
# PERSUASION IN THE DIGITAL AGE:

# A THEORETICAL MODEL OF PERSUASION IN TERSE TEXT

A Doctoral Thesis submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy (PhD) in Information Management at Loughborough University.

Submitted by

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December 2018

*To my late father*

*Ralf Wichmann*

*($6^{th}$ May 1956 – $20^{th}$ January 2007)*

# ABSTRACT

This thesis explores how the increasingly prevalent terse text format of Social Media communication has affected the way we seek to persuade one another and whether it has impacted the applicability of existing models of persuasion, influence and attitude change. Over the past few decades, communication behaviour has evolved dramatically. As a society we increasingly consume information in the format of short messages, rather than lengthy text and verbose speech. Meanwhile our understanding of persuasion has hardly moved on from the 1980's and continues to be spread across a variety of academic disciplines, such as Behavioural Science/Psychology, Philosophy/Rhetoric, and various sub-fields of linguistics. Existing models of persuasion are to date lacking interdisciplinarity and applicability to the terse text format found in Social Media.

The data used in this research is in the format of Twitter microblogs gathered throughout a number of recent political campaigns, such as the 2016 UK Brexit referendum and the 2016 US General Election. The research purpose is fundamental, rather than applied, meaning that it seeks to expand knowledge by increasing the understanding of fundamental principles, rather than answering specific questions and offering a precise solution to a practical problem. The research philosophy that has been adopted for this project is interpretivism. The research approach is idiographic, and the methodology is predominantly qualitative, with occasional use of descriptive statistics. The research was conducted in several distinct phases, starting with the construction of the theoretical model, followed by two validation exercises and further experimental exploration by means of a recall test and computational linguistic analysis, culminating in a revised model of terse text persuasion.

This research draws upon and collates existing knowledge from behavioural science, rhetoric, linguistics, and cognitive science and develops a comprehensive understanding of how we seek to persuade through terse text media, based on data collected around a number of recent political campaigns and topics of debate. The research demonstrates that existing models of persuasion, such as the Elaboration Likelihood Model (Petty and Cacioppo, 1986) and the Heuristic Systematic Model (Chaiken et al., 1989)cannot be applied to the terse text context without significant modification. A new theoretical model of persuasion in terse text is proposed and evaluated. The findings also show that there is a distinct preference for heuristic over systematic cues in terse text messages with persuasive intent, and – in terms of Aristotelian rhetorical appeals – a preference for appeals to credibility (ethos) and emotion (pathos) over appeals to reason (logos). Additionally, the research explores, by means of a recall test, the most memorable subcategories of terse text microblogs, as well as the examining message structure and features through computational linguistic tools.

Although this research focusses on political persuasion in terse text Social Media, the findings have implications that reach far beyond the political sphere into activism, marketing, social engineering, strategic communication and (human centred) information warfare.

**Keywords:** persuasion, influence, social media, terse text, influence, political communication, digital communication, strategic communication

# PUBLICATIONS AND PRESENTATIONS

The research presented in this thesis has led to the following publications/conference presentations:

Hills, S.A., Jackson, T.W., Sykora, M.D. (2017): 'Persuasion and the Microblog - A Model of Persuasive Communications in Terse Text', 4th European Conference on Social Media, Vilnius (Lithuania), July 2017 (full paper)

Hills, S.A., Jackson, T.W., Sykora, M.D. (2017): 'Persuasion and Influence in the Age of Terse Text Cyber Communication', 22nd Annual Cyber Psychology, Cyber Therapy & Social Networking Conference (CYPSY22), Wolverhampton (UK), June 2017 (poster)

Hills, S.A., Jackson, T.W., Sykora, M.D. (2017): 'Persuasion in the Digital Age', Zhejiang University International Doctoral Conference, Hangzhou (China), May 2017 (full paper)

Hills, S.A., Jackson, T.W., Sykora, M.D. (2016): 'Understanding and Identifying Persuasive Intent in Terse Text – An Interdisciplinary Approach'. In: Hills, P.D.M. ed. Why Cyber Security is a Socio-Technical Challenge: New Concepts and Practical Measures to Enhance Detection, Prevention and Response. New York. Nova Science Publishers (book chapter)

Hills, S.A., Jackson, T.W., Sykora, M.D.: 'Open-Source Intelligence Monitoring for the Detection of Domestic Terrorism', 15th European Conference of Cyber Warfare and Security, Hatfield (UK), July 2015 (poster and short paper)

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# LIST OF ABBREVIATIONS

| | | |
|---|---|---|
| E | - | ethos (appeal to credibility) |
| L | - | logos (appeal to reason) |
| P | - | pathos (appeal to emotion) |
| H | - | heuristic |
| S | - | systematic |
| HSM | - | Heuristic Systematic Model |
| ELM | - | Elaboration Likelihood Model |
| SMCR | - | Source Message Channel Receiver (Model) |
| LIWC | - | Linguistic Inquiry and Word Count |

# 1 INTRODUCTION

This thesis seeks to explore how the increasingly prevalent terse text format of Social Media communication has affected the way we seek to persuade one another and how it has impacted the applicability of existing models of persuasion, influence and attitude change. It will present a new model of persuasion that accounts for the terse text context.

## 1.1 BACKGROUND

Over the last few decades, communication behaviour has evolved dramatically. As a society we increasingly consume information in the format of short messages, rather than lengthy text and verbose speech. Meanwhile our understanding of persuasion has hardly moved on from the 1980s and continues to be spread across a variety of academic disciplines, such as Behavioural Science/Psychology, Philosophy/Rhetoric, and various sub-fields of linguistics. Existing models of persuasion are to date lacking interdisciplinarity and applicability to the terse text format found in social media.

"Terse text", for the purpose of this research, refers to Twitter microblog messages, which at the time this research was conducted were subject to a character limit of 140. Such messages make up the data analysed in this study. Generally speaking, terse text Social Media messaging does, however, extend beyond character limited platforms and also includes voluntarily concise messages on platforms that do not impose a character limit.

A recent collaborative study between Columbia University and the French National Institute (Gabielkov et al., 2016) found that as much as 59 percent of links shared on social media have never actually been clicked, meaning that most people appear to share content based on nothing but its headline, without engaging with the actual article (Gabielkov et al., 2016, p.43). Such "blind" peer-to-peer shares have significant influence on which stories and what

information gets circulated on Social Media and what effectively remains "under the radar" (Gabielkov et al., 2016). This is just one example of how people's increasing preference for consuming information in terse text format has altered and is continuing to alter the communication landscape.

## 1.2 PROBLEM STATEMENT

How does Social Media communication affect how we seek to persuade one another? This research seeks to bring our knowledge of persuasive and influential communications into the 21st century, by adapting existing models of persuasion and information processing for the terse text context, as well as by exploring the rhetorical content, semantic detail and linguistic features of persuasive microblog discourse, their frequency of use, distribution, and function.

Persuasion is an omnipresent force and its prevalence continuously reflects past and present trends in public relations, marketing, education, the media, and many other related fields. Persuasion is a key tool in many professions from, for example, law, teaching, to human resources, social work, and consultancy. Simons et al. (2001) describe persuasion as "the average human being's chief way of exercising influence – of making a difference – at home, among friends, in the community, and on the job" and go on to ascertain that persuasion can override the scientific claims stating that humans are genetically programmed, environmentally conditioned, and "pre-packaged from childhood on" (Simons et al., 2001, p.12). Persuasive skills are instrumental to influencing others and an in-depth understanding of persuasion can be an invaluable asset in a multitude of contexts, whilst the ability to detect persuasion as it is happening can allow for intervention where necessary as well as further personal and organisational resilience to it. As a result of changes to our communication preferences and increasing exposure to and engagement with terse text via various Social Media platforms, the existing body of research is in need of a significant interdisciplinary overhaul, in order for us to be able to understand the nature and mechanisms of persuasion in the Digital Age.

## 1.3 EXISTING RESEARCH

There is no shortage of existing models of persuasion and persuasive communications. In behavioural science and social psychology, models such as the Elaboration Likelihood Model (Petty and Cacioppo, 1986) and the Heuristic Systematic Model (Chaiken, 1980) are well established and surrounded by an extensive body of research. These models both distinguish between a "deep" processing route (referred to as "central" processing in the Elaboration Likelihood Model (ELM) and as "systematic" processing in the Heuristic Systematic Model (HSM)) and a "superficial" processing route ("peripheral" in the ELM and "heuristic" in the HSM). Deep processing is said to entail careful and deliberative message processing, whilst superficial processing entails the use of simplifying decision rules (so-called 'heuristics') to quickly assess the message content. Nabi (1999) later modelled the influence of negative emotion on attitude change, information processing, and recall (Nabi, 1999). Going back as far as the fifth century BC and into the study of rhetoric and philosophy, we have Aristotle's three persuasive appeals – the appeal to reason (logos), the appeal to emotion (pathos), and the appeal to credibility (ethos) - all of them allegedly a requirement for successful persuasive speech or writing (Perloff, 2003).

What remains undocumented, as yet, is how all these changes to our communication preferences are influenced by our exposure to terse-text Social Media, character limits, user generated content, and the rise of peer-to-peer information sharing have impacted how we try to influence one another and how we succeed or fail at doing so.

Social media is widely seen as a powerful tool for the establishment of narratives and counter-narratives in the coverage of political topics as well as providing some scope for giving a voice to groups and individuals who tend to be marginalised by traditional media and providing an opportunity to hold traditional media to account (Highfield, 2016). In contrast to the traditional media outlets of television, radio and print, where there is a greater degree of accountability, social media information remains largely uncontrolled and unregulated where

"any person with access to the internet, regardless of living standard or nationality, is given a voice…" (Schmidt and Cohen, 2010, p.1).

Gowing (2009) describes how the information space dynamic has changed with the rise of Social Media. Gowing describes how conventional media has been usurped by the "information doer", a term that describes a person who has the ability to broadcast information via any digital means in real time (Gowing, 2009, p. 13). The World Economic Forum, on the other hand describes these changes by stating that "[t]he scale and speed of information creation and transfer in today's hyperconnected world are […] historically unparalleled" (World Economic Forum, 2013, p. 24)). Both Gowing and the WEF report 2013 concur that it is the unprecedented speed and scale of information passage and access that has changed the information dynamic. According to statistics portal Statista (2017) there were 2.34 billion social network users worldwide in 2017 (71% of all internet users), with 2.62 billion projected for 2018 and 3.02 billion projected for 2021 (Statista, 2017). In 2010 there were only 0.97 billion users of social media platforms, which shows an extremely rapid uptake over less than a decade (ibid., 2017).

Generally viewed as a direct consequence of the changes to the communication landscape and information dynamic through the rise of Social Media and associated hyper-connectivity, a number of authors have addressed the shift in communicative power to previously uninfluential individuals. Schmidt and Cohen (2010) argue, that in future, due to the diffusion of power to citizens, "governments will have to build new alliances that reflect [this] rise in citizen power" (Schmidt and Cohen, 2010, p.1). Gowing (2009) asserts that "the implications of this new level of empowerment are profound but still, in many ways, unquantifiable" and urges leaders in the political, military and corporate sphere to urgently "recalibrate their understanding of the new media environment", stating that a failure to do so is likely to result in greater vulnerability that may damage their reputation (Gowing, 2009, p.77).

Politics and political activity are omnipresent on social media, explicit and implicit, affective and personal, and reflective of many practices, communities, and issues. This discourse takes place on platforms which were not designed with such purposes in mind. Platforms like Twitter and Facebook are not political media as such, but instead constitute fairly generic channels of communications which enable a wide range of topical coverage of which politics is just one example (Highfield, 2016). Highfield (2016) asserts that "the opportunities for social media users to contribute to new spaces for political commentary, and to consume a variety of topical sources do not mean that traditional power relations are completely and irreversibly altered", as mainstream media organisations and individual journalists also make use of newer platforms to remain significant contenders. Highfield (2016) claims that power is instead effectively 'negotiated', allowing newer and amateur voices to obtain influence and reputation through their contributions, practices, networks, and interactions.

The 'Digital Age' and with it the rise of Social Media has been transformational to the way we as individuals, groups, and societies communicate, campaign, advocate, and seek to influence one another. Changes to the information environment affect the way people seek and find political and apolitical information, whilst also affecting the nature of the information that they receive. In comparison to traditional channels of communications, the terse text format of online communications is bound to have effects on which persuasive tools and influential strategies remain at our disposal and how they can be utilised with maximum impact.

## 1.4 RESEARCH METHODOLOGY

This study's research purpose is fundamental, rather than applied, meaning that it seeks to expand knowledge by increasing the understanding of fundamental principles, rather than answering specific questions or offering a solution to a specific practical problem. The research philosophy that has been adopted for this project is interpretivism, which relies upon the trained researcher and the human subject as the instruments to measure some phenomena and

recognises that the values and theoretical beliefs of researchers cannot fully be removed from their inquiry.

The research approach is idiographic, and the methodology is predominantly qualitative, with occasional use of descriptive statistics. The research was conducted in several distinct phases, starting with the construction of the theoretical model, followed by two validation exercises and further experimental exploration by means of a recall test and computational linguistic analysis, culminating in a revised model of terse text persuasion.

The Research Methodology employed for this study is further explained and justified in Chapter 3 of this thesis.

## 1.5 RESEARCH AIM & OBJECTIVES

**Aim:**

The aim of this research is to develop, evaluate, and extensively document a robust interdisciplinary theoretical model of persuasion in terse text.

**Objectives:**

1. To ascertain the degree to which recent changes in the communications landscape have affected how individuals, organisations or entities seek to persuade.

2. To characterise the components of the persuasive terse message.

3. To compile, select and code Twitter micro-blogs featuring persuasive intent from an extensive repository of microblogs gathered on five separate topics.

4. To construct a model of terse text persuasion informed by existing research and theory from behavioural science, linguistics, philosophy, political science and pilot data analysis.

5. To validate fundamental aspects of the model through multiple experiments.

6. To revise the conceptual model into a final one based on further evaluation, data and computational linguistic analysis.

## 1.6 CHAPTER SUMMARY

The changes in communication preferences and behaviour and the shift towards increased processing of information in terse text format demands an updated and interdisciplinary understanding of how the terse text context shapes influential and persuasive communication. This research focuses on datasets from recent political events and campaigns, such as the 2016 United States presidential election, the 2016 United Kingdom 'Brexit' Referendum on exiting the European Union, and the 2015 United Kingdom parliamentary vote on military intervention against the terrorist group Islamic State (IS) in Syria.

This research seeks to draw upon and collate existing knowledge from behavioural science, rhetoric, linguistics, and cognitive science to develop a comprehensive understanding of how we seek to persuade through terse text media, based on data collected around a number of recent political campaigns and topics of debate.

## 1.7 THESIS STRUCTURE

Chapter two covers the literature review across the academic fields of Behavioral Science, Philosophy, Linguistics, Political Communication, and Social Media to compare, contrast, and consolidate the relevant existing knowledge. This is then followed by the Methodology chapter, which details and justifies the research philosophy, methodological choices, and research design. Chapter 4 presents the conceptual processing model of terse text persuasion, whilst Chapter 5 goes on to refine the model by means of exploring Aristotelian and Heuristic-Systematic cues in persuasive messages. Chapter 6 subsequently contextualises the findings of Chapter 2 and validates fundamental aspects of the model through multiple experiments. Chapter 7 presents the experimental exploration of persuasive effect through a recall test and computational linguistic

analysis. This is then followed by the revision of the conceptual model in Chapter 8 and the conclusion, recommendations, limitations and scope for further research sections in Chapter 9.

# 2 LITERATURE REVIEW

## 2.1 CHAPTER INTRODUCTION

This interdisciplinary literature review consolidates, compares, and contrasts the existing research on persuasion from the fields of Behavioural Science, Philosophy, Linguistics, Political Communication, and Social Media.

## 2.2 DEFINITIONS OF PERSUASION

Definitions are commonly treated as providing sharp-edged distinctions. In differentiating between what is and what is not persuasion, however, O'Keefe (2002) describes definitions as 'troublesome things', stating that one definition might be deemed too broad (including cases that it should not include), whilst another could be deemed too narrow (excluding instances that should be included) (O'Keefe, 2002). No matter where the lines are drawn, definitions tend to inevitably remain open to criticism, as most have, as O'Keefe (2002) claims, "fuzzy edges […], grey areas in which application of the concept is arguable" (ibid., 2002, p.2).

Simons et al. (2001) define persuasion as "human communication designed to influence the autonomous judgments and actions of others" (Simons et al., 2001, p. 20) and go on to state that "persuasion is a form of attempted influence in the sense that it seeks to alter the way others think, feel, or act, but it differs from other forms of influence." (ibid., p.20). They explicitly exclude coercion from their definition, as well as material inducement, a view that is broadly shared across the literature spectrum on persuasion. Simons et al. (2001) consider persuasion a 'practice', an intentional act, and believe that it addresses autonomous, choice-making individuals, while ascertaining that "persuasion predisposes others but does not impose" (ibid., p. 20). They emphasise a definition of persuasion that is heavily reliant on intent to persuade

much more so than on successful outcome. Some scholars and practitioners take a more radical view and exclude not just coercion from their definition of persuasion, but also manipulation. Kolenda (2013) adopts a very negative interpretation of manipulation as a "malicious attempt to influence another person through questionable or blatantly unethical tactics" (Kolenda, 2013, p. 2). Mulholland (1994) believes that manipulative approaches should fall into the category of propaganda rather than persuasion (Mulholland, 2014, p. xv). This presupposes that propaganda is entirely separate to persuasion, which is not a view this project will adopt. Such moral judgments hinder rather than help our understanding of the reality of persuasion, given that there is already enough disagreement based on considered interpretation alone. The practice of persuasion is broad, and it contains both ethical as well as unethical approaches. Manipulation may have negative connotations, but features heavily in the persuasive process, in particular, where heuristics play a substantial part in a persuasive act. Propaganda is a means of persuasion as it ultimately pursues the same aims, albeit with greater reliance on unethical methods, such as deliberately perpetuating misleading and untrue information, than conventional (less aggressive) forms of persuasion tend to do.

Stiff and Mongeau (2003) draw on G. R. Miller (1980) in recognising the breadth of communicative activities that could be considered persuasive. Miller's (1980) definition of persuasive communication includes "any message that is intended to shape, reinforce, or change the responses of another, or others." (Miller, 1980, p.11). Stiff and Mongeau (2003) ascertain that one could theoretically argue that all communication is by its very nature persuasive as any form of communication may inadvertently affect the responses of others, but that for the purpose of their discussion of persuasive communications they will, like Simons et al. (2001), only consider communicative behaviour that is intended to affect the responses of others (Stiff and Mongeau, 2003).

Perloff (2003) defines persuasion as "a symbolic process in which communicators try to convince other people to change their attitudes or behaviour regarding an issue through the

transmission of a message, in an atmosphere of free choice." (Perloff, 2003, p. 8), which he has distilled from a number of other major definitions of persuasion, such as:

- Andersen's (1978) definition of persuasion as "a communication process in which the communicator seeks to elicit a desired response from his receiver" (Andersen, 1978, p.6);
- Bettinghaus and Cody's description of persuasion as "a conscious attempt by one individual to change the attitudes, beliefs, or behaviour of another individual or group of individuals through the transmission of some message" (Bettinghaus and Cody, 1987, p. 3);
- Smith's labelling of persuasion as "a symbolic activity whose purpose is to effect the internalisation or voluntary acceptance of new cognitive states or patterns of overt behaviour through the exchange of messages" (Smith, 1982, p. 7)

and

- O'Keefe's rendering of persuasion as "a successful intentional effort at influencing another's mental state through communication in a circumstance in which the persuadee has some measure of freedom" (O'Keefe, 1990, p. 17).

Amongst these many definitions there is some consistency in relation to the importance of conscious intent and the transmission of a message that is meant to effect changes in attitude, belief, or behaviour in the recipient. There is some disagreement on whether the persuasive process needs to be successful in order for something to qualify as persuasion or whether persuasion can also refer to the mere attempt irrespective of its outcome, but at the same time there is prevalent agreement that persuasion must involve an attempt to influence, meaning that persuasion is not an accidental process. Whilst someone may find themselves unintentionally influencing another person, this influence would not constitute persuasion due to the lack of persuasive intent. Persuasion does not automatically or inevitably succeed (Perloff, 2003), thus

for the working definition of persuasion in the context of this thesis, the success (or lack thereof) of the persuasive process will be disregarded, in order to allow for the study of persuasive texts for which the actual effects and outcome are not known. There is further disagreement on the importance of the recipient's position of free choice. The very controversial concept of free choice and free will is too great a subject in itself to be considered within the scope of this research, in part due to the nature of the generally unspecified target audience and unknown individual recipients in Social Media communications and the resulting lack of knowledge of recipients' actual positions in relation to free choice.

## 2.3 PERSUASION IN BEHAVIOURAL SCIENCE

This section explores the topic of persuasion within the academic field of Behavioural Science. It introduces and evaluates existing models of persuasion and important concepts such as heuristics, confirmation bias, attitude change and attitude reinforcement. It also discusses the current understanding of the persuasive message and its key features from the Behavioural Science and Social Psychology perspective.

### 2.3.1 Models of Persuasion

Between the 1940s and the 1990s the field of behavioural science has seen the development of several models of persuasion, increasing in complexity and detail over time. Following the introduction of dual process models, namely the Elaboration Likelihood Model and the Heuristic Systematic Model in the 1980s, however, the development of new models ceased and the only novel research took place within the framework of these two existing models.

#### *2.3.1.1 The SMCR Model of Persuasion*

In the 1940s Shannon and Weaver developed the basic concept that communication is the process of sending and receiving messages or transferring information from one part (the sender) to another (the receiver). In the early 1960s, David Berlo then expanded this into the Source-

Message-Channel-Receiver (SMCR) Model of Communication. The SMCR model of persuasion is one of the simplest and most widely referred to models of communication (Larson, 2004). The model is made up of four essential elements: A source (S) or communicator, a message (M), a channel (C) of communication, and a receiver (R) or message recipient (Shannon and Weaver, 1963). Figure 2.1 below show's Larson's (2004) illustration of the SMCR model.

