinary side; on the other hand, they try to appear extraordinary in their official role. The observation of a growing informality in visual imagery suggests that politicians might misunderstand voters' wants and needs. This might come with a cost at the ballot box since marketing the right image to floating voters might be decisive (Lilleker, 2019), especially in the last days before the elections. .

In the media, the focus has shifted from the function as a politician to the individual behind it - from ideology to the individual (Walgrave in De Ceulaer, 2023) And Instagram is used as one of the many communication tools to create such a light, entertaining image- away from the political subjects. But the results in this research suggest that the electorate is amused with this image and still prefers the stereotyped image of a politician.

6.3 Limitations and possible future avenues for research

6.3.1 Generalizability of conclusions to other platforms and other countries

The present study has a couple of limitations. First, for the generalizability of results, the research focused on a single country dataset (Belgian leaders) that was compared with a list of high-profile world leaders. This enabled the results to be generalized on a global scale. However, a possible avenue for future research would be to compare low-profile and high-profile leaders from the same country. Moreover, if the debate is to move forward, a better understanding of cross-cultural differences needs to be developed.

6.3.2 More case studies

A second limitation is that this research focused primarily on discovering and describing general patterns at the expense of in-depth case studies of specific politicians. Therefore, considerably more work needs to be done on analysing why informality seems to be fruitful for some (populist) leaders by including case studies. Some examples were given to illustrate the theoretical insights, such as the case of Justin Trudeau who seems to be communicating very successfully across Instagram in both a formal and informal way, which has been well-documented (Lalancette and Raynauld, 2019, 2023). Furthermore, the visual rhetoric of Ukrainian President Volodymyr Zelenskyy, when communicating about the Russian war, or populist leaders, like Beppe Grillo from the Italian Movimento 5 Stelle, call for a closer analysis. A natural progression of this work, therefore, would be analysing the strategic use of visual rhetoric devices, such as the use of visual metaphors and symbols on social media not only by far-right politicians but also by mainstream candidates.

6.3.3 Knowledge of computer programming necessary for data methodology

Lastly, a limitation of this thesis is that prior knowledge of programming is required when choosing the proposed data collection method. A workaround for this limitation is to carry out the data collection in cooperation with a computer scientist, as proposed in this thesis. However, a major advantage of the proposed method is that, once set up, it can be easily repeated on different datasets. So, a natural progression of this work would be to compare the level of formality across platforms like TikTok, which is becoming more important for political communication.

6.3.4 Keeping pace with technology

This thesis started with a pilot study about Twitter. In the process of doing this research, it became clear that online political communication was becoming increasingly visual and other platforms were becoming more popular, hence the shift to Instagram. The ongoing explosive changes and technological shifts highlight the topicality of this study. This is a shortcoming because when the platforms evolve so does the audience. Hence, continued research on the audience's preferences is recommended.

6.4 Final thoughts

6.4.1 IM and ethics

In the process of persuasion and impression management, one might question the ethical side of IM. The previous recommendations mainly serve the creators of online content and provide insights into effective visual branding. Yet, one might expect the public to at least be *aware* of a certain level of digital manipulation since the majority of the population is active on social media and therefore, to some extent, is used to digital manipulation tools. Yet, admittedly, it is not recommended to use social media as a primary news source. Consulting various channels including traditional news media such as (online) newspapers acts as an antidote to the echo chambers on social media and is paramount to receive the full picture of a candidate.

6.4.2 Instagram politics for populists

It was argued by the politicologist Cas Mudde (2019) that for more than two decades the major parties of the centre left across Europe have been losing ground in favour of right-wing populism. There are many examples of this phenomenon: the Socialist Party (SP) in France, Parti Socialiste (PS) and Vooruit in Belgium, the Democratic Party (PD) in Italy, and the Social Democratic Party (SPD) in Germany. Right-wing parties have 'stolen the old working-class vote with a nativist, even authoritarian, message' (Mudde, 2019). So, to win back the working-class vote, politicians such as Connor Rousseau, party leader of centre-left Belgian party Vooruit, cultivate an almost 'intolerable lightness of the political existence as a form of branding' (Gandoul, 2022). Unlike his predecessor, John Crombez, who was known for his comprehensive academic knowledge, Connor Rousseau deliberately communicates about virtually anything on Instagram, targeting a specific generation without any consideration on how this might harm the party's image in the long term (Gandoul, 2022). So, he does not shy the superficialness of the medium; on the contrary, he embraces it as a form of personal branding.

Moreover, a dramatic shift of centre-left has been observed towards an increasing populist rhetoric (Mudde, 2019). The survival of the social democrats is much more contingent on convincing the electorate of the party's core values. As a party leader, it is

one's responsibility to convince society of their point of view, start the debate, and strive for a hegemonic discourse to structure social coherence. This is where the democratic potential of Instagram lies.

6.4.3 Panem et Circenses

To conclude this dissertation, I head back in time to 1st century B.C. Juvenal's quote at the beginning of this chapter offers some perspective, demonstrating that attracting voters' attention is far from a recent phenomenon. It has been a challenging task for centuries; the battle for voters' attention has always been a fierce one. Our modern politicians' entertaining media image is reminiscent of the infamous strategy 'Panem et Circences' or 'Bread and Circuses', which was used by Roman politicians (at least in the late first and early second century CE, according to Juvenal) to win votes by giving citizens what they want — entertainment and food — to distract them from what was happening in the government and the economy. Yet, the difference between the modern world and the Romans is that the gladiators in the arena have now been replaced by the politicians themselves.

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All chapters

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Chapter 1: Literature Review: Impression Management (IM)

Doctorandus Stéphanie De Munter: research of the theory, writing and revision of the manuscript.

Chapter 2: To Tweet or not To Tweet? Do Tweeting Politicians Perform Better at the Ballot Box? Ana Analysis of Twitter Use during the Belgian National Elections in 2014

Doctorandus, Stéphanie De Munter: conception of the study, setup of the method, data analyses, drafting and revising of the manuscript.
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Chapter 3: Introduction of a Data Collection Method for Visual Analysis of Instagram Pictures

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Chapter 4: Making Sense of Political Images on Instagram: Analyzing the Online Image and Impression Management of World Leaders and Belgian politicians. A comparison of Two Case Studies.

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Chapter 5: Judging a Book by its Cover. Political Impression Management on Instagram: Privatization and voter Engagement

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