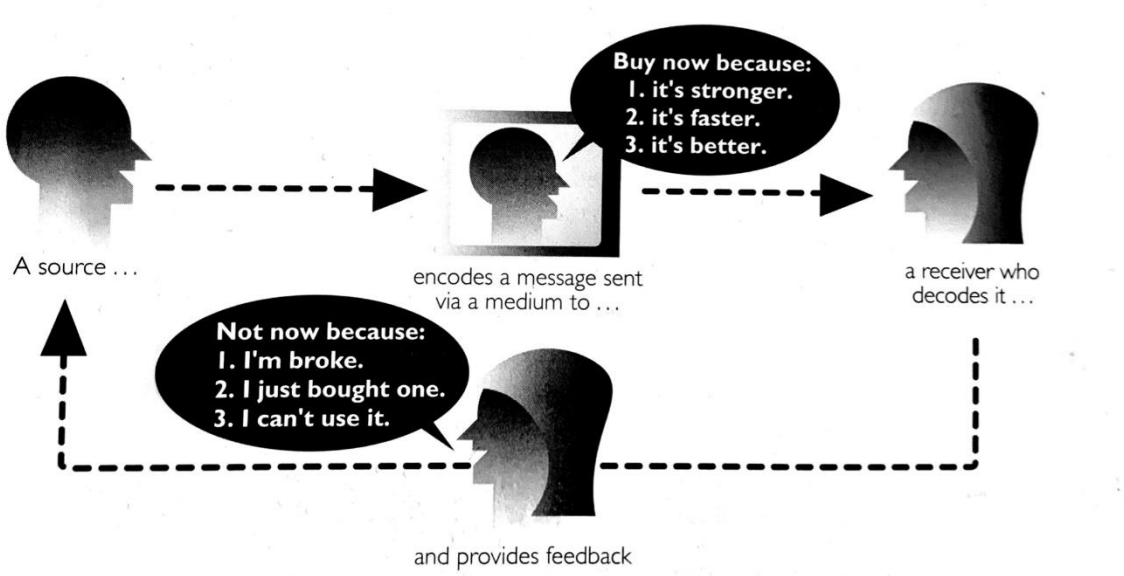


***Fig. 2.1:*** *The SMCR Model as illustrated by Larson (2004)*

Despite or maybe because of its simplicity the SMCR model remains valid to date and is often described as the "mother of all models" (Hollnagel and Woods, 2005, p.11).

#### *2.3.1.2 Rank's Model of Persuasion*

Rank's model of persuasion sought to teach people to be critical receivers through understanding and "recognising the more sophisticated techniques and patterns of persuasion" (Rank, 1976, p.5). Rank (1976) refers to his model as the 'intensify/downplay schema'. It is designed to be simple to apply, even spontaneously. The 'intensify/downplay schema' is based on the idea that persuaders generally use one of two major strategies to achieve their goals (Larson,

2004). Figure 2.2 below shows Rank's Intensify/Downplay Schema as illustrated by Larson (2004).

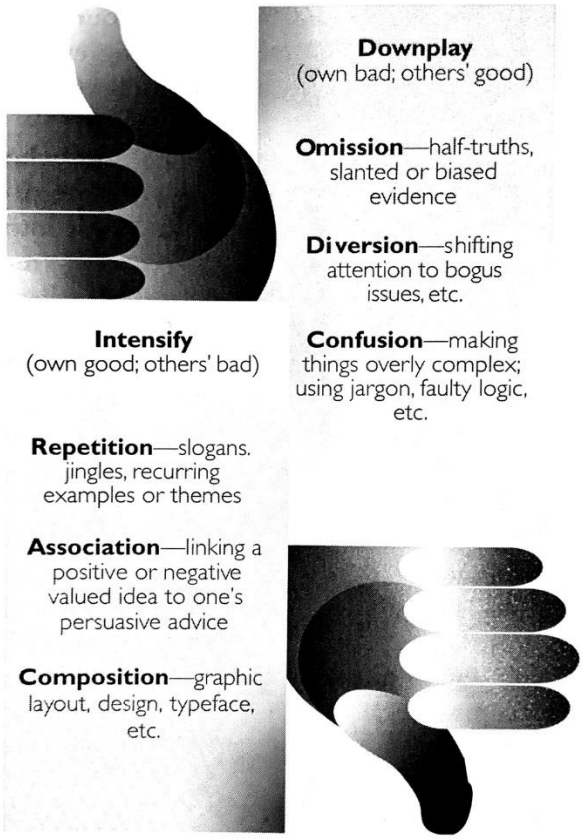


***Fig. 2.2:*** *Rank's Model of Persuasion (Intensify/Downplay Schema) as illustrated by Larson (2004)*

According to Rank (1976), persuaders either 'intensify' or 'downplay' aspects of their product or ideology. This draws attention away from some things whilst directing attention towards others, thus achieving a kind of illusion (Larson, 2004). Within Rank's (1976) model, persuaders choose from four courses of action: 1. intensifying their own good points, 2. intensifying the weak points of the opposition, 3. downplaying their own weak points, 4. downplaying the good points of the opposition (Larson, 2004). The persuader then underlines their chosen course or courses of action through strategies like repetition, association, and composition (strategies to reinforce the persuasive message, link the persuader to positive things, and portray a positive image) to intensify their own good points or draw further (implicit)

attention to the opposition's weak points, whilst they would use omission, diversion, and confusion (strategies of leaving out important information and ways to distract) in order to downplay either their own weak points or the good points of the opposition. Larson (2004) states that the intensification and downplaying strategies work with either processing route – central or peripheral – of the Elaboration Likelihood Model, which is explored in greater detail in section 2.3.1.4 of this chapter.

#### *2.3.1.3 Heuristic-Systematic Model of Persuasion*

The Heuristic-Systematic Model of Information Processing (HSM) is a widely-recognised model of communication coined and defined by Sally Chaiken in the late 1970s/early 1980s. The HSM seeks to explain the reception and processing of persuasive messages and distinguishes information processing behaviour into two distinct categories: heuristic and systematic.

Heuristic processing is seen to require minimal cognitive effort for the recipient (Chaiken, 1980), as it relies on knowledge structures (also known as judgmental rules) that are learned and stored in memory (Chen et al., 1999). Key factors in heuristic processing are accessibility, availability, and applicability. Accessibility hereby refers to the ability to retrieve the memory for use, whilst availability is concerned with the knowledge structure being stored for future use. Applicability of the heuristic refers to the relevance of the memory to the respective judgment task (Chen et al., 1999). Due to reliance on knowledge structures heuristic information processors are likely to agree with persuasive messages presented by perceived experts or endorsed by others. Heuristic processors do not fully process semantic message content (Eagly and Chaiken, 1993), rather, they tend to judge message validity by relying on contextual information, such as the identity of the communicator, rather than message content. Heuristic processing places little emphasis on detailed information processing (Chaiken, 1980).

Systematic processing requires comprehensive and analytic cognitive processing of judgement-relevant information (Chen et al., 1999). Source reliability and message content are of

significant importance in the determination of message validity (Chaiken, 1980). Systematic processing produces judgments that rely strongly on detailed judgement-relevant information, taking into consideration the full semantic content and pragmatic meaning of the persuasive message (Chen et al., 1999). Recipients exert considerable cognitive effort when developing attitudes systematically. The message is actively evaluated and its validity assessed. Recipients who process systematically rely heavily on message content and source characteristics, whilst non-content information may still supplement their assessment of the overall validity of the persuasive message (Chaiken, 1980).

The HSM was originally developed to apply to a 'validity-seeking' persuasion setting in which the primary motivational concern is to attain accurate attitudes that square with relevant facts (Eagly & Chaiken, 1993). Eagly and Chaiken (1993) state that the primary processing goal of recipients motivated by accuracy is to assess the validity of a persuasive message and that both systematic as well as heuristic processing can serve this objective. Chaiken et al. (1989) also identified motives beyond the validity-seeking persuasion context and proposed an expanded model that adds a further two motives that heuristic and systematic processing can serve: defence-motivation and impression-motivation (Chaiken et al., 1989). Defence-motivation refers to the desire to form or defend specific attitudinal positions, whilst impression-motivation denotes the desire to form or hold socially acceptable attitudinal positions (Chaiken et al., 1989).

Eagly and Chaiken (1993) argue that the Heuristic Systematic Model and the Elaboration Likelihood Model should be treated as complementary models for the creation of a dual-processing framework for understanding a variety of social influence phenomena in future research.

#### *2.3.1.4 Elaboration Likelihood Model*

Developed in the 1980s by Richard Petty and John Cacioppo, the Elaboration Likelihood Model (ELM) of persuasion is based around the hypothesis that variations in the nature of

persuasion are a function of the likelihood that receivers will engage in elaboration of information relevant to the persuasive issue (Petty and Cacioppo, 1986). The Elaboration Likelihood Model has been continuously tweaked and amended by the original authors over various publications (Allen & Reynolds, 1993), so that more recent interpretations, such as O'Keefe's (2002) give a better indication of the current understanding of the ELM in Social Psychology.

The Elaboration Likelihood Model takes a dual process approach to social information processing and focusses specifically on persuasion. The Elaboration Likelihood Model originates from the idea that under varying conditions receivers will differ in their likelihood to engage in elaboration of relevant information (O'Keefe, 2002). 'Elaboration' hereby refers to engagement in issue-relevant thinking, in its broadest definition. Extensive engagement in issue-relevant thinking may for example involve actions such as the careful scrutinising of arguments or reflection on other issue-relevant considerations. Receivers, however, do not engage in issue-relevant thinking for every persuasive message or topic and will thus display relatively little elaboration in relation to some persuasive issues. In order to assess the varying degrees of elaboration that occur in a given circumstance, a number of means were developed, with the most straight-forward one being the so-called 'thought-listing technique'.

The thought-listing technique involves asking receivers of a persuasive message to list the thoughts that occurred to them during the communication. The listing of thoughts takes place immediately after the participant receives the persuasive message. It is then assumed that the number of issue-relevant thoughts listed serves at least as a rough indication of the amount of issue-relevant thinking triggered by the persuasive message (O'Keefe, 2002). These thoughts can then be classified in any number of ways, such as for example by favourability to the position advocated by the persuasive message, or by their substantive content. The degree of engagement in issue-relevant thinking forms a continuum ranging from extremely high to little or no elaboration. According to the Elaboration Likelihood Model, persuasion can take place at any

point along this continuum, however, the nature of the persuasion process will vary with the degree of elaboration.

The Elaboration Likelihood Model broadly differentiates between two routes to persuasion: the central and the peripheral route (Petty and Cacioppo, 1986). The central route applies to instances of relatively high elaboration and generally comes about through extensive issue-relevant thinking. The peripheral route to persuasion represents persuasion processes where elaboration remains relatively low and tends to come about when the receiver employs a simple decision rule, such as a heuristic principle, to evaluate the message and its advocated position (Petty and Cacioppo, 1986). In cases of persuasion through the peripheral route receivers might be guided by a variety of peripheral cues, such as communicator credibility or likability, rather than engaging in more extensive issue-relevant thought processes (O'Keefe, 2002). As elaboration decreases, the significance of peripheral cues becomes progressively more important in determining the persuasive effects. Increased elaboration, on the other hand, generally indicates that peripheral cues will have a much lesser effect on persuasive effects and outcomes. Figure 2.3 below illustrates the central and peripheral routes to persuasion.

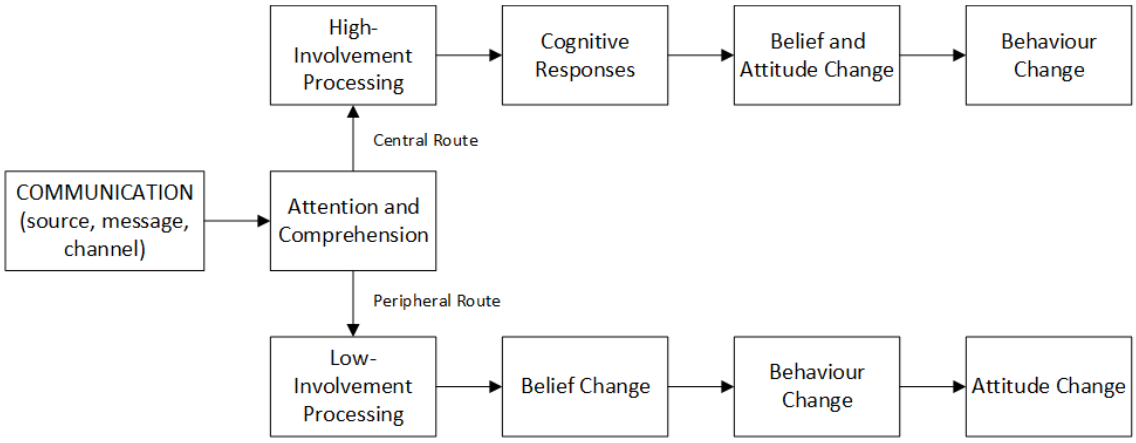


***Fig. 2.3:*** *Elaboration Likelihood Model - Central and Peripheral Route (Petty and Cacioppo, 1986)*

The degree of elaboration is influenced by two broad classes of factors: elaboration motivation and elaboration ability. Elaboration motivation can be broken down into the two main factors of personal relevance and need for cognition (O'Keefe, 2002). Elaboration ability is affected by several influences, distraction and prior knowledge being the most well-researched ones (O'Keefe, 2002). Elaboration valence is another important factor influencing persuasive effect. O'Keefe (2002) states that "under conditions of relatively high elaboration, the outcomes of persuasive efforts will largely depend on the outcomes of the receiver's thoughtful considerations of issue-relevant arguments (as opposed to largely depending on the operation of simple decision principles activated by peripheral cues)" (O'Keefe, 2002, p.145). This means that the persuasive effect is dependent upon the predominant valence of the receiver's issue-relevant thoughts, which will be either positive or negative. Predominantly positive thoughts about the advocated position are expected to lead to some success in eliciting attitude change towards the desired direction (O'Keefe, 2002).

Allen and Reynolds (1993) highlight that there is significant disagreement over the interpretation of the effects of evidence and involvement within this model amongst behavioural scientists which is compounded by the fact that the Elaboration Likelihood Model has undergone many successive alterations to date (Allen and Reynolds, 1993).

The Elaboration Likelihood Model predicts that the degree of thought used in a persuasion context determines how consequential the resultant attitude becomes, arguing that attitudes formed through central processes will tend to have greater longevity, resist persuasion, and be influential in guiding other judgments and behaviours, whilst attitudes formed through peripheral processing are more likely to affect attitudes and behaviour on a short term basis (Krugalanski and Van Lange, 2012, p. 224-245).

This interpretation, alongside the either-or understanding of central versus peripheral processing, does not directly translate into the terse text context. Whilst generic persuasion in

standard text or speech is able to rely on sequential processing of information, thus theoretically making the separate processing of peripheral and central cues a possibility, or in fact a high probability, terse text by its very nature relies on multiple cues combined into minimal character count. This would suggest that to a considerable extent peripheral and central processing are able to and do take place in parallel. However, it is also worth considering whether some parallel processing of peripheral cues does not in fact always take place in parallel to central processing, such as a speaker's "body language" or their overall perceived credibility, which are likely to be processed alongside and in conjunction with the message conveyed. Although the ELM references a spectrum of elaboration, high involvement processing versus low involvement processing, it also claims a relatively simplistic relationship between peripheral and central cues, whereby the significance of peripheral cues decreases in high involvement processing and increases in low involvement processing, which is insufficient for the context of terse text and its lack of room for subtlety - where high involvement processing might in fact be triggered by peripheral cues, and thus be, to an extent and in certain circumstances, reliant on peripheral information.

Figure 2.4 illustrates the complete Elaboration Likelihood Model of Persuasion as revised by Petty et al. (1987).

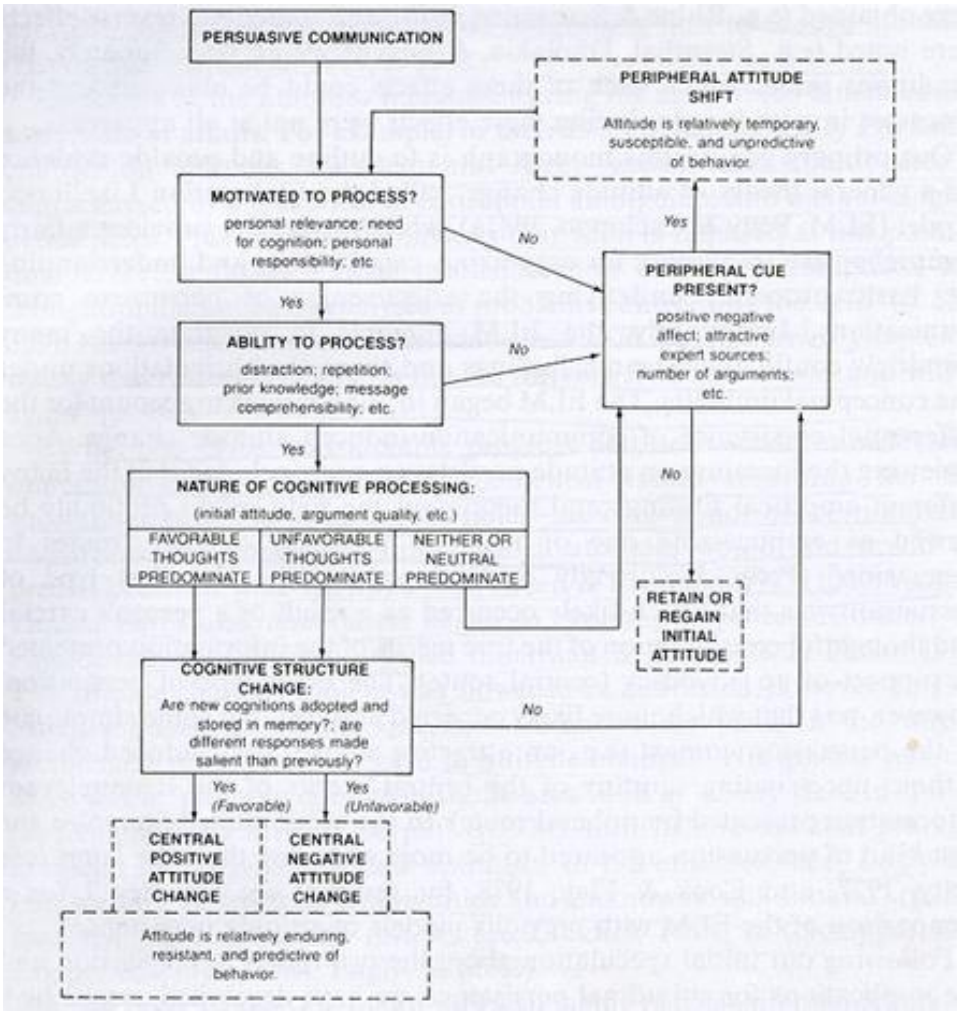


***Fig. 2.4:*** *Elaboration Likelihood Model of Persuasion (Petty et al., 1987)*

### 2.3.2 Heuristics

Heuristics as a field of study within the academic domain of human decision-making in behavioural science was developed by Tversky and Kahneman (Tversky and Kahneman, 1974) and adapted from the concept of 'bounded rationality' originally introduced by Herbert Simon (Simon, 1955), which refers to the idea that in the process of decision making an individual's rationality is limited by the cognitive limitations of their mind, the tractability of the decision problem, and the time available to make the decision.

In their analysis of the history of heuristics from ancient Greece to contemporary research in artificial intelligence, Groner and Groner (1991) proposed the differentiation of cognitive style between 'heuristic' versus 'algorithmic thinking', which ultimately is a very similar proposition

to the 'peripheral' versus 'central' distinction of the Elaboration Likelihood Model and the differentiation between 'heuristic' and 'systematic' in the Heuristic Systematic Model (Groner and Groner, 1991).

### 2.3.3 Confirmation Bias

Confirmation bias is a widespread cognitive bias and a systematic error of inductive reasoning. Plous (1993) describes confirmation bias as the tendency to search for, interpret, favour, and recall information in a way that confirms one's pre-existing beliefs or hypotheses, while giving disproportionately less consideration to alternative possibilities (Plous, 1993). Nickerson (1998) states that confirmation biases contribute to overconfidence in personal beliefs and have been found to lead to poor decision making in political and professional contexts (Nickerson, 1998). Risen and Gilovich (2007) explain that some psychologists choose to restrict the term confirmation bias to refer to only selective collection of evidence that supports an individual's existing beliefs, whilst others apply the term more broadly to include the effects on the interpretation and recall of information that contradicts beliefs held. (Risen and Gilovich, 2007). Nickerson (1998) ascertains that confirmation biases can be used to explain why some beliefs may persist long after the initial evidence for them is removed. Confirmation bias and related behaviour is likely to be a key factor in the prevalent findings that attitude change is rare and attitude reinforcement a significantly more frequent outcome of exposure to persuasive communications (Frey, 1986; Roberts, 1985).

### 2.3.4 Attitude Change and Attitude Reinforcement

According to prominent theory in social psychology, attitudes have three components: affect, cognition and behaviour. The cognitive dimension hereby refers to beliefs held about the attitude object, whilst 'behaviour' is used to describe overt actions and responses to the attitude object. Affect, meanwhile, describes the emotional dimension of an attitude. This theory has however been criticized and modified to argue that attitudes do not as such consist of these

elements, but that the theory is instead a general evaluative summary of the information derived from these three bases (Fabrigar et al., 2005) .

Miller (1980) categorises persuasive activity into three different dimensions: the process of response shaping, response reinforcing and response changing (Miller, 1980). Response shaping, a common key feature of political campaigns for example, is a very important process, as society is constantly exposed to new objects, new concepts and new people that require an individual's evaluation. Response-shaping seeks to guide this process of evaluation and opinion shaping into the desired direction. On a larger scale, response-shaping is commonly employed where the shaping of public opinion is of great importance, but it is also routinely used by individuals in situations whereby people seek to manage and affect how they are perceived by others. Response shaping processes are a key feature of human social influence (Stiff and Mongeau, 2003).

Response-reinforcement processes are a prominent feature of self-help and support groups – reinforcing an individual's decision to, for example, remain sober. It is also heavily relied on in the advertising industry in relation to maintaining brand loyalty. In politics response-reinforcement can be seen when candidates choose to campaign disproportionately heavily in regions where they have already secured widespread support (Stiff and Mongeau, 2003). Stiff and Mongeau (2003) also ascertain that religious services are generally designed to reinforce existing beliefs and to aid in maintaining lifestyles consistent with the prescribed doctrine. Response-changing processes are superficially similar to response-shaping processes in that they both involve a change in receiver response from one stance to another. They are fundamentally different, however, in that response-shaping involves a change from no response to some response, whilst response-changing refers to the change from an already established position to another – different – position (Stiff and Mongeau, 2003). The important message to be taken from Miller (1980) here, is the understanding that the reinforcement of attitudes is as much of a persuasive goal as the achievement of attitude change, and that response-shaping may be

considered a partial goal on the way to either of the other two outcomes. To recognize all persuasive intent, we must look beyond messages aimed at opponents and also consider messages aimed at peers.

Perloff (2003) divides his definition of persuasion into five components. Firstly, he describes persuasion as a symbolic process and asserts that persuasion does not happen suddenly and instantaneously. He believes that persuasion takes time, consists of several steps, and actively involves the recipient of the message. Perloff (2003) views the persuader as a teacher who gradually moves people towards a solution whilst helping them appreciate why the advocated position is the most superior one. Secondly, Perloff (2003), much in agreement with many other definitions of persuasion, states that persuasion involves an attempt to influence. He argues that persuasion is neither inevitably nor automatically successful. Likening persuasion to a company going out of business soon after it first opens, he claims that persuasive communications often fail in their objective to influence their targets. Perloff (2003) ascertains that persuasion always involves a deliberate attempt to influence another person and that the persuader must intend to bring about attitudinal or behavioural change in the target as well as be aware of this intention.

Perloff's (2003) third component - and this is where his definition differs from many others - is the idea that people can and do persuade themselves. He describes it as a myth that persuasion and persuaders convince people into doing things they really do not want to do, that they ultimately force their targets to give in. Perloff (2003) argues that this assumption overlooks a key point, namely that people persuade themselves to change their attitudes or behaviours, whilst communicators provide the arguments in order for them to do so. Communicators or persuaders "set up the bait. We make the change, or refuse to yield." (Perloff, 2003, p. 10). Whalen (1996) states that "You can't force people to be persuaded – you can only activate their desire and show them the logic behind your ideas. You can't move a string by pushing it, you have to pull it. People are the same. Their devotion and total commitment to an idea come only when they fully

understand and buy in with their total being." (Whalen, 1996, p. 5). Perloff (2003) claims that self-persuasion can be therapeutic, benevolent, or malevolent and that an ethical communicator will only push towards healthy self-influence, whilst a dishonest and malicious communicator is likely to seek to persuade targets to move towards attitudes and behaviours that are personally or socially destructive. In that, Perloff (2003) appears to disagree with Whalen (1996) on the element of full understanding being an essential part of self-persuasion, by acknowledging that deception can be a factor especially in malevolent persuasion.

Perloff's (2003) fourth component in his definition of persuasion is that it involves the transmission of a message. Messages in this context can be verbal as well as nonverbal, relayed in a variety of direct and indirect ways, be reasonable or unreasonable, factual or emotional. He states that the message can consist of arguments or just simple cues (such as openly showing attitudes such as disregard, disdain, excitement, or fascination, for example). Perloff's (2003) fifth and final component refers to the more questionable suggestion that persuasion requires free choice, a criterion that cannot be taken into consideration for the purpose of this research due to the nature of the data analysed and the general lack of information we hold about non-specified recipients of messages via Social Media. Both Whalen's (1966) and Perloff's (2003) understanding of persuasion as a lengthy and gradual process does not translate into the context of terse text and the changed communications landscape of today, as we nowadays consume and often act on terse text messages at significantly greater speed (for example by immediately sharing and thus spreading the message to a greater audience). Perloff's (2003) concept of self-persuasion, however, where communicators merely contribute the arguments which the individual then relies upon for self-persuasion, can most likely be applied to terse text in the same way that it can be used to understand traditional approaches to persuasion.

### 2.3.5 The Persuasive Message

This section discusses the persuasive message and its features from a Behavioural Science and Social Psychology perspective. It addresses the role of evidence, practices such as conclusion drawing, and counter-argumentation, as well as the topic of message organisation.

#### *2.3.5.1 Counter-argumentation and Two-Sided Messages*

Perloff (2003) distinguishes between three types of message factors: message structure, message content, and language. Message structure refers to the sidedness of the message (one-sided or two-sided), whether it contains conclusion drawing, as well as message organisation. A one-sided message presents precisely one perspective on the issue, whilst a two-sided message addresses both the communicator's position as well as arguments from the opposition. Both Allen (1998) and O'Keefe (1999) conducted meta-analyses on whether one- or two-sided messages are more persuasive (Allen, 1998; O'Keefe, 1999). Both independently concluded that two-sided messages are more effective at influencing attitudes than one-sided messages, as long as the message does not just present but also refutes opposition arguments. Two-sided messages that mentioned opposing viewpoints but failed to refute them were found to be less compelling than one-sided messages (Perloff, 2003). Refutational two-sided messages yield their persuasive superiority by enhancing speaker credibility by means of perceived honesty, as well as through the provision of reasons as to why the opposing arguments are wrong (Perloff, 2003). This broadly aligns with the principles of McGuire's (1961) Inoculation Theory (McGuire, 1961).

Developed in the early 1960s by social psychologist William McGuire, Inoculation Theory seeks to explain changes in attitude and beliefs as well as how to keep individuals holding on to existing attitudes and beliefs in the face of persuasion attempts (McGuire, 1970). The theory is still widely applied to date in contexts such as politics (Pfau et al., 1990) and marketing (Compton and Pfau, 2005). The name of the theory is derived from the medical analogy of inoculation which works by exposing a body to weakened viruses - strong enough to trigger a response (such as

antibody production), but not strong enough to overwhelm the body's resistance. McGuire (1961) argued that attitudinal inoculation appears to work in a very similar way. By means of exposure to weakened counterarguments a process of counter-arguing is triggered, which eventually builds resistance to later, stronger persuasive messages. He found that for attitudinal inoculation to be effective threat needed to be imposed on existing attitudes and beliefs held so that the process of refutational pre-emption is triggered to build defences to potential future counterarguments. Attitudinal inoculation must be undertaken with arguments strong enough to initiate the motivation to maintain current attitudes and beliefs, but weak enough for the receiver to be able to refute them with ease. For the purpose of this research persuasive argument involving counter-argumentation is thus of some interest.

#### *2.3.5.2 Conclusion-drawing*

Conclusion-drawing refers to whether a message does or does not provide the recipient with an explicit conclusion. O'Keefe's (1997) meta-analysis found messages that clearly articulate an overall conclusion to be more persuasive than those that omit the explicit conclusion in favour of implicit conclusion-drawing (O'Keefe, 1997). Perloff (2003) asserts that making conclusions explicit minimises confusion in the recipient in relation to where the communicator stands on a given issue. Cruz (1998) found that explicit conclusion-drawing also aids message comprehension, which in turn has a positive effect on evaluation of the message by the recipient (Cruz, 1998). Explicitness is likely to be of great importance in the terse text context and conclusion-drawing could be an important strategy in terse text persuasion.

#### *2.3.5.3 Message Organisation*

Perloff (2003) does not provide much detail on the topic of message organisation, stating that whilst there is little doubt that it influences attitudes, effective message organisation will vary greatly depending on context and modality. Modality hereby refers to expressions of how something might or should be, for example through expressions of necessity, permissibility and

probability as well as negations of these. He states that in politics, messages are commonly organised around negative arguments, such as criticisms of other candidates, whilst this strategy is unlikely to work in a professional group discussion, as political and organisational persuasion feature very different requirements and expectations (Perloff, 2003). He goes on state that internet communications are non-linear and present persuaders with additional opportunities and challenges, such as the use of graphics (Perloff, 2003). It is worthy of noting that Perloff's interpretation predates the rise of Social Media. Message content refers to, for example, whether and what types of evidence are provided alongside the arguments. Nonetheless the observation that in the political context, messages tend to be organised around negative arguments is interesting and likely to still apply. The task of message organization in terse text is certainly challenging where character limits apply, but potentially also be more important than in traditional speech or writing, due to the forced brevity disallowing later correction or adjustment.

#### *2.3.5.4 The Role of Evidence*

McCroskey (1997) defines 'evidence' as "factual statements originating from a source other than the speaker, objects not created by the speaker, and opinions of persons other than the speaker that are offered in support of the speaker's claims" (McCroskey, 1997, p. 170). Perloff (2003) adds that "evidence consists of factual assertions, quantitative information (like statistics), eyewitness statements, narrative reports, and testimonials, or opinions advanced by others" (Perloff, 2003, p. 180). Evidence in this context does thus not need to be factual, it can be anecdotal, it can be a mere opinion, and it can therefore also be entirely untrue.

In reviewing various relevant studies, Reynolds and Reynolds (2002) ascertained that "the use of evidence produces more attitude change than the use of no evidence" (Reynolds and Reynolds, 2002). Reinard (1988) found that there was more consistency in evidence research than in any other area of persuasion and that "evidence appears to produce general persuasive effects that appear surprisingly stable" (Reinard, 1988, p.46). The more credible the source, the

more persuasive the evidence becomes. Plausibility and novelty have also been found to aid persuasiveness (Morley and Walker, 1987). Reynolds and Reynolds (2002) argue that persuaders need to go beyond merely mentioning evidence to ensure the target audience recognises that evidence is being provided and to perceive said evidence as legitimate (Reynolds and Reynolds, 2002). The impact of evidence lessens if individuals do not sufficiently pick up on it or room is left to dispute its legitimacy. As the Elaboration Likelihood Model illustrates, evidence requires processing and the way in which evidence is elaborated determines its persuasive effects. In cases of low expertise on behalf of the recipient, evidence can be highly effective by utilising the target's lack of motivation or ability to decipher the issue (Perloff, 2003), in which case persuaders can use evidence truthfully or deceptively (Huff, 1954).

There are limited ways in which evidence can be incorporated in character-limited terse text, meaning that a number of criteria that may enhance the effect of evidence provision cannot be incorporated. Terse text persuasion can realistically only refer to evidence by means of quoting figures of authority and expertise, linking external content, and mentioning the existence of evidence without further substantiation. It is thus questionable whether evidence in terse text can have the same level of influence as has been observed in traditional forms of communication. Nonetheless, the role of evidence and the way in which it is incorporated into and alluded to within terse text messages will be considered in this and future research.

## 2.4 PERSUASION IN PHILOSOPHY

This section presents and evaluates the topic of persuasion in philosophy, starting with traditional and contemporary approaches to rhetoric, before moving on to Speech Act Theory, implicature, and message structure from a rhetorical perspective - work undertaken by researchers who later became known as "language philosophers".

### 2.4.1 Rhetoric: Traditional and Contemporary Approaches

Rhetoric is commonly defined as the art of using speech to convince or persuade. The origins of the study of rhetoric date back as far as Ancient Greece and Aristotle, who "provided the first comprehensive theory of rhetorical discourse" (Dillard and Pfau, 2002) in the fourth century BC. Persuasion was central to that theory. Persuasion remained a dominant theme in the rhetorical tradition over the centuries. The primary concerns of persuasion in the field of rhetoric, in comparison to more scientific or empirical approaches, are a strong focus on persuasion in political or civic contexts, as well as a pervasive emphasis on ethics (Hogan, 2013).

Persuasion according to Aristotle had three main ingredients: the nature of the communicator (ethos), the emotional state of the audience (pathos), and the arguments of the message (logos) (Perloff, 2003). Furthermore, in communicating, speakers take steps of 'Invention', 'Arrangement', 'Style', and 'Delivery' (Ehninger et al., 1978). Figure 2.5 below shows Aristotle's model of communication as illustrated by Ehninger et al. (1978).

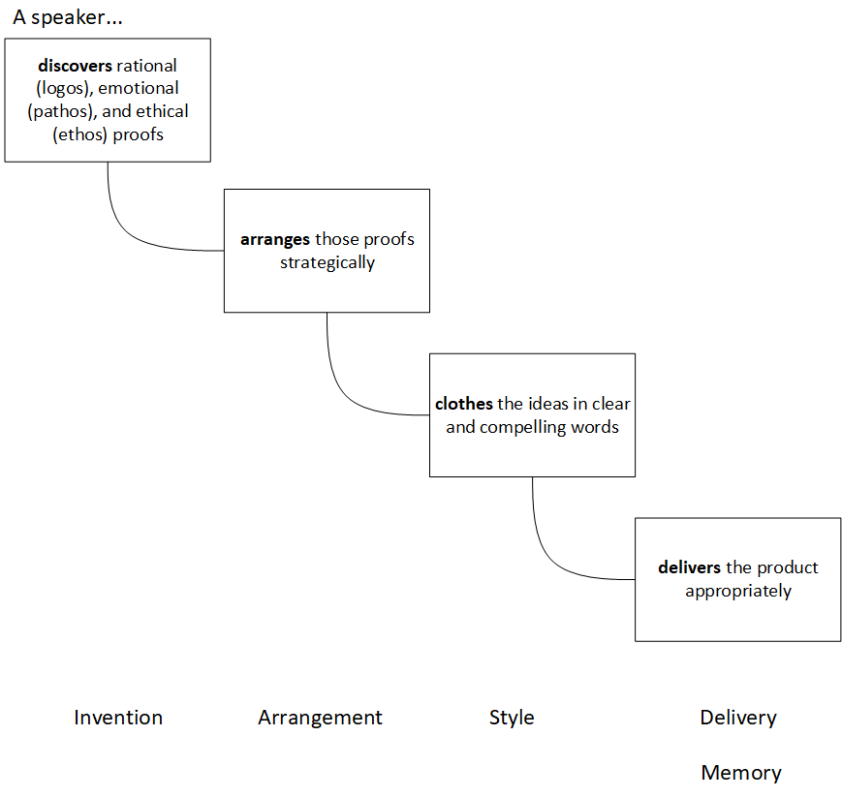


***Fig. 2.5:*** *Aristotle's Model of Communication as illustrated by Ehninger et al. (1978)*

Following Aristotle's lead, Roman rhetorical theorists Cicero and Quintilian both continued to shape the study of persuasion. Whilst Cicero placed great emphasis on the power of emotional appeals, Quintilian developed recommendations for the 'ideal orator' (Perloff, 2003). The study of rhetoric was largely suspended following the decline of Roman civilisation, but the theories formed by Aristotle, Cicero, and Quintilian survived to be picked up again many centuries later by scholars across the world. Larson (2004) ascertains that traditional forms of persuasion come with plenty of limitations, including the common allegation that traditionally persuasion was used primarily in manipulative ways (Larson, 2004).

In terms of categorising features of persuasive communication, however, Aristotle's 'Ethos – Logos – Pathos' model remains the most widely used approach to date, albeit frequently

adapted to different contexts. The appeal to emotion remains the most widely researched, historically as well as contemporarily.

In the first century (AD), Roman philosopher Seneca wrote that emotion was a corrupter of reason. 18th century English philosopher George Campbell argued, instead, that emotions were allies of reason, and that they aid in the assimilation of knowledge, which may be interpreted as an early identification of the importance of heuristic cues in persuasive communications and their role in the processing of systematic information. Emphasizing the significance of emotion in influencing others, 17th century Dutch philosopher Baruch Spinoza wrote about emotions as having the power to "make the mind inclined to think one thing rather than another" (Spinoza and Curley, 1994).

In discussing the analysis of language in the context of persuasion, Larson (2004) distinguishes between three different dimensions: functional, semantic, and thematic. The functional dimension is concerned with functional language use. Cialdini (2001) identifies a variety of functions that language can perform, such as fear building, directed deference or the blind obedience achieved by authority figures when their use of language appears to suggest superiority (Cialdini, 2001, p. 182). Larson's (2004) semantic dimension addresses the meaning of words within persuasive communication. "The semantic dimension explains the various shadings of meaning that can be given to certain words." (Larson, 2004, p.120). The thematic dimension focusses on how words 'feel' and how they add 'texture' to the spoken or written word (Larson, 2004). Larson states that thematic meaning can be created by use of powerful metaphors for example, or phenomena such as alliteration or assonance. From a linguistic perspective Larson's (2004) identified dimensions are kept vague and are largely based on examples rather than explained and aligned with relevant linguistic features.

Revisiting Aristotelian appeals, Leith (2011) writes about the appeal to credibility (ethos) that "your audience needs to know (or to believe, which in rhetoric adds up the same thing) that

you are trustworthy, that you have a locus standi to talk on the subject and that you speak in good faith." (Leith, 2011, p. 48). This very much relates to traditional forms of communication. Terse text and microblogging platforms, in particular, do not allow for credibility to be asserted primarily by the message communicator, unless the communicator is already a well-known figure of authority. Most communication on microblog platforms originates from and is spread by 'anonymous nobodies'. Thus, appeals to credibility in terse text are significantly more likely to be references to the credibility of others, be this a figure of authority who backs up a communicator's opinion, or the active undermining of opponents and those who hold or sympathise with opposing viewpoints. Leith (2011) writes about the appeal to reason (logos) by quoting Aristotle as having remarked that the most effective form of argument is one that allows the audience to think that they worked it out themselves, effectively letting the message recipient reach the conclusion just before or just as the communicator makes it explicit. For the terse text context this would imply that an argument that culminates in a conclusion is more effective than a simple statement of (alleged) fact.

In line with the research on conclusion-drawing discussed in section 2.3.5.2, however, it remains important to explicitly state the conclusion, as opposed to keeping it implicit. Leith (2011) states that a very common appeal to reason is the use of analogy. Analogies may be valid or may simply give the illusion of relevance, but nonetheless they can be powerful communicative tools. Addressing the appeal to emotion (pathos), Leith (2011) draws on Ancient Roman rhetorician Quintillian who argued that "unless we can entice our hearers with delights, drag them along with the strength of our pleading and sometimes disturb them with emotional appeals […] we cannot make even a just and true cause prevail" (Leith, 2011, p. 66). Leith (2011) adds that "emotion in a persuasive appeal is only effective inasmuch as it is shared emotion", stating the example of humour as an effective tool of persuasion because "laughter is an involuntary assent" (Leith, 2011, p. 66).

### 2.4.2 Speech Acts and Implicature

Speech Act Theory exists in both the field of linguistics (especially in pragmatics and discourse analysis) and the field of philosophy (more specifically in the philosophy of language), but is more frequently studied in the latter field with reference to persuasion. A speech act is an utterance that has a performative function in language and communication.

Speech Act Theory was developed by Austin in 1962 and provides a tool to assist in the pragmatic analysis of discourse. Speech Act Theory is concerned with the meanings assigned to speech acts by participants based on their relationship to one another and context (Austin, 1962). Or, in other words, Speech Act Theory primarily seeks to understand what the producer of an utterance can do with that utterance the instant it is produced. Utterances are viewed as far more than simple statements and the focus of Speech Act research is to understand how statements that may be intended to merely seek or convey information, for instance, can in reality turn into actions once pronounced (Austin, 1962). According to Austin (1962) utterances may perform three types of act: locutionary, perlocutionary and illocutionary. A locutionary act is the performance of an utterance, the actual utterance and its onstensible meaning. An illocutionary act is the 'pragmatic illocutionary force' of the utterance, meaning its intended significance as a socially valid verbal action. A perlocutionary act is then the actual effect, such as convincing, persuading, enlightening, scaring, inspiring, or otherwise provoking someone towards an action or realization, whether intentionally so or not (Austin, 1962). Speech acts were further defined by Searle (1978), who stated that speaking a language is equal to performing speech acts, asserting that every form of linguistic communication has speech acts embedded in it. Speakers use speech acts to, for example, make statements, give commands, ask questions, make promises, but also more implicitly to refer or predicate (Searle, 1978). Searle (1978) also added that these acts are in general made possible by and are performed in accordance with certain rules for the use of linguistic elements (Searle, 1978). Searle classifies these rules into rules regulative and constitutive rules. Regulative rules exist to regulate existing forms of behaviour and operate as

imperatives, which constitute the basis of appraising behaviour. They can be direct orders like "do x" or conditionals like "if y, do x". Constitutive rules, meanwhile, move beyond mere regulatory function by incorporating and explaining new behavioral patterns. They constitute and regulate an activity whose very existence is dependent on these rules. Like regulatory rules, they may take the form of orders or conditionals, but may also come in the form of "x counts as y in the context c" (Searle, 1978, p.34-35).

'Implicature' is a term coined by Grice (1975) and refers to what is suggested in an utterance, albeit not being expressed. Implicature also reaches further than strict implication and entailment. As part of defining his 'cooperative principle', which describes how people interact with one another, Grice (1975) identified four conversational maxims: Quantity, quality, relevance, and manner. The maxim of quantity demands that a contribution is as informative as but not more informative than is required for the current purposes of the exchange, while the maxim of quality requires the communicator to be truthful, and to not give information that is false or that is not supported by evidence. The maxim of relation stipulates relevance (communicating only matters that are pertinent to the discussion), and the maxim of manner calls for the message to be kept as brief and as orderly as possibly, whilst avoiding obscurity and ambiguity. (Grice, 1975).

Conversational implicature can occur in three different ways according to Grice (1975):

1) The communicator deliberately flouts one of the conversational maxims to convey an additional meaning not expressed literally. This occurs for example when a question is answered with an unrelated response implying something that was not explicitly asked for (Grice, 1975).
2) The communicator's attempt to fulfil two conflicting maxims results in him or her flouting one maxim to invoke another. This can happen when in order to avoid providing a response that may be incorrect, a communicator provides several possible options, thus

creating a conflict between the maxim of quantity and the maxim of quality in giving excess information to ensure the response is qualitatively sound (Grice, 1975).

3) The communicator invokes a maxim as a basis for his or her interpretation of an utterance. The assumption that all maxims were adhered to leads to an implicature, despite one maxim not being present explicitly (Grice, 1975).

Grice (1975) also addresses another form of implicature known as scalar implicature or quantity implicature, Scalar implicatures tend to arise where the communicator qualifies or scales their statement with language that conveys an inference or implicature which indicates that he or she had reasons not to use a stronger, more informative, term.

Non-Gricean, conventional implicature is a third type of implicature, which is independent of the cooperative principle and the four maxims. Conventional implicature applies where a statement always carries the same implicature independent of its context.

Implicature differs from entailment in that entailment does not merely suggest that something else is true, but instead requires something else to be true. Referring to a person having been assassinated, entails rather than implies that this person is dead. Implicature is slightly more subtle than entailment. Both entailment and implicature are concepts that apply to persuasion in the terse text context, despite some relevant research suggesting that condensed messages rely on greater explicitness in order to have a persuasive effect (O'Keefe, 1997). This does not, however, take away from the reliance on entailment, implicature, illocutionary acts and perlocutionary effects, which is greater in character-limited short messages than it is in traditional forms of written and spoken communication. An understanding of concepts of entailment and implicature is of great importance in the analysis of persuasion in terse text, and although some of this would be more suited to a later, separate study, both concepts will feed into the data analysis conducted as part of this research.

### 2.4.3 Monroe's Motivated Sequence

Monroe's Motivated Sequence is a technique for structuring persuasive speeches that seek to inspire the audience to take action. It was developed by Alan Monroe from the 1930s onwards and took inspiration from Dewey's Reflective Thinking Sequence and Maslow's Hierarchy of Needs (Ehninger et al., 1978). According to Monroe's Motivated Sequence, such speeches contain five features: attention, need, satisfaction, visualisation, and action. 'Attention' refers to grabbing the attention of the target audience using tools such as a shocking example, dramatic statistics, quotations, or a detailed story (Ehninger et al., 1978). The idea of 'need' is based on the premise that action is motivated by audience needs, thus the audience must be convinced that the topic is applicable to one or more of their needs (Ehninger et al., 1978). In order to meet the criterion of 'satisfaction', the communicator must solve the issue by presenting specific and viable solutions that individuals or communities can implement in order to solve the problem. (Ehninger et al., 1978). 'Visualisation' refers to the requirement to tell the audience in a visual and detailed manner precisely what would happen if the solution is not implemented or does not take place (Ehninger et al., 1978). This may include the use of literary devices such as allegories (narratives used to express an idea or to teach a lesson) and metaphors (words or phrases used to represent an idea). Finally, the 'action' step is where the communicator tells the audience what they can personally do to solve the issue (Ehninger et al., 1978).

Much like in the case of Aristotelian appeals, it is unlikely that persuasive microblogs would contain all five features. Instead there will probably be one or several predominant features. The 'attention' criterion is of particular interest here, as terse text does not allow for much subtlety and is instead likely to favour bold, crude and attention-grabbing language or semantic content.

### 2.4.4 Rhetoric in Mass Media

Johnson (2000) ascertains that in order for mass media to be effective, it needs to feature appeals to human emotions, and to fear and pity in particular (Johnson, 2000). Both types of rhetorical argumentation can be extremely impactful if presented in the right way (Walton, 2007). Appeals to fear and pity are two types of argumentation that are very frequently used in mass media – especially in the context of political debates, by advocacy groups, public relations firms, governments, and corporations (Walton, 2007). Walton (1994) notes that whilst both kinds of arguments have been traditionally classified in logic as fallacious due to their frequent use in exploitation and manipulation, a "blanket condemnation is not warranted", arguing that appeals to emotion deserve recognition as having legitimate standing in some circumstances (Walton, 1994, p.128). Walton (2007) adds that "if appeals to emotion are sometimes rational arguments, how can we strike the right balance between recognizing their rhetorical power and the logical defects they admittedly have in some instances? The key is to probe beneath their rhetorical uses as strategically persuasive rhetorical tools to their underlying dialectical structure that makes them rationally persuasive" (Walton, 2007, p. 127). Walton then illustrates his response by linking it to the Elaboration Likelihood Model (Petty and Cacioppo, 1986), to demonstrate the use of fear and pity as a peripheral cue in argumentation, although unfortunately he mistakenly credits O'Keefe (1994) with its creation.

## 2.5 Persuasive Language and Persuasion in Linguistics

This section addresses persuasion and persuasive language within the academic field of Linguistics. It will address the topics of emotive language and linguistic power, persuasion in discourse analysis, forensic linguistics, as well as psycholinguistics and style accommodation.

### 2.5.1 Emotive Language and Linguistic Power

Macagno and Walton (2014) illustrate powerful word choices with a number of everyday examples "We fear war. We are afraid of terrorists. We desire peace. We love children.", and go

on to explain that these words trigger emotions and influence the way we regard the reality they represent (Macagno and Walton, 2014). They ascertain that the 'emotive power' of these words can make them extremely effective instruments to direct and encourage certain attitudes and choices. Macagno and Walton (2014) elaborately demonstrate by means of various examples that words can be used to hide, omit, and distort reality. Zarefsky (2006) states that definitions can be used persuasively in two ways – 1) Definitions and meanings can be shared, but in some instances the reality referred to cannot, in which case words may be used in a way that depicts a state of affairs differently to its reality. 2) A state of affairs may however also be shared or partially known by an interlocutor, in which case a communicator may choose to use an unshared alternate definition of the word. An argument based on an unconventional definition can allow an otherwise unaccepted use of a term (Zarefsky, 2006). Zarefsky (2006) ultimately argues, simply put, that the choosing or changing of definitions amounts to an act of persuasion (Zarefsky, 2006). Macagno and Walton (2014) argue that what may appear to be a metaphorical use of language, is – in the context of persuasion and especially political persuasion – more often than not "simply words used inappropriately" (Macagno and Walton, 2014, p. 21). Orwell (1946) illustrates this with the following example:

> *"The words democracy, socialism, freedom, patriotic, realistic, justice have each of them several different meanings which cannot be reconciled with one another. […]. Words of this kind are often used in a consciously dishonest way. That is, the person who uses them has his own private definition, but allows his hearer to think he means something quite different. Statements like Marshal Petain was a true patriot, The Soviet press is the freest in the world, The Catholic Church is opposed to persecution, are almost always made with intent to deceive. Other words used in variable meanings, in most cases more or less dishonestly, are: class, totalitarian, science, progressive, reactionary, bourgeois, equality" (Orwell, 1946).*

In defining linguistic power, psychologists Holtgraves and Lasky (1999) draw on extensive previous research by Bradac & Mulac (1984) and Bradac, Hemphill, and Tardy (1981) on powerful and powerless language, which repeatedly refers to powerful language as being defined by an absence of hesitation markers (in spoken word), hedges ('kind of', 'sort of', etc), and

tag questions (Bradac et al., 1981; Bradac and Mulac, 1984; Holtgraves and Lasky, 1999). Gibbons, Busch, and Bradac (1991) determined a null relationship between powerful language styles and persuasion, but instead found a strong relationship between (the common definition of) powerful language and impression formation, meaning that a high or low power style led to a variety of personal judgments made about the communicator, whilst message content was found to be the only factor relevant to persuasiveness. These findings appear to indicate that the polar opposite of the popular maxim 'it's not what you say, it's how you say it' is actually the case. A key problem lies in the common definition of powerful language in negatives - defining it solely in features it lacks rather than features it tends to incorporate. This longstanding approach to the definition of linguistic power is largely a definition of what constitutes powerless language, leaving the remainder to be either powerful or in fact just neutral and thereby rendering this definition unsuitable for the research in question.

### 2.5.2 Persuasion in Discourse Analysis

Discourse Analysis is a subfield of the academic discipline of linguistics, but as a methodology it is also frequently used in a variety of other academic fields, such as communications, anthropology, psychology, cultural studies, or education (Johnstone, 2008). The term ‘discourse’ generally refers to actual instances of communicative action in the medium of language, although some definitions are broader than this and include meaningful symbolic behaviour beyond language (Johnstone, 2008). Discourse analysis concerns itself with the systematic analysis of specific instances of language in use. The body of research on discourse analysis applied to the genre of persuasive text and speech is small, which is in part due to the more common default to investigating persuasive communications through Speech Act Theory, which although also closely tied to discourse analysis, is more commonly seen as a subfield of either pragmatics or philosophy of language. Critical Discourse Analysis theorist Fairclough (2015) and others is his field have extensively researched the relationship between power and language at various levels, including the textual level. Fairclough shows that many interactions

are ‘unequal encounters’ and that language choice is created and constrained by certain social ‘power’ situations. Fairclough demonstrates how texts are persuasive because of the ideologies they rely upon for their effect, such as when the text makes ‘natural’ assumptions about the audience’s values and beliefs, about what is ‘normal’ or ‘common sense’ (Fairclough, 2015).

In a study using discourse analysis methodology without Speech Act Theory, Lillian (2008) examined texts of 35,000 words each from two Canadian conservative writers to compare their approaches to persuasion, focusing in particular on the authors’ use of modal auxiliaries. She found that the overwhelming number of clauses in both texts fall into the categories of validity and predictability, which, she states, are to some extent, the default modalities of academic or academic-related nonfiction texts. She observed differences between the two authors’ use of deontic modalities (modalities of desirability, permission, and obligation). Lillian (2008) then however leaps to the rather unsubstantiated conclusion that one of the texts constitutes persuasion, whereas the other constitutes manipulation, an arbitrary differentiation, that is not grounded in prior research and theory. Her evaluation relies predominantly on the significantly more frequent use of modals of permission (‘may’, ‘can’), and modals of obligation (‘must’, ‘have to’, ‘should’, ‘ought to’) in one of the texts, which in her interpretation categorises the text as ‘manipulative’ rather than persuasive (Lillian, 2008). Whilst data driven approaches to researching persuasion have their place, it is important that the premises upon which they are conducted are carefully chosen. As stated previously and in stark contrast to Lillian (2008) a definition of persuasion that does not make an arbitrary moral distinction between persuasion and manipulation and instead differentiates only between persuasion and coercion.

A more interesting observation of Lillian (2008) however is the presentation of the author, which in itself, although she makes no reference to this, would constitute an Aristotelian appeal to emotion (ethos). Lillian (2008) points out that the ordinary reader would consider the author of the text that she deems ‘manipulative’ as a trustworthy source based on his credentials of holding a doctorate from a highly reputable university, with his book published by a

mainstream publishing company, rather than a known 'vanity press'. She rightly suggests that readers would be unlikely to be aware that he grew up with wealth and privilege, and that they might easily be taken in by the 'average guy' persona he portrays. Lillian (2008) believes that this is likely to lead to less critical evaluation from the author's readership.

A better interdisciplinary understanding of persuasion across behavioural science and rhetoric may have been highly beneficial to the interpretation of findings in this particular study as well as, no doubt, in many others.

Dennett (2014) identifies and explains a number of rhetorical phenomena, such as rhetorical questions, 'deepities', and specific operators that are frequently used where persuasion is a key aim (Dennett, 2014). Dennett describes a 'deepity' as "a proposition that seems both important and true – and profound – but that achieves this effect by being ambiguous" and gives the example of the phrase 'love is just a word' (Dennett, 2014, p. 56). Writing about the operator 'surely', Dennett (2014) describes it as a means of masking a weak argument by pretending that the point that follows is one the reader should be as sure of as the author is. Given the nature of microblog communications on Twitter, most questions utilized in non-conversational messages are likely to be rhetorical questions. Dennett (2014) believes that rhetorical questions, much like the operator 'surely' represent an author's eagerness to take a short cut, by implying that the answer is blatantly obvious. Often however, questions posed as rhetorical questions can be answered in less obvious ways than may be intended, at which point it becomes clear that the rhetorical question was likely used as a short cut to attract agreement (Dennett, 2014). Phrases and tropes that make sense only when one does not give them too much thought feature heavily in the 'meme' culture of social media and are likely to be similarly prevalent in the realm of terse text persuasion.

### 2.5.3 Persuasion in Forensic Linguistics

Forensic Linguistics is a branch of Applied Linguistics that concerns itself with the application of linguistic knowledge and methods to the forensic context of the law, criminal investigation, and judicial procedure. Shuy (2005) describes persuasive communication as making use of certain rhetorical and stylistic techniques, such as "argumentation, flattery, tautologies, repetition, paraphrase, purposeful semantic shifts, connotations, or neologisms" (Shuy, 2005, p. 31) with the aim of convincing listeners "by triggering certain behavioural patterns through the perlocutionary effects created on them" (Shuy, 2005, p. 32). Shuy claims that in persuasive rhetoric it is important that the listener understand what is said in order to be influenced by it and that the persuader attempts to convince listeners to give up their point of view and embrace the advocated position (Shuy, 2005). This relatively narrow definition of persuasion appears to disregard a variety of scenarios of persuasive communication discussed and defined previously. Shuy (2005) tries to draw a distinction between persuasion and conversational strategies closer to what he refers to as 'manipulative seduction', a term used and defined by Sornig (1989). Sornig (1989) describes seduction as 'an attempt to make people do things as if of their own impulse, but really upon instigation from outside" whilst persuasive mechanisms generally work mainly alongside cognitive argumentative lines and additionally states that seductive persuasion tries to "manipulate the relationship that obtains it" and "exploits the outward appearance and seeming trustworthiness of the persuader" (Sornig, 1989, p.97).

Honneth (1991) sees a communicator's ability to effectively implement their own agendas as the most commonly recognised function of linguistic power, whilst Shuy (2005) states that powerful communicators often rely on their power not being recognised by the recipient, which leads to the use of benign-appearing but very effective conversational strategies, identifying that a lot of linguistic research into powerful and powerless language has focussed on what characterises a communicator's lack of power (Honneth, 1991; Shuy, 2005).

Shuy (2005) sets out to explore a list of discrete language features that he believes are used by powerful communicators. Due to the nature and focus of Shuy's research quite a few of the strategies he discusses relate quite specifically to how police use and abuse conversational strategies in the context of police interviews. Several of these strategies focus on undermining the target's credibility and coercing them into false confessions, which are not applicable to the context in which this research examines persuasion. A select few approaches are, however, of some interest to the terse text context, such as the deliberate withholding of information required for message recipients to make informed decisions, as well as, in more general terms, the use of deceptive strategies, such ambiguity, as well as law enforcement and legal professionals using language to elicit specific responses (Shuy 2005).

### 2.5.4 Psycholinguistics & Style Accommodation

Psycholinguistics is the study of the relationship between the human mind and language (Field, 2003). Psycholinguists are interested in the mental processes involved in language use and acquisition (Slobin, 1979). Psycholinguists seek to trace similar patterns of linguistic behaviour across sizable groups of individual speakers of a particular language, aiming to acquire insights into the way in which the configuration of the human mind shapes communication (Field, 2003).

Stylistic norms are formally identified by linguists and known to and informally recognized by speakers and writers of a language. Social and physical separation of groups leads to the formation of distinct communities and microcommunities. "There are as many norms as there are groups and subgroups demonstrating some degree of relative isolation from one another" (McMenamin, 2002, p.117).

There are a variety of different stylistic norms, such as prestige norms (norms that relate to the acceptability by upper social classes), norms of social convention or necessity, norms governing use of registers, varieties, and other languages, class norms (of categories like age, sex, ethnicity, race, socioeconomic status, etc.), regional norms (norms of geographic location),

circumstantial norms (of situation: purpose, topic, reader, time, place, etc.), appropriate-language norms (of proper social behaviour) , and correct-language norms (of correct linguistic behaviours) (McMenamin, 2002). These norms are all observable in the terse text context and translate well into Aristotelian appeals and heuristic/systematic cues. Prestige and class norms for example can be seen as heuristic cues and appeals to credibility (ethos).

In a 2011 study Danescu-Niculescu-Mizil et al. applied the psycholinguistic theory of communication accommodation to the context of Social Media and microblogging (Danescu-Niculescu-Mizil et al., 2011). As a general observation, participants in conversations tend to converge to one another's communicative behaviour by coordinating dimensions such as lexical choices, syntax, utterance length, pitch and gestures, which had, however, according to Danescu-Niculecu-Mizil (2011) previously been empirically examined solely in the context of small-scale or highly controlled laboratory studies. The application to the microblogging platform Twitter was thus novel in corpus size and character-restricted message length. Danescu-Niculescu-Mizil et al. (2011) also states that the non-real-time nature of Twitter conversations and the wide variety of social relation types between communicators added additional novelty. To investigate existing theory in this novel context Danescu-Niculescu-Mizil et al. (2011) developed a probabilistic framework to model stylistic accommodation and measure its effects. In applying their framework to a large Twitter conversational dataset specifically developed for the task, they discovered a complexity of the phenomenon which was not previously observed. In order to measure style, Danescu-Niculescu-Mizil et al. (2011) worked with Linguistic Inquiry and Word Count (Pennebaker et al., 2015), a corpus analysis tool that will also be in this piece of research.

In a study clearly not taken into consideration by Danescu-Niculecu-Mizil (2011) Taylor & Thomas (2008), however, have linked style accommodation to negotiation outcome in the context of hostage negotiations and found that greater linguistic style matching was present in successful negotiations, whilst unsuccessful negotiations featured dramatic fluctuations in

stylistic accommodation, with negotiators unable to maintain the constant levels of rapport and coordination present in successful negotiations (Taylor and Thomas, 2008).

In the context of non-conversational persuasive communications via microblogging platforms, style accommodation is not possible with respect to individual targets, but communication adaptation aimed at a target audience is an option. Adherence and violations of stylistic norms that align with the communication preferences of the target audience could be highly beneficial to the persuasive effect of the message.

## 2.6 PERSUASION IN POLITICS

Mutz et al. (1996) describe the field of study of political persuasion as having "a long lineage but a brief history", because to date it is considered difficult to point to "a body of cumulative studies establishing who can be talked out of what political positions and how" (Mutz et al., 1996, p. 1). They assert that "politics, at its core, is about persuasion", as it does not merely hinge on whether citizens favour one side of an issue over another at any given moment, but also, more importantly relies upon the number of people that, when and where required, can be brought from one side to another, as well as the number of people that can be encouraged to leave the sidelines in order to take a side (Mutz et al., 1996). This makes persuasion the central aim of political interaction.

This section will discuss the topics of mass media and political persuasion, propaganda, political advertising, the concept of soft power, and relevant social influence models.

### 2.6.1 Mass Media and Political Persuasion

Since the 1920s, social scientists have investigated the effects of mass media on citizens' attitudes and behaviours, concerned about its use as a propaganda tool. A systematic review of existing research by Klapper in 1960, however, concluded that the media does not primarily persuade with the outcome of attitude change, but instead predominantly reinforces attitudes

already in place (Klapper, 1960). Attitude change was found to be rare. People often, to an extent deliberately, set out to only expose themselves to attitude-consistent media messages (Frey, 1986; Sears and Freedman, 1965) or alternatively tend to interpret and recall attitude-inconsistent media messages in ways that reinforce their existing attitudes rather than challenging them (Cooper and Jahoda, 1947; Roberts, 1985).

### 2.6.2 Propaganda

As addressed at the beginning of this chapter, some scholars seek to display the practice of propaganda as different to and separate from persuasion. This is largely a subjective and purist opinion that does not fit in with many other definitions of persuasion and does not aid the understanding of the true and certainly varied landscape of persuasive communications. It is important, however, to reiterate that, although arbitrary moral judgments of what is and is not persuasion are unhelpful, there is certainly value in the study of propaganda as a subcategory of persuasion.

Propaganda is generally defined as biased and often unsubstantiated and untrue information used to publicise particular political causes or points of view. It is commonly associated with the psychological mechanisms of influencing and altering the attitude of a population toward a specific cause, position or political agenda in an effort to form a consensus to a standard set of belief patterns. Propaganda is information that is not impartial, although it must be recognised that very little information spread in the context of persuasive discourse could genuinely be described as impartial, therefore propaganda does not deviate far from the norm of persuasive communication. Propaganda is generally used to influence an audience and further an agenda, often by presenting facts selectively (perhaps lying by omission) to encourage a particular synthesis, or using loaded messages to produce an emotional rather than a rational response to the information presented.

Historically, propaganda was a neutral, descriptive term that has over the decades undergone a significant semantic shift and is now generally associated with manipulative and jingoistic approaches to (predominantly political) communication (Diggs-Brown, 2012). In 1928 propaganda theorist Edward Bernays was of the now highly controversial and ethically questionable opinion that the manipulation of public opinion was necessary as part of democracy. This relatively extreme view aside, Bernays also argued that "in certain cases we can effect some change in public opinion with a fair degree of accuracy by operating a certain mechanism, just as a motorist can regulate the speed of his car by manipulating the flow of gasoline" (Bernays, 1928). Bernays (1928) recommended that to change the attitudes of the masses, a propagandist should target its "impulses, habits and emotions" and by making "emotional currents" work for him, thus reiterating the significance of emotion in influencing others as observed by many scholars across the academic disciplines that concern themselves with the study of persuasion.

Mulholland (1994) claims that propaganda uses "strong and mainly covert tactics, and hardly allows for resistance to its influence, and has as its goal an absolute imposition of its own wishes on others" (Mulholland, 2014, p. xv). It is uncertain as to what she means by "mainly covert tactics", seeing as a lot of persuasion that would fall into the category of propaganda is actually remarkably explicit, albeit often untruthful, which may be one of the covert tactics referred to. Persuasion that is not propaganda also heavily relies on covert tactics and can also be entirely deceptive in nature. Mulholland (1994) goes on to state that "if it meets with opposition it simply increases the pressure on others to accept what it seeks. It insists that its message be accepted, and further that it be acted on." (Mulholland, 2014, p. xvi). Propaganda does of course tread a fine line between persuasion and coercion, and can fall into either activity depending on the approaches used. But propaganda at times employing coercive tactics does not in itself separate it from persuasion when it does not cross that line. Meta-analyses of the body of research on the impact of propaganda on attitude change have consistently found that, much like all other mass

media, propaganda predominantly reinforces existing attitudes rather than succeeding in bringing about attitude change (Klapper, 1960; Miller and Krosnick, 1996; Roberts, 1985) .

### 2.6.3 Political Advertising

The context of political advertising is one in principle quite closely related to terse text social media in its challenges. With the requirement to condense their message into around 30 seconds of television or radio airtime, the options for candidates to communicate with depth and force of reason is heavily constricted (Ansolabehere and Iyengar, 1996). Political advertising has thus regularly attracted criticism for being "superficial, deceptive, and increasingly nasty", with campaigns being accused of offering citizens little hard information with which to make a reasoned choice (Ansolabehere and Iyengar, 1996, p.101). Several studies have found that contemporary campaigns leave significant numbers of voters disaffected from the political process, leading many to not vote at all, to cast a 'protest vote' or to spoil their ballot. (Bode, 1992; Jamieson, 1992; Neale, 1991). There is, however, little systematic evidence on the contribution of campaign messages (and political advertising in particular) to election outcomes (Ansolabehere and Iyengar, 1996). Patterson and McClure (1973, 1976) surveyed voters to try and measure the effects of campaign advertising. Whilst they did find that a significant number of participants had learned about the candidates' issue positions from advertisements, they found no evidence that the advertisements seen influenced their decision of whom to vote for (Patterson and McClure, 1976, 1973). Survey research, however, is a problematic approach in this context, for it is impossible to determine with any degree of accuracy which specific advertisements participants were exposed to. Reliance on self-reports or recall of particular advertisements is notoriously unreliable and highly likely to bias survey findings away from finding any effects.

Experimental research has found that only half of those exposed to a commercial embedded in a television program can remember seeing a political ad if asked about it only 30 minutes later (Ansolabehere and Iyengar, 1993). Much like in the context of microblogging and

social media, the persuasive effectiveness of political advertising is nigh impossible to research with any degree of reliability, thus the focus tends to remain on persuasive intent. In the context of limited airtime, this leads to messages that are lacking in reasoned argument and sophistication, and are more direct and explicit than persuasive political communications in other contexts, which is a pattern likely to also apply to terse text social media.

### 2.6.4 Soft Power and Reflexive Control

As early as 1658, French philosopher Pascal wrote that "People […] arrive at their beliefs not on the basis of proof, but on the basis of what they find attractive." (Pascal, 1658, p.4). In the early 1990s Joseph Nye (2004) coined the term 'Soft Power' to describe the ability to shape the preferences of others, harnessing the power of attraction and seduction rather than coercion, threats, or payments. Nye essentially translated the study of heuristics from interpersonal and group communications to the realm of international relations involving both state actors and populations. Nye (2004) describes soft power as "more than just persuasion" and "more than the ability to move people by argument, although that is an important part of it" (ibid., p. 6). He explains that soft power additionally has the ability to attract – and attraction often leads to acquiescence. In the broader context of politics and international relations, Russia is a good example of the effective use of soft power. During the Cold War for example, Russia attracted many due to its opposition to European imperialism and the utopian promise of communism. Moscow reached out to communist parties in other nations to serve its interest and spent billions on an active public diplomacy programme that promoted its high culture through broadcasting pro-Russian propaganda and disseminating disinformation about the West. Russia also sponsored antinuclear protests, peace movements and youth organizations.

'Reflexive control' is a concept closely related to that of 'soft power'. Snegovaya (2014) describes the strategy of 'reflexive control' as causing "a stronger adversary voluntarily to choose the actions most advantageous to Russian objectives by shaping the adversary's perceptions of

the situation decisively" and claims that Moscow has made skillful use of this to persuade the US and its allies to remain largely passive in Russia's efforts to militarily as well as non-militarily dismantle Ukraine (Snegovaya, 2015). Both soft power and reflexive control are most effective at reinforcing attitudes and ensuring an opponent does what they were to some extent inclined to do in any case.

### 2.6.5 Social Influence Models

There are a number of social influence models that bear relevance to the phenomena encountered in terse text persuasion.

Smith and Williamson (1984) define a communication "transaction" as "two people engaged in mutual and simultaneous interaction", making it a "negotiation attempt to create meaning" (Smith and Williamson, 1984). As a definition, this may be too rigid to account for the many different ways in which we communicate today. Whilst there is always a message communicator and a(n intended) message recipient, a communication transaction must not necessarily be restricted to just two participants, neither must all participants be equally intensely involved in the transaction. In the microblog context a communicative transaction can for example take place by means of a communicator sending a message to an unfiltered potential audience and a recipient processing and being affected by the message without directly feeding back to the message communicator. The message may however have influenced a recipient's perception of the communicator, a less tangible but still significant contribution to the communicative transaction and yet very meaningful if repeated within many more recipients of the message.

In transactional communication models each message system can be viewed as operating on three levels of meaning: denotative, interpretive, and relational (Smith and Williamson, 1984). The denotative level of meaning refers to explicit message content and reference, whilst the interpretative level of meaning operates when "cues tell the other person in the transaction how

the message is to be interpreted" and includes connotative meaning (Smith and Williamson, 1984, p. 86). The relational level of meaning refers to the perceived relationship between the communicators. The terse text context is likely to see a predominant reliance upon denotative meaning, but heuristic or peripheral cues are nonetheless likely to add an interpretative and potentially also a relational level of meaning. Limited character count leaves fewer options of how to add interpretative meaning in terse text, but it remains possible to inject hints of sarcasm or irony, or to rely on the message communicator's identity and previous stances. The latter may also aid the relational level, as can appeals to emotion that explicitly seek to increase relatability. Many communicators in the microblogging sphere are anonymous or unknown to their audiences, however, which impacts upon how much interpretative and relational meaning can be relied upon.

Another relevant social influence model is Festinger's social comparison theory which suggests that people evaluate their own opinions and beliefs through comparing them to the opinions and beliefs held by others (Festinger, 1954). These "others" are generally selected based on their perceived similarity (Johnson-Cartee and Copeland, 2004). This relates in particular to rhetorical appeals to credibility and emotion, where a message communicator may present themselves as one of his target audience, downplaying their ethos to create relatability through pathos. According to Festinger (1954) social comparison takes place in particular when people hold beliefs that are unsupported by physical reality, which motivates them to seek out a different social reality through their reference group.

## 2.7 Persuasion and Social Media

This section discusses persuasion in the context of social media, beginning with a definition of Social Media and an introduction to the Twitter microblog platform, before moving on to the topics of virality, information dynamics, digital wildfire, and the political relevance of Social Media.

### 2.7.1 Defining Social Media

Meikle (2016) defines 'social media' as "networked database platforms that combine public with personal communication", acknowledging that there are many different definitions of Social Media in circulation, some overlapping with, competing with, and at times contradicting one another (Meikle, 2016, p. 6). Fuchs (2014) collates a variety of contending definitions of 'social media' from the academic literature, which all emphasise a number of recurring concepts, such as the sharing of content, collaboration, the submission of user generated content, and the networked environment. Social media technologies can take many different forms, such as blogs, forums, photo sharing, video sharing, professional/enterprise social networks, social gaming, social bookmarking, and microblogs (Aichner and Jacob, 2015). It is the microblog format in particular that will be the focus of this research, especially in the context of the character-limited microblogging platform Twitter, although microblogs are also popular in the form of status updates on platforms like Facebook or LinkedIn, albeit without the strict character limit, thus allowing the user a choice as to whether to post in terse text or traditional format.

### 2.7.2 The Twitter Microblog Platform

Twitter is a social networking and microblogging service that enables registered users to read and post short microblog messages, so-called 'tweets'. Twitter messages are currently limited to 280 characters, but were limited to 140 characters up until November 2017, meaning that all data collected and analysed in the context of this research still fell under the old character limit. Twitter is one of the most popular social networks worldwide with 336 million active users in the first quarter of 2018 (Statista, 2018). In September 2018 there were approximately 6,000 tweets published per minute, which corresponds to more than 350,000 tweets sent per minute, approximately 500 million tweets per day and around 200 billion tweets per year (Internet Live Stats, 2018).

Twitter, Facebook, and other microblogging services have over time become essential platforms for marketing and public relations (Tuten and Solomon, 2014), and have also gained great importance in political campaigning (Larsson and Moe, 2012). Beyond being used by influential opinion formers, microblogging also facilitates serial peer-to-peer activism on a broad variety of social and political causes (Bastos and Mercea, 2015). Microblogging has also become a considerably important source of real-time news-updates in crisis situations (Honey and Herring, 2009).

Although not originally developed as a medium for conversation, Ritter et al. (2010) estimated that approximately 37% of tweets were conversational at the time of their study into unsupervised modelling of Twitter conversations (Ritter et al., 2010). "Conversational" hereby refers to messages that were literally part of a conversation, meaning an exchange between two or more individuals.

Danescu-Niculescu-Mizil et al. (2011) describe Twitter as 'one of the largest publicly available resources of naturally occurring conversation' (Danescu-Niculescu-Mizil et al., 2011, p.745) but adds that Twitter conversations do differ from other types of conversations, notable differences being the (then) 140 character-limit and the lack of real-time responses.

### 2.7.3 Virality

'Virality' in social media refers to the spreading of content in ways that are analogous to the spreading of viral infectious disease. The sharing of online content has become an integral part of modern life. As early as 2007, Allsop et al. found that 59% of their research subjects frequently shared online content with others, a figure that is likely to have increased across the general population (Allsop et al., 2007). In 2011 Berger and Milkman examined virality on a dataset of New York Times articles and found that the emotion and arousal content evoked in an individual is key to whether content is shared (Berger and Milkman, 2011). Their results indicate that positive content is more viral than negative content, but they ascertain that the relationship

between emotion and social transmission is more complex than valence alone (Berger and Milkman, 2011). Their finding that positive content is more viral than negative content held up when they controlled for how surprising, interesting, or practically useful content is (all of which they claim are positively linked to virality).

Whether the preference for positivity can hold up in the context of terse text persuasion remains to be discovered throughout the course of this project. Looking at Twitter virality in particular, Hansen et al. (2011) hypothesized and subsequently evidenced that negative news content is more likely to be retweeted to the point of virality, whilst non-news content would be more likely to go viral if they contain positive sentiment (Hansen et al., 2011). This finding is interesting as one could assume that much of the positive material virally shared through Twitter falls into the category of humour and 'feel good' content, whereby attempts to persuade through terse text Social Media, especially in the context of politics, might more closely resemble news content.

The more general findings regarding emotive and arousing content having greater impact in relation to virality, is of significant interest to the study of persuasion in terse text particularly in the sense that a heavy reliance on heuristic cues and appeals to emotion is likely to feature at least in the context of the political debates that have provided the raw data for this study.

### 2.7.4 Information Dynamics and Digital Wildfire

The term 'digital wildfire' is a more recent label, originating from the 2013 World Economic Forum Global Risk Report (World Economic Forum, 2013, p.23).

The WEF report asserts how present day hyper connectivity can lead to a "…rapid viral spread of information that is either intentionally or unintentionally misleading or provocative with serious consequences" that can "wreak havoc in the real world" (World Economic Forum, 2013, p.23). The term is not defined any further in the report. The key descriptor of 'rapid' highlights that the information dissemination must be fast to be considered a digital wildfire;

whilst the other descriptors of 'intentionally or unintentionally misleading or provocative' are arguably wider in scope and more ambiguous in nature. In contrast to generic virality, digital wildfire must have 'serious consequences', although again, no definition for what constitutes a 'serious consequence' is given. Nonetheless the term has become more widely used in recent years.

Gowing (2009) describes how the information space dynamic has changed with the rise of Social Media. Gowing describes how conventional media has been usurped by the "information doer", a term with which he describes a person who has the ability to broadcast information via any digital means in real time (2009, p.13). The WEF, on the other hand describes these changes by stating that "[t]he scale and speed of information creation and transfer in today's hyperconnected world are […] historically unparalleled" (2013, p.24). Both Gowing and the WEF report 2013 concur that it is the unprecedented speed and scale of information passage and access that has changed the information dynamic. Between 2010 and 2017 the number of social media users has increased from 0.97 billion to 2.34 billion and is projected to increase to 3.02 billion by 2021 (Statista, 2017).

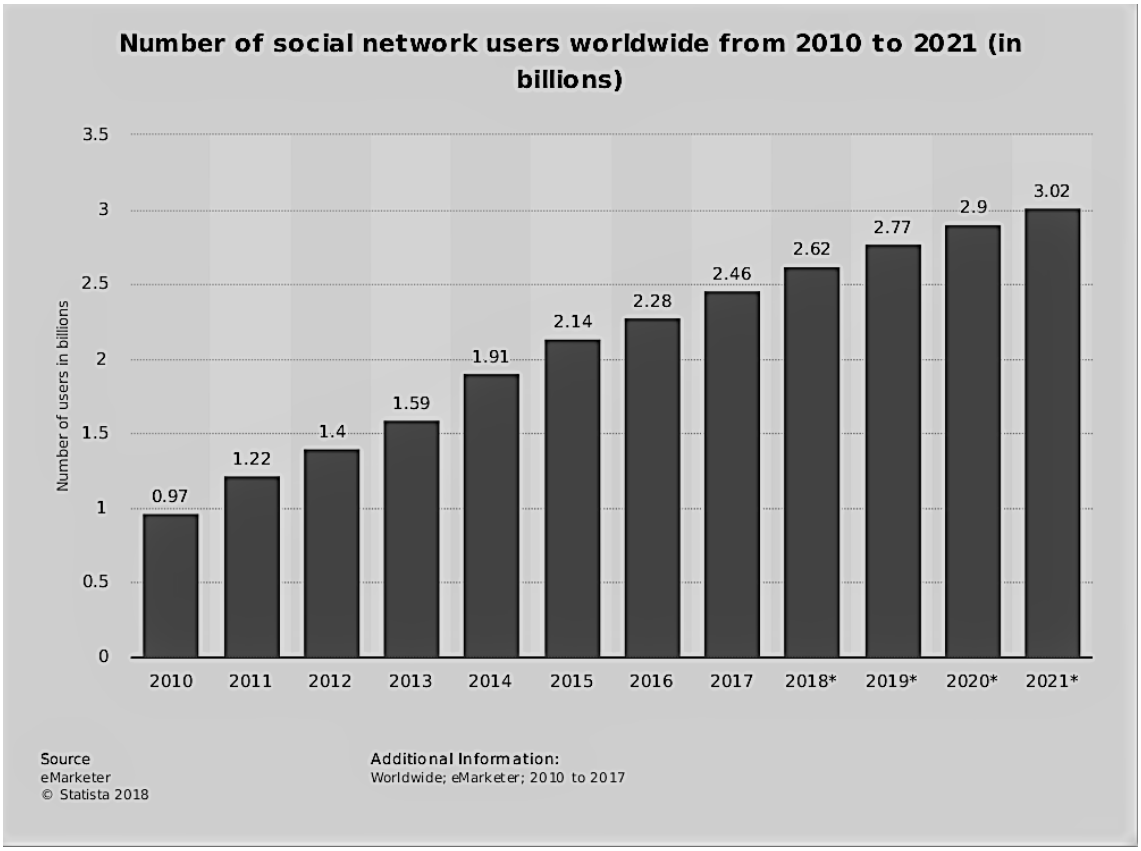


***Figure 2.6.*** *The number of social network users worldwide from 2010 to 2021 (in billions). (Statista, 2017)*

In contrast to the traditional media outlets of television, radio and print, where there is a greater degree of accountability, social media information remains largely uncontrolled and unregulated where "…any person with access to the internet, regardless of living standard or nationality, is given a voice…" (Schmidt and Cohen, 2010, p.1). There is substantial agreement between the aforementioned authors that the speed and access to information creation, combined with a lack of control and regulation, increases the risk of digital wildfires spreading.

Generally viewed as a direct consequence of the changes to the communication landscape and information dynamics through the rise of Social Media and hyper-connectivity, a number of authors have addressed the shift in communicative power to otherwise uninfluential individuals. Schmidt & Cohen (2010) state that currently "…communications technology allows governments to spread their values and secure their interests" (Schmidt and Cohen, 2010, p.76) and argue that this will need to change with the diffusion of power to the citizen, projecting that "…governments

will have to build new alliances that reflect the rise in citizen power" (Schmidt and Cohen, 2010, p.76). Gowing (2009) asserts that "the implications of this new level of empowerment are profound but still, in many ways, unquantifiable" (p.77) and urges leaders in the political, military and corporate sphere to urgently "…recalibrate their understanding of the new media environment", stating that a failure to do so is likely to result in greater vulnerability that may damage their reputation (ibid, p.77). The 2013 WEF report confirms Gowing's key assumption that the change in the information space dynamic has, and will continue to have, strategic impact (World Economic Forum, 2013).

### 2.7.5 Social Media and Politics

Politics and political activity are omnipresent on Social Media, explicit and implicit, affective and personal, and reflective of many practices, communities, and issues. This discourse takes place on platforms which were not designed with such purposes in mind. Platforms like Twitter and Facebook are not political media as such, but instead constitute fairly generic channels of communications which enable a wide range of topical coverage of which politics is just one example (Highfield, 2016). There is great overlap between the personal and the political on Social Media, that can be witnessed in how the political is framed around interests and experiences and how the personal becomes politicized (Highfield, 2016).

Social Media is also a breeding ground and catalyst for false and misleading information. The terse text environment of some platforms has no doubt amplified some of the existing practices around the withholding of source information and the lack of attribution which have permitted the spreading of hoaxes and online rumours since the early days of the world wide web. Ideological clustering has been a pattern observed by Adamic and Glance (2005) and Shaw and Benkler (2012) in the context of weblogs, although not quite to the extent of creating an echo chamber effect. Highfield (2016, p.25) ascertains that "the opportunities for social media users to contribute to new spaces for political commentary, and to consume a variety of topical sources

do not mean that traditional power relations are completely and irreversibly altered", as mainstream media organisations and individual journalists also make use of newer platforms to remain significant contenders. Highfield (2016) claims that power is instead effectively 'negotiated', allowing newer and amateur voices to obtain influence and reputation through their contributions, practices, networks, and interactions.

Accuracy is a concern in social media coverage of politics and distinctions between truth, 'truthiness', or incorrect yet seemingly plausible information are not easily made by users (Munger, 2008).

Social media is a powerful tool for the establishment of narratives and counter-narratives in the coverage of political topics as well as providing some scope for giving a voice to groups and individuals marginalized by traditional media and opportunity to hold traditional media to account (Highfield, 2016).

Already prior to the rise of Social Media, the internet had been a part of activist communication, organization, and mobilization (Meikle, 2002), with the collective action potential increasing rapidly with technological advancements and the spread of Social Media, especially accessed through mobile devices. Margetts et al. (2016) give a number of widespread examples of collective action as voting, petition signing, attending protests and demonstrations, attending political meetings, as well as activities outside of the realm of what is legal, such as political violence, or ecoterrorism (Margetts et al., 2016). They assert that the use of the internet across all spheres of political life has moved some of these acts to largely internet-based settings (petition signing being a good example as this), whilst others remain largely offline but are coordinated online (such as voting, product or brand boycotts, demonstrations, and political violence) (Margetts et al., 2016). Social Media platforms have also added newer forms of collective and collaborative action, such as supporting or 'liking' things on one of the many platforms that incorporate such a feature, tweeting or retweeting political messages on Twitter,

posting or sharing political content on Facebook, disseminating photographs and videos of, for example, police or military violence through channels like YouTube, Facebook, or Twitter. All of these are "tiny acts of participation" and are now generally considered part of the realm of collective action (Margetts et al., 2016, p.5). Internet technologies and social media are now central to collective action as well as to individual political activity and exposure.

## 2.8 CHAPTER SUMMARY

With a wide variety of definitions of persuasion to choose from, some complementary, some contradictory, the choice has been made to first and foremost focus on persuasive intent over persuasive outcome, a decision driven by the nature of the social media context and its constraints on researching persuasive effects.

Many definitions of persuasion adopt the view that attitude change must be the primary outcome for persuasive efforts to be deemed successful, despite a large body of research showing that attitude reinforcement tends to be the more likely outcome, with so-called 'response-shaping', the gradual alteration of attitudes being another possible outcome of persuasive activity. For the purpose of this research a definition of persuasion resulting in either attitude reinforcement, attitude change, or gradual attitude alteration has been adopted.

Dual process models of information processing and persuasion differentiate between central/systematic or simply 'deep' processing and peripheral/heuristic, or simply 'superficial' processing, with central/systematic processing claimed to lead to longer-term effects on behaviour and attitude.

The most straight-forward and widely-applied means of categorising persuasive message content is Aristotle's ethos-logos-pathos differentiation, which distinguishes between appeals to credibility (ethos), appeals to reason (logos), and appeals to emotion (pathos).

Across the different academic disciplines there is substantial agreement regarding the importance of appeals to emotion in particular, as well as the significance of heuristic cues more generally.

A number of linguistic and language analysis approaches have been applied in research that sought to better understand persuasive and influential discourse, some of which are of greater suitability for the context of terse text persuasion than others, but all offer some insights worthy of consideration in the process of qualitative data analysis at several stages throughout this research, such as in Chapters 5 and 7 in particular.

The rise of social media has been transformational to the way people communicate. Changes to the information environment affect the way people seek and find political and apolitical information, whilst also affecting the nature of the information that they receive. The drastic change in the communication landscape towards increased processing of information in terse text format demands an updated and interdisciplinary understanding of how the terse text context shapes influential and persuasive communication.

The next chapter, Chapter 3, will explain and justify the research philosophy and methodological approach. Chapter 4 will then present the conceptual processing model of terse text persuasion, and is followed by Chapter 5, which goes on to refine the model by means of exploring Aristotelian and Heuristic-Systematic cues in persuasive messages. Chapter 6 will then contextualise the findings of this chapter and validate fundamental aspects of the model by means of multiple experiments. Chapter 7 will go on to present the experimental exploration of persuasive effect through a recall test and computational linguistic analysis, which is then followed by the revision of the conceptual model in Chapter 8 and the conclusion, recommendations, limitations and scope for further research sections in Chapter 9.

# 3 METHODOLOGY

## 3.1 INTRODUCTION

The purpose of this chapter is to explain and justify the philosophical and methodological research choices made in the design of this study. As previously outlined in chapter 1, the aim and objectives of the research are as follows:

***Aim:***

*The development, evaluation, and documentation of a robust interdisciplinary theoretical model of persuasion in terse text.*

***Objectives:***

*1. To ascertain the degree to which recent changes in the communications landscape have affected how individuals, organisations or entities seek to persuade.*

*2. To characterise the components of the persuasive terse message.*

*3. To collect, select and code Twitter micro-blogs featuring persuasive intent from an extensive bespoke repository.*

*4. To construct a model of terse text persuasion informed by existing research and theory from behavioural science, linguistics, philosophy, political science and pilot data analysis.*

*5. To experimentally validate fundamental aspects of the model through several experiments.*

*6. To revise the conceptual model into a final one based on further evaluation, data and computational linguistic analysis.*

The research takes place in four distinct phases. Phase I covers the data collection, corpus building, as well as the process of building the conceptual model based on the interdisciplinary literature review and analysis of a pilot dataset. Phase II covers the experimental validation of the model, the full data analysis of the coded corpus, as well as the computational linguistic analysis. Phase III covers the exploration of the model and data in two ways: 1) experimentally, through a recall test, as well 2) through computational linguistic software. Phase IV covers the revision of

the model based on findings from the previous two phases. Figure 3.1 below illustrates the methodology in flowchart format.

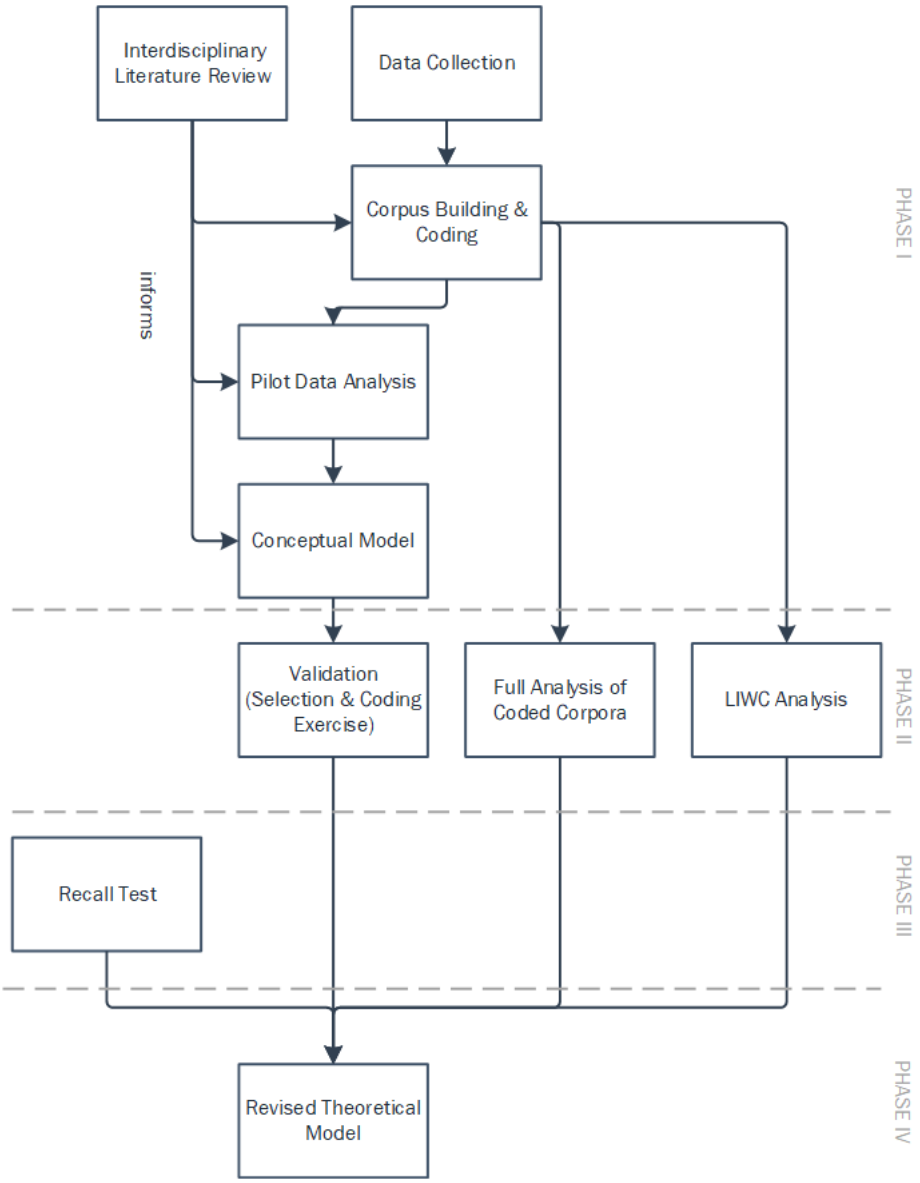


***Fig. 3.1:*** *Methodology Flowchart*

## 3.2 RESEARCH PURPOSE

According to Sekaran (2003), a research purpose can be either applied or fundamental. Fundamental research seeks to enrich an existing academic body of research, whilst research with an applied purpose seeks to address a specific problem (Sekaran, 2003). This research falls into the fundamental category, in that it sets out to expand on the existing research into persuasion by filling the research gap that has grown through the transformation of communications through Social Media and the increasing reliance on short messages.

This project itself will provide some understanding of the more specific context of terse text persuasive communication in the political domain but does not set out to solve a defined problem. The understanding gained from the fundamental research undertaken in the form of this project, however, should eventually be able to assist more specific problem solving within the field of terse text persuasion and beyond.

## 3.3 RESEARCH PHILOSOPHY

Research philosophy is a term that relates to the development of knowledge and the nature of this knowledge. The research philosophy adopted by the researcher holds important assumptions about their worldview (Saunders et al., 2009) and underpins research strategy and methodological choices. According to Johnson and Clark (2006) awareness of the philosophical commitments made through choice of research strategy is vital, as this has significant impact upon how the research is conducted, but also upon the researcher's understanding of what it is that they are investigating (Johnson and Clark, 2006). There are also a number of practical considerations that can influence research philosophy, and some philosophical choices will be guided by the topic as much as by the researcher.

In the context of research philosophy, ontology refers to the researcher's view of the nature of reality or being. Pragmatism allows for flexibility in terms of ontology, seeking to adopt the most suitable ontology for answering each research question.

This project is conducted from an interpretivist position. Interpretivism is an epistemology which advocates a necessity for the researcher to understand and consider the differences between individuals in their role as social actors (Saunders et al., 2009). Interpretivism understands ontology to be socially constructed, subjective, and subject to change. Epistemologically, interpretivism focusses on subjective meanings and social phenomena as well as the situational details of the situation and the reality behind these details. Axiologically, interpretivism argues that the researcher cannot be separated from the research and, thus, that it will inevitably be subjective.

Positivism was ruled out as a suitable research philosophy due to the incompatibility with the subjective, qualitative components of the research and the absence of large sample sizes to generalize from in the quantitative exploration. Pragmatism was initially considered the appropriate research philosophy, due to the mixed method approach, but as the focus of the project developed over time, the quantitative research components were reduced to solely descriptive statistics, which meant that the ontological flexibility of a pragmatist research philosophy was no longer a necessity. The epistemology of pragmatism states that either or both observable phenomena and subjective meanings are able to provide acceptable knowledge depending on the research question.

## 3.4 RESEARCH APPROACH

The research approach adopted for this project is idiographic. Idiographic research concerns itself with providing the richest possible picture of what transpires through exploring specific cases or events (Cornford and Smithson, 2006). According to Cornford and Smithson (2006) idiographic research aims "to understand a phenomenon in its own, particular, context"

(Cornford and Smithson, 2006, p. 67). Although this research features no case studies as such, it very much seeks to explore a phenomenon – namely that of persuasion – in a specific context – namely that of the microblog, or terse text more generally. This research cannot take a nomothetic approach, for that, as Cornford and Smithson (2006) state, emphasizes systematic protocols and hypothesis testing within the scientific tradition, which does not apply to the vast majority of the research conducted within the scope of this project. Constructive research is generally concerned with the development of frameworks, the redefining of concepts and the pursuit of technical developments (Cornford and Smithson, 2006), which given that this project seeks to develop a model and redefine persuasion for a new context, may appear relevant. Constructive research, however, according to Iivari (1991, p.250), concerns itself with "models and frameworks which do not describe any existing reality, but rather help to create a new one". The model constructed as part of this research most definitely describes an existing reality, which rules out constructive research as an appropriate approach.

## 3.5 RESEARCH STRATEGY

This is a mixed method research project. There is a lot of contradictory literature and opinion on the difference between multi method and mixed method research. I have chosen to adapt Saunders (2009) understanding, according to which this project is one of mixed, rather than multi method.

### 3.5.1 Qualitative Research

Qualitative research is generally associated with interpretivist and relativist positions. Qualitative research as a sole research choice, according to Cornford and Smithson (2006) tends to reject "the 'scientific' model of a generalizable, objective product from the research endeavor" (Cornford and Smithson, 2006, p.63). Archer (1988) suggests that this is because strong advocates of qualitative approaches do not believe that insights into human behavior can be generalizable except by the very weak means of analogy (Archer, 1988).

### 3.5.2 Quantitative and Experimental Research

Quantitative research seeks to develop metrics that can then be used to describe phenomena such as objects and relationships, that can then be analyzed using statistical approaches (Cornford and Smithson, 2006). Experimental research is one of the founding quantitative research methods. True experimental research is the most accurate form of experimental research design as it relies on statistical analysis to prove or disprove a hypothesis (Salkind, 2012). It is the only type of Experimental Design that can establish a cause-effect relationship within groups. In a true experiment, three factors need to be satisfied:

1) The presence of a control group and an experimental group. The control group is a group of research participants that are familiar to the experimental group, but experimental research rules do not apply to them. The experimental group are research participants to whom experimental research rules do apply.
2) Variable(s) which can be manipulated by the researcher
3) Random distribution

This experimental research method is commonly implemented in the physical sciences (Salkind, 2012). The experiments conducted in this research fall into the category of pre-experimental research design. Pre-experimental research is a simpler form of experimental research design. One or multiple groups are observed after factors are considered for cause and effect. Pre-experimental research design is usually conducted to ascertain whether further investigation is required. Pre-experimental research does not include a control group. There are different types of pre-experimental research. This research features multiple one-shot case study experiments. In a one shot case study the experimental group is exposed to the independent variable (in this case the collection of Twitter microblogs), then observations of the dependent

variable (participant recall) are made (Salkind, 2012). No observations are made before the independent variable is introduced.

This research focuses on a qualitative and experimental approach. Statistical methodology is used in a non-representative and descriptive manner only and quantitative findings are largely interpreted qualitatively.

## 3.6 TIME HORIZON

The research relies on cross-sectional, rather than longitudinal data. Although microblog data was collected over the course of generally around seven days per topic, the time-horizon was not taken into consideration and all data was treated as though collected as a momentary snapshot.

## 3.7 RESEARCH FACILITATION SOFTWARE

The survey platform Qualtrics was used to host two validation exercises. Statistical analysis was conducted using IBM SPSS 23 and MS Excel 2016. Computational linguistic analysis was conducted using LIWC2015, which is explained further in section. 3.9.5.1 of this chapter.

## 3.8 PHASE I: DATA COLLECTION, PILOT ANALYSIS, AND THE CONCEPTUAL MODEL

In addition to the interdisciplinary literature review conducted and presented in chapter 2, the research conducted in phase I of the project encompasses the initial data collection, data processing, pilot analysis, and the construction of the conceptual model.

### 3.8.1 Data Collection

Twitter microblog data has been collected on several hashtags relevant to current (at the time of collection) political events. The topics have been selected for their presumed likelihood of yielding high numbers of messages with persuasive intent. The topics were selected to

represent a variety of political topics discussed on Social Media (parliamentary single-issue vote, significant upcoming referendum, as well as three candidate campaigns).

The topics covered by the five datasets in total are 1) The 2016 UK "Brexit" Referendum, 2 to 4) The 2016 United States Democratic and Republican Primaries and November 2016 Presidential Election (one dataset each for Hillary Clinton, Bernie Sanders, and Donald Trump), and 5) The December 2015 UK parliamentary vote on military intervention against ISIS in Syria.

The UK 'Brexit' referendum represents a political event subject to long-term and short-term campaigns, ultimately culminating in a vote by the electorate. The data for this set was collected approximately two months before the 2016 referendum date.

The three datasets collected from the 2016 US Republican and Democratic primaries are separated by candidate to produce datasets that could be used for comparison between the persuasive approaches and language use associated with the different candidates' campaigns and their respective supporters.

### 3.8.2 Corpus Assembly, Selection and Coding

Message selection from the data collected in the data collection stage was done to an extent subjectively but also systematically. Message selection took place in two steps.

#### *3.8.2.1 Data cleansing*

Data cleansing was performed to systematically reduce the size of the raw datasets in a number of ways. Most significantly this process saw the removal of retweets and duplicate tweets. Significant numbers of "hashtag hijacking" messages were also removed. "Hashtag hijacking" hereby refers to the use of a popular hashtag in otherwise unrelated messages, generally to increase message reach. Messages that merely contained a news headline and a link to the relevant news story were also removed, where detected in the data cleansing phase. The remaining messages were then individually assessed for suitability with the aim of collecting a

total of 300 for a rich and highly usable final dataset. Other normalisation was minimal and in line with LIWC guidance – spelling errors and incorrect word use (such as “your” instead of “you’re” were corrected, and spaces inserted where two words were not otherwise separated(Pennebaker et al., 1999). Special characters such ampersands were corrected back to & from the HTML character reference format &.

#### *3.8.2.2 Suitability Assessment*

With a more fine-grained approach than applied in the data cleansing stage, several other types of messages were excluded in the suitability assessment. Taking into consideration the exclusions listed above, messages were then first and foremost selected to feature clear persuasive intent. Persuasive intent can be predominantly contextual, but it can also be more explicit.

#### *3.8.2.3 Coding*

Selected messages were coded in an MS Excel spreadsheet according to which appeals are present (E = ethos, L = logos, P = pathos, EL = ethos & logos, LP = logos & pathos, PE = pathos & ethos, ELP = ethos & logos & pathos). In a second column, microblogs were coded for predominantly heuristic cues (H), predominantly systematic cues (S), and roughly equal presence of heuristic and systematic cues (HS). Chapter 5, and more specifically Table 5.1, provides a detailed list of examples for each Aristotelian appeal.

### 3.8.3 Pilot Data Analysis

The first corpus dataset assembled and fully coded was used for the pilot that informed the model design. Straightforward descriptive statistics on frequency count were produced to understand the predominant appeals and cues utilised. The findings were synthesised with the interdisciplinary literature on persuasion and persuasive language.

### 3.8.4 Model Development

The model was developed following extensive qualitative examination of one sample dataset (one of the five final sets). The model has additionally been informed by the interdisciplinary literature review, which examines existing models of persuasion, features of persuasive language, persuasive communication in context, ways of categorising persuasive messages, as well as the terse text context itself. Theory building followed the methods of Dubin (1978) and Carlile & Christensen (2004) and is detailed in Chapters 4 and 5 respectively.

## 3.9 PHASE II: EXPERIMENTAL EVALUATION

Phase II covered the evaluation and experimental validation of fundamental aspects model. It was assessed whether microblogs identified as containing persuasive intent by the participants match those selected in the process of building the corpus, before the corpus was analysed in full to inform the revision of the conceptual model. Candidates were given concise task instructions and a brief explanation of the model prior to commencing the selection exercise. As the model is intent-based rather than outcome-based, validation in this case also focussed on the recognition of persuasive intent, rather than attempting to assess whether a message has or has not succeeded in persuading an individual. Both validation exercises were hosted on the Qualtrics survey platform and conducted in survey-format albeit not being surveys as such.

### 3.9.1 Research Design: Selection Exercise

The selection exercise featured a total of 150 Twitter messages evenly split across the five different topics ('Brexit', 'Donald Trump', 'Bernie Sanders', 'Hillary Clinton', 'Syria Vote'). Ten messages per topic were pre-identified as containing clear persuasive intent in the process of building the model, meaning there were a total of 50 such messages featured in the exercise. The total number of 150 messages was selected to ensure that the exercise could be completed within 60-90 minutes. The total number of words of the 150 messages was 935, with an average word length of 5.5 characters. The exercise was piloted with five volunteers to ensure that completion

of the exercise within this timeframe was feasible as well as to check for any other potential issues with the questionnaire. The choice of opting for a total of 50 messages with clear persuasive intent was made because these messages were to be reused in the more time consuming Recall Test and Coding Exercise, where 50 was deemed to be the maximum number of messages that could be assessed within 60-90minutes.

Participants received brief instructions on the task containing an outline of the selection process (Appendix 2). For each of the 150 messages displayed consecutively, participants were asked to choose between three options. Option a) message contains clear persuasive intent, b) message may contain persuasive intent and c) message contains no persuasive intent. Making the experiment a binary "persuasive or not" task was thought to provide less rich findings as participants' insecurity was seen as important data to be considered in the evaluation. Selection of a response was made mandatory for all 150 messages as well as for demographic data collected. Participants were also given the opportunity to provide details on any difficulties they might have encountered with the task, as well as asked to rate how difficult they found the task.

The experiment had initially been planned as a classroom exercise, but this was eventually revised to a remote task administered by email for the following reasons:

1) The classroom exercise would have allowed for continued guidance and the possible introduction of bias from the researcher. Offering to respond to questions by email provides both a record of exchanges with participants, as well as the chance to keep ongoing guidance to a minimum in order not to actively influence participants' selection, whilst still being able to ensure that instructions are clear.
2) The classroom setting would have made it easy for participants to collaborate, thus possibly delivering artificially homogenous, partially agreed, findings. This experiment explicitly seeks individual participant opinions on message selection.

3) It was found that the experiment would not need to be supervised as when done independently it is not possible to "cheat" in ways that would invalidate a participant's selection of messages.

Nonetheless, participants were asked not to work together with other participants to complete the task to ensure that the maximum amount of potential variation in the answers between participants was maintained. Although it cannot be said with absolute certainty that participants did not collaborate, the way in which participants were recruited for this exercise, as well as the remote administration of it, is likely to have resulted in a group of participants largely unknown to one another. Additionally, participants were asked to keep discussion of the task with non-participants to a minimum, but to disclose if any such discussion has influenced their selection choices and how, so that this could be considered in the analysis of the findings.

Participants were selected from the Loughborough University School of Business and Economics undergraduate student body and were all aged between 18 and 23. Potential bias due to age range was considered and it is possible that other age ranges would yield different findings, but the strictly limited age range and university student demographics were chosen to ensure replicability of the experiment (with the same or other age and education demographics). Recruitment took place by email to the school's entire undergraduate student population, and sign-up was on a first-come-first-served basis. Data was collected about participants' nationality, English language status (native/non-native), and Gender. Native competence in the English language was deemed an essential requirement for participation in the case of non-native speakers, as the task requires participants to notice and observe relatively subtle insinuations and implications, which could be easily missed where English language proficiency is inadequate. A total of 23 participants were recruited, with the aim of ultimately having 20 complete the exercise. Participants were supplied with individual access links to the exercise and sent two email reminders over the course of two weeks requesting completion. In the end only 17 of these participants actually completed the task in full. Partial replies were disregarded.

The same set of 50 microblogs with pre-identified persuasive intent were used for all three experiments in order to compare and triangulate the findings and identify patterns across the different methods.

It is important to note that a sample of 18-23 year old undergraduate students cannot be deemed to be representative of the general population, but strictly defined participant groups such as this one ultimately allow for greater replicability of the research (with participants from the same or other demographic backgrounds).

### 3.9.2 Data Analysis: Selection Exercise

The analysis of the selection exercise was initially conducted quantitatively to assess the level of agreement between the template and the answers chosen by participants. For the purpose of measuring agreement, all 'maybe' answers were counted as being in agreement with the template. However, the 'maybe' answers were quantitatively and qualitatively evaluated separately for each message to better understand and consider the source of the insecurity. Messages for which there was a significant number of participants in disagreement with the template were also qualitatively evaluated and considered for the revision of the model and in the context of further corpus building.

### 3.9.3 Research Design: Coding Exercise

The second validation exercise was also hosted on the Qualtrics platform. Due to the complexity of the task participant recruitment took place amongst Loughborough University' School of Business and Economic research postgraduates rather than undergraduates, and age as a demographic was captured but eventually disregarded in the analysis as found to be irrelevant to participant performance. Seven participants were recruited and provided with individual access links to the exercise, six of whom actually completed the full task. Participants were given brief task instructions (Appendix 4) and were asked to identify which Aristotelian appeal(s) (ethos, logos, or pathos) were present in a total of 50 microblogs with persuasive intent. Whilst

the selection exercise only permitted one choice of response, the coding exercise was set up to allow for participants to select all appeals that apply to each message displayed. Participants were prevented from skipping messages without coding them.

### 3.9.4 Data Analysis: Coding Exercise

The data gathered during the coding exercise was analysed quantitatively using descriptive statistics as well as qualitatively, individually, message-by-message to examine the level of agreement with the template as well as the implications of any disagreement identified.

### 3.9.5 Full Corpus Analysis

The full corpus of 1500 Twitter microblogs was coded by the researcher for Aristotelian Appeals and Heuristic Systematic Cues and descriptive statistics were produced for each of the five topics as well as the entire corpus as a whole.

#### *3.9.5.1 LIWC Analysis*

Linguistic Inquiry and Word Count (LIWC) is a computerized text analysis software tool, widely used for quantitative text analysis in the social sciences (Pennebaker et al., 2015). Although LIWC is capable of quantifying features in text that allow for text classification and predictions for a variety of behavioural outcomes, it has been predominantly used to identify word features that are informative of the underlying psychological states of an author or speaker or groups, which is also precisely what the tool will be used for in the context of this research. In simple terms, LIWC reads a given text and counts the percentage of words that reflect different emotions, thinking styles, social concerns, and parts of speech (Pennebaker et al., 2015).

Both the entire terse text persuasion corpus as well as individual topic datasets were subjected to computerised text analysis with the LIWC tool.

The evaluation of the computational linguistic analysis was done quantitatively using descriptive statistics in IBM SPSS 23 and MS Excel 2016. The findings were then triangulated with the literature reviewed in Chapter 2 as well as the findings of the experimental exploration.

## 3.10 PHASE III: EXPERIMENTAL EXPLORATION

Phase III sought to further explore the model to expand it to add greater detail and increase usability, recognising that the unrevised model is largely descriptive in nature. Phase III adopted a two-step approach. Both steps took place sequentially but were evaluated in parallel and findings were triangulated with one another as well as the literature. Step one covered the experimental exploration. 50 messages were compiled from the corpus built in Phase I and revised in Phase II for use in the experiments. Step two covered computational linguistic analysis of the corpus data.

### 3.10.1 Recall Test

A total of 38 participants were recruited from the Loughborough University undergraduate student population with the aim of ultimately having a total of at least 30 participants actually attending across the two dates, with no more than 20 per session to allow for students to be sat sufficiently spaced out across the room to avoid them being able to copy from one another's papers, as well as to ensure that everyone could read the messages in the presentation well. Participants were aged between 18 and 23 and either native speakers of English or of native competence in the English language. A total of 29 participants attended one of two separate sessions. Participants were not informed that they were taking part in a recall test. Instead they were advised that they would be watching a presentation of Twitter microblog messages and would then be asked a number of questions about those messages. The exercise conducted was identical on both dates aside from the order in which the messages were displayed. The order was altered deliberately between the first and second session to avoid a potentially skewed result in favour of messages shown last. Participants watched a PowerPoint

presentation of 100 tweets, 50 unique messages each shown twice in random order. Each message was displayed for a total of 10 seconds to allow for conscientious reading. The overall presentation of messages shown to students was thus just under 17 minutes long. At the end of the presentation participants were handed a questionnaire with several demographic questions followed by the request to note down as many messages as they remember. Participants were also given this instruction orally and advised that exact wording of the messages could be disregarded. Furthermore, to aid later analysis, participants were asked to number their messages or to clearly indicate where one message ends and the next one begins.

The experimental recall test data was analysed qualitatively as well as quantitatively. Descriptive statistics were produced on the frequencies with which certain messages were recalled, whilst occurring patterns and phenomena were qualitatively evaluated in conjunction with the literature reviewed in Chapter 2 and triangulated with other findings. Additionally, LIWC analysis was conducted on the most and least frequently recalled messages to ascertain as to whether these messages would produce any noteworthy or unusual scores for any of the summary variables.

## 3.11 Phase IV: Triangulation of Findings and Revision of the Theoretical Model

Phase IV covered the triangulation of findings from the previous phases which informed the revision of the model constructed in Phase I. This phase of the research synthesised findings from the validation exercises, the full corpus analysis, the computational linguistic analysis, and the experimental exploration to yield the final proposed model of persuasion in terse text.

## 3.12 Ethical Considerations

Ethics approval was sought from and granted by Loughborough University's Ethics Approvals (Human Participants) Sub-Committee prior to the administration of any of the

exercises that involved human participants. Participants were issued with a Participant Information Sheet (see Appendices 1, 3, and 5) informing them of the nature of the respective exercise they were being recruited for, explaining the purpose of the exercise, what participants would be asked to do, as well as what information they will be asked to provide and how this information will be used and stored. Participants were advised that they would be asked about their gender, nationality, where they grew up, their English language ability and their educational background, and were informed that they would not be identifiable in any write-up of the research. Additionally, participants were informed about potential risks, namely that they would be exposed to messages containing emotive language regarding recent political events, some of which contain offensive language or content. The types of messages that participants were exposed to in the context of the exercises, were not unlike any messages that they would regularly come across in their daily lives. The remaining data used in this research originated from user-submitted public Twitter content.

## 3.13 CHAPTER SUMMARY

This chapter has addressed the philosophical and methodological choices and their justifications, as well as presented the research design and execution. The purpose of the research has been identified as fundamental, rather than applied. The research philosophy adopted for this project is interpretivism. The research approach is idiographic and employs a mixed method research strategy with a qualitative and experimental focus, as well as basic descriptive statistical analysis. The research was conducted in four phases, starting with data collection and pilot data analysis alongside an extensive interdisciplinary literature review, which led to the construction of the conceptual model. This was followed by two experimental validation exercises and further experimental exploration by means of a recall test. Additionally, computational linguistic analysis was conducted on the corpus data with LIWC15. This then culminated in a revised model of terse text persuasion.

# 4 CONCEPTUAL MODEL OF PERSUASIVE MESSAGE PROCESSING IN TERSE TEXT

## 4.1 CHAPTER INTRODUCTION

As a result of the significant changes to our communication habits that have taken place over the last few decades through our ever-increasing consumption of terse text Social Media and other web-based content, existing models of persuasion can no longer be unquestioningly relied upon to explain persuasive mechanisms in all forms of written communication. The growing prevalence of terse text demands a fundamental re-evaluation of how persuasive messages are processed. This chapter will focus on the construction of the conceptual model of persuasive message processing in terse text.

## 4.2 THEORY BUILDING

This chapter will be constructing a theoretical model of terse text according to Dubin's (1978) widely utilised theory building method. At the conceptual level, Lynham (2002) summarises Dubin's (1978) method as a continuous theory-research cycle which is composed of two parts: firstly, the theoretical side of the cycle and, secondly, the research operation side of the cycle (Lynham, 2002). Successful completion of the first – the theoretical - part of the cycle is believed to yield an informed, conceptual framework of the theory. Successful completion of the second - the operational - part, generates empirically verified and trustworthy theory (Dubin, 1978). This chapter is concerned with the first part of the cycle.

The first step of theory development is the identification of the units of the theory, meaning factors and variables whose interactions make up the phenomenon the theory seeks to describe – persuasion in this case. The units identified in the context of this theoretical model and its predecessors are detailed in table 4.1 below.

***Table 4.1:*** *Units of the theoretical processing model.*

| Unit | Description |
|---|---|
| Communicator | Communicator refers to the source of the message. |
| Message | The message, in this case one that features persuasive intent, in its entirety. |
| Delivery | Delivery refers to the format of the message, in this case terse text microblogs. |
| Audience | Audience refers to message recipients, in this case consumers of terse text Social Media content. |
| Route | The route (of processing) describes the manner in which messages are processed, such as heuristically, or systematically. |
| Outcome | Outcome refers to the effects of the persuasive message, such as attitude change or attitude reinforcement. |

The next step in the development of the theoretical model - following Dubin's (1978) approach - is to stipulate the laws of interaction between the individual units, which the next section will cover in significant detail. After the units of the theory have been identified, the next step in theory development is to specify how the units interact and relate to one another, which is accomplished by stipulating the laws of interaction that pertain to the units of the theory. The laws of interaction show how changes in one or more of the units of the theory influence the remaining units. It is significant to note that describing the units of the theory and how these units interact (that is, the laws of interaction) makes for the major contribution to knowledge that is generated by the theory.

## 4.3 EXISTING MODELS OF PERSUASIVE COMMUNICATION AND THE TERSE TEXT CONTEXT

The origins of the study of persuasion date back as far as Ancient Greece and Aristotle, who "provided the first comprehensive theory of rhetorical discourse" (Dillard and Pfau, 2002) in the fifth century BC.

Aristotle focussed predominantly on the communicator and the message and its components, as well as the audience, albeit to a lesser extent. According to Aristotle persuasion had three main ingredients: the nature of the communicator (ethos), the emotional state of the audience (pathos), and the arguments of the message (logos) (Perloff, 2003). Whilst Aristotle's theory tells us relatively little about persuasion in terms of how information is processed (routes of persuasion), it provided us with three categories that can to date effectively classify all semantic content of messages with persuasive intent.

'Monroe's Motivated Sequence' is a technique for structuring persuasive speeches that seek to inspire the audience to take action (Monroe, 1943). Not dissimilar to Aristotle, Monroe's theory addresses predominantly the message, audience, and communicator units. According to Monroe's Motivated Sequence, persuasive speeches contain five features: attention, need, satisfaction, visualisation, and action. 'Attention' refers to grabbing the attention of the target audience using tools such as a shocking example, dramatic statistics, quotations, or a detailed story. The idea of 'need' is based on the premise that action is motivated by audience needs, thus the audience must be convinced that the topic is applicable to one or more of their needs. To meet the criterion of 'satisfaction', the communicator must solve the issue by presenting specific and viable solutions that individuals or communities can implement in order to solve the problem. 'Visualisation' refers to the requirement to tell the audience in a visual and detailed manner precisely what would happen if the solution is not implemented or does not take place. Finally, the 'action' step is where the communicator tells the audience what they can personally do to solve the issue (Monroe, 1943). Not unlike Aristotle's model, Monroe's motivated sequence focusses strongly on semantic message content rather than the structure of persuasive discourse. These content-based models will be drawn upon further in Chapter 5.

Developed in the 1940s, the earliest psychological model of persuasion, Shannon and Weaver's 'SMCR model of persuasion' is still one of the most widely referred to models of communication (Larson, 2004) and remains applicable to all communication contexts through its

remarkable simplicity. The model is made up of four essential elements: A source (S) or persuader, a message (M), a channel (C) of communication, and a receiver (R) (Shannon and Weaver, 1963), none of these elements are affected by a changing communication landscape. Translating this into the terminology used throughout this research, there is a communicator, a message, a delivery format, and an audience. In stark contrast to Aristotle's and Monroe's models, Shannon and Weaver provided us with a basic functional structure of persuasive communication, but no information on the semantic content of persuasive messages.

Rank's (1976) model of persuasion sought to teach people to be critical receivers through understanding and "recognising the more sophisticated techniques and patterns of persuasion" (Rank, 1976). Similar to Aristotle and Monroe, Rank's model only incorporates the message, communicator, and audience units. Rank (1976) refers to his model as the 'intensify/downplay schema', which he based on the idea that persuaders generally use one of two major strategies to achieve their goals. According to Rank (1976), persuaders either 'intensify' or 'downplay' aspects of their product or ideology. This draws attention away from some things whilst directing attention towards others (Larson, 2004). Within Rank's (1978) model, persuaders choose from four courses of action: 1. intensifying their own good points, 2. intensifying the weak points of the opposition, 3. downplaying their own weak points, 4. downplaying the good points of the opposition (Larson, 2004). Persuaders do not choose one course of action to the exclusion of all others and may incorporate more than one approach into their persuasive messages. This model is another one that retains applicability through its simplicity, but this also means that on its own it is of relatively limited use. Furthermore, if we compare this to Aristotle and adopt his categories, Rank (1976) effectively only describes appeals to credibility ('ethos') rather than all persuasive message content. Aristotle, Monroe, and Rank all address the outcome in addition to the units of message, communicator, and audience, but not empirically so.

The Elaboration Likelihood Model (Petty and Cacioppo, 1986) and the Heuristic Systematic Model (Chaiken, 1980) are similar in design and distinguish between deep (central/systematic) and superficial (peripheral/heuristic) processing, meaning they are the first models to introduce the 'route' unit in addition to addressing the units of message, communicator, audience, and outcome. Both take an either-or approach arguing that messages are processed in one of the two ways and that the outcome of the different processing routes differs in longevity and conviction of the views acquired or reinforced. They also argue that attitude change is more reliant on deep processing, whilst superficial processing is more heavily relied upon where existing attitudes are reinforced.

The nature of terse text in the form of microblogs makes argumentation aimed at the deep processing route difficult, if not near impossible. This model thus assumes a heavy reliance on superficial processing in terse text persuasion. But the pragmatics of what is and is not possible in terse text is only one of the problems with the ELM and HSM and their applicability to terse text.

Aristotelian 'pathos' and 'ethos', appeals to emotion and credibility, are predominantly heuristic by their very nature. 'Logos', appeals to reason, can be aimed at deep processing, but as there is no requirement for the argument to be valid or well-reasoned for an appeal to reason to take place, some appeals to reason, such as those that only superficially sound reasonable but would not withstand deeper and more rigorous examination, can be no less heuristic than appeals to emotion and credibility. The line of distinction between heuristic and systematic processing is further blurred by the consideration that heuristic cues can certainly act to promote systematic engagement with the message. To some message recipients, an appeal to emotion or credibility may indeed lead to heuristic processing only, but to others heuristic cues like the authority of the source of a piece of information could be precisely what triggers deep evaluation, when the argument on its own would not have had the same effect. As both the Elaboration Likelihood Model and the Heuristic Systematic Model describe the processing of persuasive messages in non-

length-restricted text and speech where various types of superficial and deep cues occur in sequence, the either-or approach makes sense, as the length of exposure to the persuasive communication allows for sequential processing of both types of cues. The brevity of the persuasive text in microblogs, however, requires heuristic and systematic processing to be able to occur in parallel wherever applicable. Figure 4.1 below illustrates the dual-route processing of persuasive messages as per Petty and Cacioppo's (1979) Elaboration Likelihood Model.

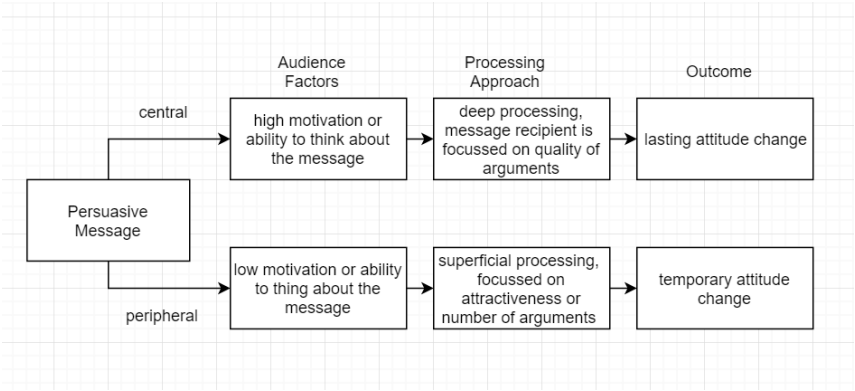


***Fig. 4.1*** *Dual-route processing in the Elaboration Likelihood Model (Petty & Cacioppo, 1979)*

A number of things stand out as problematic here. First of all, this early model of the ELM does not acknowledge attitude reinforcement as a possible outcome and merely focusses on attitude change. It is near impossible to assess with certainty which exact beliefs were held by a message recipient prior to their processing of a particular persuasive message and thus how significant any attitude change actually is. Depending on a message recipient's existing beliefs, no attitude change might have occurred at all, despite achieving agreement with the persuasive message. Although the study of persuasion often focuses on changing attitudes as a primary measure of success, achieving attitude reinforcement should be seen as an equally successful outcome, where attitudes in agreement with the persuasive message were reinforced.

The even greater problem with this model, however, is the claim that there is a difference in the longevity or in fact the quality of the outcome where attitude change is achieved. If we

consider that deep processing is less likely to be achieved in terse text messages that seek to persuade, this would imply that the way we predominantly communicate in present times would drastically reduce the amount of successful persuasion that actually takes place, which is highly unlikely. It could be argued that this distinction was inaccurate from the start and possibly a result of an optimistic underestimate of the true impact of heuristics on persuasive discourse. Alternatively, the way we process persuasive messages might have also evolved and adapted to our drastically increased consumption of terse text messages. For the purpose of this model of persuasion in terse text, we simply cannot assume that persuasion is by default less effective where persuasive messages are delivered in terse text format.

Figure 4.2 below illustrates the author's representation of the current dual process models adapted to acknowledge that either processing route can lead to (either lasting or temporary) attitude change or reinforcement.

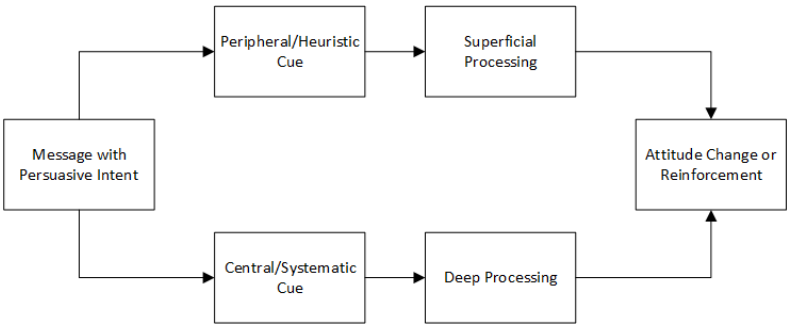


***Fig. 4.2*** *Amended Dual-Route-Processing Model*

This amendment, however is still insufficient for capturing the full breadth potential combinations of cues and processing routes. Figure 4.3 below illustrates the author's representation of the processing of terse text messages with persuasive intent.

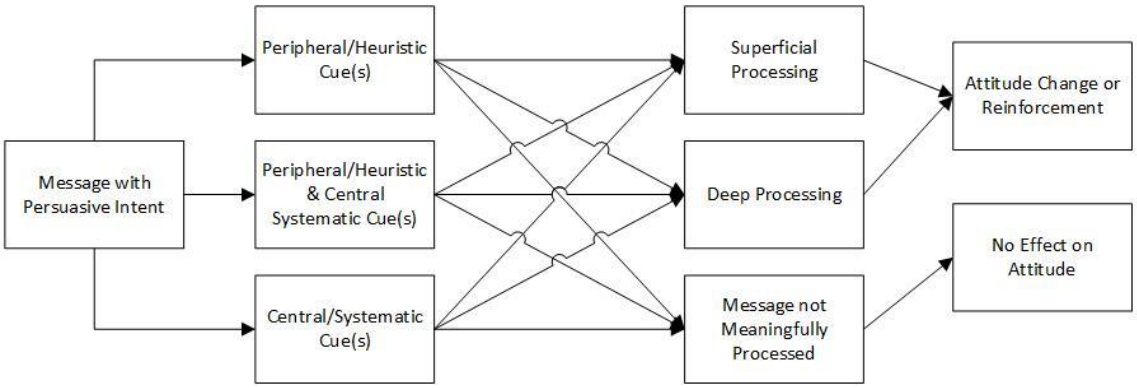


***Fig. 4.3:*** *Conceptual Theoretical Model of Persuasive Message Processing in Terse Text*

Much like in figures 4.1 and 4.2, superficial cues can lead to superficial processing, while deep cues can lead to deep processing. Both types of cues individually, however, can also lead to the message not being meaningfully processed if the choice of systemic argument or heuristic cue inhibits its processing. This may, for example, happen where an argument is too complex for the message recipient to process, which can cause a deep cue to fail. It could also occur where a heuristic cue puts the recipient off any meaningful engagement with the message, such as by means of causing offence or upset through an appeal to emotion, or by quoting a source or authority in an appeal to credibility that is not deemed credible by the message recipient.

This model also addresses the interaction of superficial and deep cues, which may lead to a deep cue being processed superficially – for example in an instance whereby an expert is quoted with a strong deep argument, but it is the expert status that leads to the superficial processing route taking on the dominant role. In another scenario a deep cue may by itself not trigger any processing until a superficial cue is added to the message, such as an appeal to emotion that then provokes deeper processing. The superficial cue in this instance might have been the more impactful one, but deep processing can still take the lead in such an instance. In contrast to existing models of persuasion, this model of terse text persuasion explicitly acknowledges the significance of superficial processing. It also wholly abandons the idea that one processing route is pursued to the exclusion of the other.

The third step of Dubin's (1978) method of theory building is the definition of boundaries. The boundaries of this model limit it specifically to the terse text communication environment of social media platforms in relation to messages with persuasive intent. The two system states are 'persuasive' and 'not persuasive'.

## 4.4 CHAPTER CONCLUSION

This conceptual processing model of persuasive messages in the specific delivery format of terse text shall act as the foundation for further exploration of terse text persuasion, which the following chapters will elaborate on. The model so far only describes message processing, while the next chapter will move on to message content by exploring two ways of categorising persuasive message content and how this relates to deep versus superficial processing. Chapter 5 will also explore cue dominance to further our understanding of the mechanisms by which individuals seek to persuade one another in the context of terse text social media.

# 5 REFINING THE CONCEPTUAL MODEL – EXPLORING CUE DOMINANCE

## 5.1 CHAPTER INTRODUCTION

Theory building in this chapter relies on synthesising literature from several distinct academic fields, as well as the analysis of a pilot dataset.

Carlile and Christensen (2004) propose an approach that divides theory building into two major stages, the descriptive stage and the normative stage (Carlile and Christensen, 2004). This chapter covers the descriptive stage, based on a single context represented in the pilot dataset. Chapter 6 and beyond then seek to transform the descriptive model into a normative one.

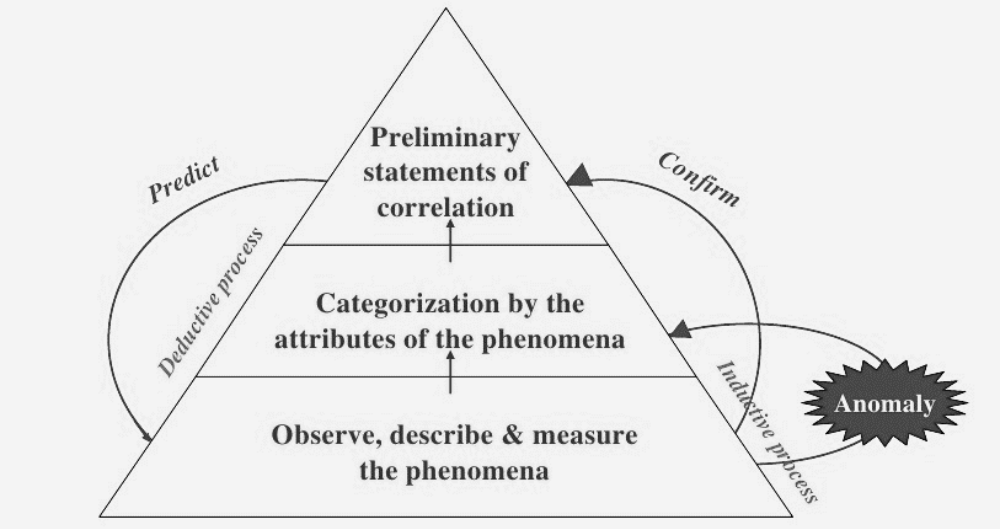


***Fig. 5.1:*** *Descriptive Theory Building (Carlile and Christensen, 2004)*

The foundation of the triangle in Figure 5.1 above represents the first step of observation. This refers to the observation of phenomena and their careful description and measurement. This process must be detailed and rigorous because if subsequent researchers cannot agree upon the descriptions of the phenomena it will be difficult to improve upon the theory (Carlile and

Christensen, 2004). The observation stage in this piece of research is represented by the qualitative assessment and manual processing of the raw terse text pilot data and the subsequent assembly of the final pilot dataset informed by the interdisciplinary review of existing models of persuasive communication.

The second step of the descriptive theory building process is classification, which seeks to classify the phenomena observed into categories. This stage is represented by the coding process applied to the pilot dataset.

The third and final step of descriptive theory building is the definition of relationships, or the assignment of preliminary statements of correlation, which takes place through analysis of the qualitative and quantitative processing of the coded pilot dataset.

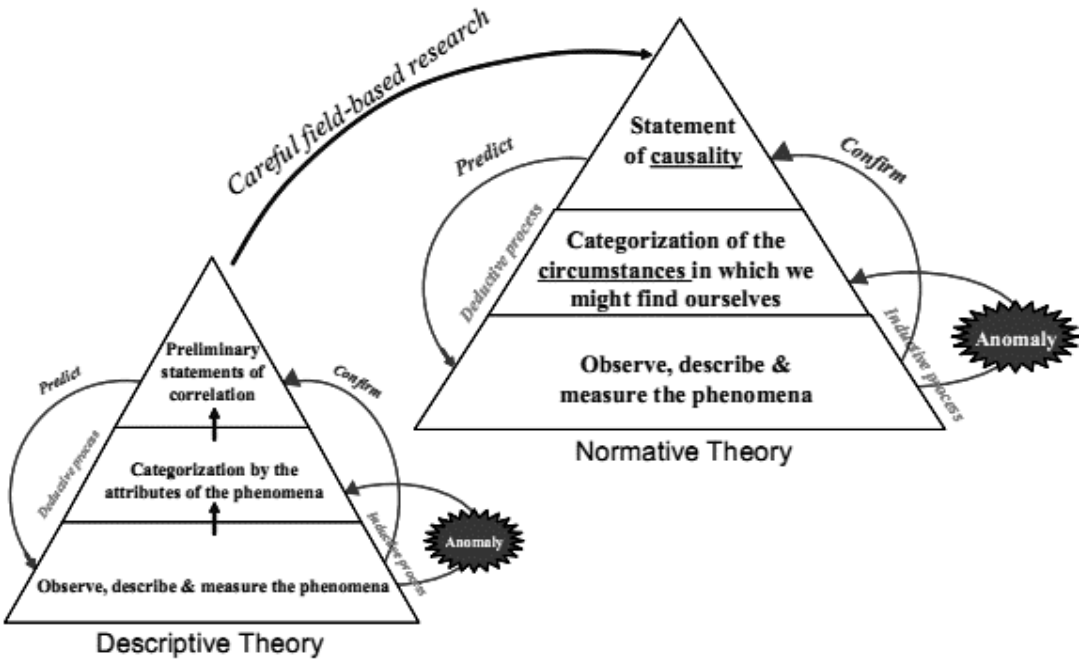


***Fig. 5.2:*** *The Transition from Descriptive Theory to Normative Theory (Carlile and Christensen, 2004)*

Figure 5.2 above illustrates the transition from descriptive theory to normative theory. This transition will be achieved through Phase II and III of the research, validation and exploration, which will then yield the revised model of terse text persuasion.

## 5.2 ARISTOTELIAN APPEALS

As discussed in greater detail in Chapter 2, the most prevalent and robust way of categorising aspects of persuasive communication to date is based on Aristotle's 'Rhetoric' (5th Century B.C). Persuasion according to Aristotle has three main ingredients: the nature of the communicator (ethos), the emotional state of the audience (pathos), and the arguments of the message (logos). In other words: 'ethos' constitutes the appeal to credibility, 'pathos' the appeal to emotion, and 'logos' the appeal to reason (Perloff, 2003). Aristotle argued that in order for a speech or text to be persuasive, all three appeals must feature.

The character-limited nature of the microblog (140 characters on the Twitter platform until September 2017, 280 characters thereafter) naturally restricts authors' ability to incorporate all three appeals. This model is thus based on the assumption that terse text persuasion, unlike persuasion in lengthier text and speech, is not reliant on all three appeals, and instead makes use of predominantly just one or two. The coding exercise on the pilot set as well as on the remaining corpus sets, will demonstrate prevalence of certain appeals over others and provide some understanding of how the different appeals are combined where text length is vastly restricted.

The following table (5.1) provides a summary of the types of linguistic and literary phenomena commonly utilized as part of each of the three appeals as was used as guidance to code the datasets for this project.

***Table 5.1:*** *Examples of Aristotelian Appeals*

| Appeal | Example |
|---|---|
| Pathos | • Graphic, detailed language/description<br>• Making it personal: "imagine if it was your child/relative/friend"<br>• Inducing fear or guilt by implying threat to or complicitness of the message recipient if they disagree with the message communicator<br>• Downplaying ethos by claiming to be equal to the audience: "one of you", to increase relatability<br>• Appeal to values and morality |
| Logos | • Likeness/comparison to related or unrelated past event(s) or situation(s)<br>• (appearing to be) providing the clear facts/unadulterated truth<br>• Quoting statistics (may not be accurate)<br>• Referring to specific "evidence" (may not be actual evidence)<br>• (rhetorical) questions |
| Ethos | • Highlighting (alleged) hypocrisy or contradiction<br>• Implicitly or explicitly raising doubts about the character/source<br>• Claiming to have 'evidence'<br>• Alleging ignorance<br>• Insults<br>• Quoting people of (perceived) significant standing<br>• Mockery of ideas/opponents<br>• Questioning values/morality<br>• Reminding the audience of opponent's (past) failings |

Microblogs were coded according to which appeals are present (E = ethos, L = logos, P = pathos, EL = ethos & logos, LP = logos & pathos, PE = pathos & ethos, ELP = ethos & logos & pathos).

## 5.3 HEURISTIC AND SYSTEMATIC CUES

In addition to the coding for Aristotelian appeals, the datasets were also coded for cues as referenced in dual process models like the Elaboration Likelihood Model (ELM) and the Heuristic Systematic Model (HSM). The terms 'heuristic' (H) and 'systematic' (S) were chosen for coding purposes, but the ELM terminology of 'peripheral' and 'central' would have been equally suitable. Cue coding, unlike appeal coding is not based on what is present, but on what is predominant,

meaning which types of cues are most relied upon in a particular message. Many heuristic cues in particular can be extremely subtle, and whether they are registered by message recipients is highly dependent on the individual. Coding for heuristic and systematic cues thus denotes only whether a microblog is deemed to predominantly rely on heuristic cues (H), systematic cues (S), or whether the presence of heuristic and systematic cues is roughly equal (HS).

Heuristic cues rely on contextual information, such as the identity of the communicator, rather than message content (Chaiken, 1980). The majority features of the Aristotelian appeals to emotion (pathos) and credibility (ethos) constitute heuristic cues in that they emphasise factors external to the message content. The relationship between Aristotelian appeals and dual process cues is not quite as straightforward as for appeals to reason (ethos) to effectively equal systematic processing, whilst appeals to emotion and credibility are always entirely heuristic in nature. Appeals to credibility in particular may be complex enough to lead to systematic processing through encouraging a message recipient to question the authority of a source or figure of authority. This is unlikely to be achieved through crude insults and mockery, but might be successful where substantial doubts are raised about an authority figure's character through highlighting hypocrisy or contradiction or through a reminder of their past failings. Similarly, the heuristic cue of appealing to credibility through quoting authoritative figures might encourage deeper engagement and more systematic processing of the full message. The relationship between Aristotelian appeals and dual process cues becomes even more complex when there are multiple appeals present in a single microblog.

## 5.4 Pilot Data Analysis

A pilot dataset of 300 tweets was used to ascertain whether any Aristotelian appeals or Dual Processing cues are more predominant than others in messages with persuasive intent. The pilot dataset for this model was compiled from Twitter microblogs collected between the 3rd and 9th of December 2015, the day after the UK parliamentary vote on military intervention against

ISIS in Syria. Raw data was collected on the following hashtags: #DontBombSyria (54624 tweets), #SyriaVote (74748 tweets), and #StopTheWar (11227 tweets).

### 5.4.1 Scope and Selection

A significant portion of microblogs on the Twitter platform are conversational. As plenty of research into conversational persuasion already exists, however, the primary focus in researching terse text persuasion specifically, remains on individual microblogs. Amongst all the disciplines that have concerned themselves with persuasive communication, there appears to be a strong empirical focus on the assessment of persuasive effect and impact (e.g., in research surrounding the ELM and HSM). Due to the undefined nature of possible and actual audiences of public Social Media posts, research on terse text persuasion must first and foremost concern itself with persuasive intent before it can seek to explore the measurement and prediction of persuasive potential, such as by means of validating persuasive impact in controlled environments.

Thus, the scope of this pilot dataset and all other datasets created for the purpose of this research is individual, non-conversational, English language, Twitter microblogs.

The data collected on several hashtags for the same topic was combined into a single MS Excel spreadsheet. The combined raw data was then filtered to systematically reduce the size of the datasets in a number of ways. Most significantly this process saw the removal of retweets and duplicate tweets. Significant numbers of "hashtag hijacking" messages were also removed. "Hashtag hijacking" hereby refers to the use of a popular hashtag in otherwise unrelated messages, generally to increase message reach. Furthermore, messages that merely contained a news headline and a link to the relevant news story were also removed, where detected in the data cleansing phase. The remaining messages were then individually assessed for suitability with the aim of collecting a total of 300 for a rich and highly usable final dataset. As discussed in Chapter 3, other normalisation was minimal and in line with LIWC guidance – spelling errors and

incorrect word use (such as “your” instead of “you’re” were corrected, and spaces inserted where two words were not otherwise separated(Pennebaker et al., 1999). Special characters such ampersands were corrected back to *&* from the HTML character reference format *&*.

Taking into consideration the exclusions listed above, messages were subsequently selected to feature clear persuasive intent. But what actually constitutes persuasive intent? Many definitions of persuasion are ultimately outcome focussed and neglect the importance of intent. Persuasive intent matters in particular to this project for this project does not attempt to assess persuasive outcomes, successes, or failures, but instead seeks to model terse text communication based on intent alone.

Simons et al. (2001) define persuasion as “human communication designed to influence the autonomous judgments and actions of others” (Simons et al., 2001, p.20). Additionally, they also state that “persuasion is a form of attempted influence in the sense that it seeks to alter the way others think, feel, or act.” (Simons et al., 2001, p.21). They explicitly exclude coercion from their definition, as well as material inducement, a view that is broadly shared across the literature spectrum on persuasion. Simons et al. (2001) consider persuasion a ‘practice’, and believe that it addresses autonomous, choice-making individuals. This predominantly intent-based definition is the one adopted as a working definition for the purpose of this project.

Miller’s (1980) definition of persuasive communication includes “any message that is intended to shape, reinforce, or change the responses of another, or others.” (Miller, 1980, p.11). Stiff and Mongeau (2003) ascertain that one could theoretically argue that all communication is by its very nature persuasive as any form of communication may inadvertently affect the responses of others, but that for the purpose of their discussion of persuasive communications they will, like Simons et al. (2001) only consider communicative behaviour that is intended to affect the responses of others (Stiff and Mongeau, 2003).

In line with the consensus across the literature, coercion as well as material inducement are excluded from what constitutes persuasion for the purpose of this research. Dishonesty and manipulative language use or linguistic imagery, on the other hand are considered a part of the landscape of persuasive communications and are often particularly straight forward indicators of persuasive intent. Persuasive intent can be predominantly contextual as well as highly explicit through pleas and (non-coercive) demands.

These microblogs can contain links to external content but the message must not be reliant on the external content. When a microblog containing a link to external information is selected for the pilot set or final corpus, the link is removed and the message is annotated with the type of information that was linked to.

Tweets that contain poor spelling, grammar mistakes, incorrect or excessive capitalization, poor or no punctuation, and heavy hashtag use will be deemed acceptable for selection only if the message itself remains clearly identifiable. These inaccuracies, however will not be analysed as part of this project and tweets will be normalised prior to being added to the corpus in order to improve the accuracy of the computational linguistic analysis. Tweets will also be normalised prior to being used in the validation experiments to ensure the message content and language rather than its formatting remains the sole focus.

The persuasive intent of the message must be clear in order for a message to qualify for selection. Hashtags were chosen for topics of active debate where persuasive intent is likely to be present in a considerable number of messages.

### 5.4.2 Qualitative Analysis

The following section discusses the Aristotelian appeals coding with examples from the pilot dataset.

#### *5.4.2.1 Appeals to Credibility (Ethos)*

Appeals to credibility are popular in political discussion, for the realm of politics has a high number of figures of authority, each one with a political track record of their own, each one representative of a set of values and achievements associated with their respective political party. The message below is a fairly typical example of an ethos attack on then-Prime Minister David Cameron, referencing a recent unsavoury allegation made by a peer to imply an ulterior motive – in this case, entering into a military conflict to divert attention away from his alleged past failings. The cues in this message are predominantly heuristic, made up of strong and aggressive language, and a crude suggestion of ulterior motives.

| | | |
|---|---|---|
| *Imagine airstriking a country just cos you'd rather be remembered as a 'warlord' than a 'pigfucker' #syriavote @David_Cameron #DontBombSyria* | E | H |

The message below illustrates that appeals to credibility do not necessarily focus purely on figures of authority, but may also attack broader groups of people in disagreement with the views of the message communicator. The message below starts by presenting an upsetting fact or factoid (it is, for the purpose of analysis, irrelevant whether statements are truthful or not) that is immediately followed by an accusation, which is then followed by allegation of hypocrisy to undermine the overall stance of the opponents. Again, the cues in this message are predominantly heuristic.

| | | |
|---|---|---|
| *ISIS kill civilians daily! No one bats an eyelid! We drop bombs overnight on ISIS targets, everyone becomes a fucking peace activist. #BombSyria* | E | H |

The following two microblogs both quote popular historical figures, but the Sun Tzu quote delivers content complex enough to constitute a significant systemic cue that is roughly equal in prevalence to the heuristic appeal to authority itself. The Ghandi quote in the second microblog

however is a much shorter message and such a well-known and frequently regurgitated trope that it cannot be considered a systematic cue. The argument here is not that one quote is somehow 'better' than the other, but that they vary in complexity and in whether they are likely to be perceived as novel by the message recipient.

| | | |
|---|---|---|
| *A victorious army first wins and then seeks battle. A defeated army first battles and then seeks victory" - Sun Tzu #DontBombSyria* | E | HS |
| *An eye for an eye makes the whole world blind. Mahatma Gandhi #dontbombsyria #syriaairstrikes* | E | H |

Appeals to credibility also occur through the quoting of anonymous expertise. In the microblog below, the so called "British historian" is not named, but his designation as an expert is deemed a sufficient qualifier by the message communicator.

| | | |
|---|---|---|
| *British historian: 'The culture of lying to & misleading the electorate is deeply embedded in British policy-making.' #DontBombSyria* | E | H |

#### *5.4.2.2 Appeals to Emotion (Pathos)*

A typical appeal to emotion is one that seeks to incite fear in the message recipient in order to argue that a certain opinion or action, in this case the support of the military intervention, is wrong. The message below attempts to do this by stating that there is an increased indirect threat to the individual. This type of appeal relies on heuristic cues rather than systematic processing of the full semantic message content.

| | | |
|---|---|---|
| *Bombing Syria will only put the country more at risk from terrorist attacks and even more innocent life's will be lost #DontBombSyria* | P | H |

Emotive language features heavily in appeals to emotion, such as in the message below, which likens the United Kingdom to the terrorist organisation Islamic State, and alleges the death of innocent children as a result of Britain's military intervention.

| | | |
|---|---|---|
| *Britain joins IS in the bombing of innocent civilians, helping IS radicalise more people! #DontBombSyria #SyriaVote #ISIS #Britain #Syria* | P | H |

Another very common pattern is the approach of 'making it personal'. Often done to resemble phrases and rhetorical questions like "What if it was your child?", the message below arguably takes a more extreme approach that relies on a variety of heuristic cues like the description of a hypothetical scenario that is allegedly likely to result from supporting the military intervention the message communicator appears to vehemently oppose.

| | | |
|---|---|---|
| *How do your soldiers tell their children when they're home: KIDS, I BOMBED A LOT OF KIDS OF YOUR AGE :) ARE U PROUD OF ME? #DontBombSyria* | P | H |

The two messages below illustrate another common approach in appealing to emotion, whereby blame for future (realistic or unrealistic) atrocities is laid at the feet of those who do not side with the message communicator. Once again, there is heavy use of emotive language like 'collective guilt', 'innocent people', as well as the strong metaphor of 'signing the death warrant'. The heavy focus on emotion, paired with the marked lexical choices, make this a message of predominantly heuristic cues.

| | | |
|---|---|---|
| *I hope you will feel collective guilt when hundreds of innocent people die as a result of that decision. Have a nice day." #DontBombSyria* | P | H |
| *Those who voted in favour of #BombSyria in the House of Commons have signed the death warrant 4 many innocent civilians, kids & brit troops* | P | H |

#### *5.4.2.3 Appeals to Reason (Logos)*

Appeals to reason often occur in the form of presenting relevant or seemingly relevant facts or factoids as the unadulterated truth, usually with an implied or explicit prompt to take in and reflect on the information. The message below attempts to trigger deeper consideration of the message recipient's stance by presenting a piece of information as factual. This message relies heavily on the recipient's systematic interpretation in order for the full semantic content to be processed.

| | | |
|---|---|---|
| *80% of all counter-terrorism arrests made in the UK (2014-15) were of UK nationals. #Syria #SyriaVote #DontBombSyria* | L | S |

The following message contains both an appeal to logic, in the argumentative challenge to the concept of being indiscriminately complicit to the bloodshed in Syria through intervening militarily through historical analogy, as well as an appeal to emotion through use of emotive language (in quotation marks) and the marked choice of comparison. Both appeals rely on predominantly systematic cues. Systematic processing is required to take in the full semantic content of the message.

| | | |
|---|---|---|
| *Anyone who had killed Hitler undoubtedly would have had 'blood on their hands' - and should be extremely proud of it #DontBombSyria* | PL | S |

The message below represents another appeal to logic through quoting information as historical fact. Although the Holocaust analogy is a marked choice, the language used in its presentation is kept neutral. Again, there is a strong reliance on message recipients' ability to systematically process the wider implications of the statement.

| | | |
|---|---|---|
| *In 1944, Jewish reps requested allied forces to authorize the bombing of Auschwitz. They refused, I'm glad history didn't repeat itself. #BombSyria* | L | S |

#### *5.4.2.4 All-in-one appeals*

Only 1.6% (5 out of 300) microblogs in the pilot dataset contain all three appeals in any one message (as shown in Table 5.4). The message below contains an appeal to emotion through the use of emotive language like the reference to 'helpless civilians' and the implication that the British military intervention 'wages war' on those 'helpless civilians'. There is an appeal to credibility in the suggestion that 'helpless civilians' are targeted whilst the real culprits are ignored. The appeal to reason lies in the presentation of a perceived problem alongside an alternative solution.

| | | |
|---|---|---|
| *War should be waged on those who fund and arm #ISIS and buy its oil, not on helpless civilians #DontBombSyria #StopBombingSyria* | PLE | HS |

The following message seeks to appeal to reason through presenting an implied solution to a problem or an alternative course of action. The relevance of the problem or alternative is debatable and the message acts as a good example of a phenomenon frequently observed in the pilot dataset, whereby there appears to be no restriction upon what is considered a suitable analogy, or a related topic. There is an appeal to emotion, or more specifically, an appeal to values and morality, in the implied suggestion that we should look after 'our own' first and foremost. There is an implied appeal to credibility in alleging poor prioritisation and questionable values and morality in the proponents of military intervention in Syria.

| | | |
|---|---|---|
| *One bomb could cost £800,000. That could give all homeless people in London temporary housing over Christmas. #OneLessBomb #DontBombSyria* | PLE | HS |

### 5.4.3 Quantitative Analysis

Descriptive statistics of the coded pilot dataset were produced to illustrate frequency count as well as the percentage of microblogs which have been found to feature each Aristotelian appeal and dual process cue. This analysis is based on the total of 300 messages of the pilot set.

#### *5.4.3.1 Cue Dominance: Aristotelian Appeals*

Table 5.2 below shows how many of the 300 total messages fell into each coding category. The appeals that are present most frequently are appeals to credibility (ethos) and combined appeals to emotion (pathos) and credibility (ethos). The frequency table also shows that appeals to credibility frequently occur as single-appeals, whilst appeals to reason are much more common in combination with other appeals.

***Table 5.2:*** *Aristotelian appeal distribution across the pilot dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 69 | 23% |
| Pathos and Ethos (PE) | 67 | 22.33% |
| Logos and Ethos (LE) | 51 | 17% |
| Pathos (P) | 49 | 16.33% |
| Pathos and Logos (PL) | 33 | 11% |
| Logos (L) | 26 | 8.66% |
| Pathos, Logos and Ethos (PLE) | 5 | 1.66% |

Table 5.3 below does not differentiate between single and multiple appeals per message. This table shows the number of messages, from the pilot dataset of 300, that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a strong preference of appeals to credibility (ethos) over reason (logos), and emotion (pathos), with appeals to emotion (pathos) still significantly more popular than appeals to reason (logos).

***Table 5.3:*** *Aristotelian appeal distribution across the pilot dataset (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 192 |
| Pathos (P) | 154 |
| Logos (L) | 115 |

Table 5.4 below shows that single appeals are not significantly less popular than dual appeals, but that only very few messages, 1.66% of the total of 300, were judged to contain all three Aristotelian appeals.

***Table 5.4:*** *Distribution of appeal type presence within the pilot dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 144 | 48% |
| Dual appeal | 151 | 50.33% |
| Triple appeal | 5 | 1.66% |

#### *5.4.3.2 Cue Dominance: Heuristic versus Systematic Cues*

Coding for dual process cues is not based on presence, but on predominance. Table 6 below illustrates that there was a strong preference for the use of heuristic cues over systematic cues. Still, 21.33% of messages were judged to contain roughly equally prevalent heuristic and systematic cues.

***Table 5.5:*** *Cue predominance across the pilot dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 201 | 67% |
| Systematic (S) | 35 | 11.66% |
| Heuristic and Systematic (HS) | 64 | 21.33% |

Table 6.2 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are significantly more prevalent in the pilot dataset than systematic cues.

***Table 5.6:*** *Cue predominance across the pilot dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 265 |
| Systematic (S) | 99 |

Table 5.7 below illustrates a strong preference for single cue predominance. If we combine this with the distribution across Table 5.5, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur even more often on their own than they do in combination with strong systematic cues.

***Table 5.7:*** *Cue type predominance across the pilot dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 236 | 78.66% |
| Both cues equally predominant | 64 | 21.33% |

### 5.4.4 Preliminary Statements of Correlation

The descriptive statistics yielded from the pilot dataset analysis suggest a preference of appeals to credibility (ethos) and appeals to emotion (pathos) over appeals to reason (logos) in the context of terse text. Appeals to reason occur significantly less frequently on their own and are more common paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

## 5.5 CHAPTER SUMMARY

This chapter furthered theory building to include information about message content and persuasive cues to the conceptual processing model developed in chapter 4. Two types of coding systems were introduced, and a coded pilot dataset was analysed to yield preliminary descriptive statistics on cue distribution and dominance. The pilot data shows that terse text messages only very rarely feature all three Aristotelian appeals. Single appeals are only marginally more frequent than dual appeals. The pilot data furthermore suggests a preference for appeals to credibility (ethos) and appeals to emotion (ethos) over appeals to reason (logos) and a very strong predominance of heuristic over systematic cues. The next chapter will contextualise cue dominance further, as well as cover the experimental validation of two fundamental aspects of the model developments – message selection and coding criteria. It will also cover the appeal and cue coding statistics for all five individual datasets as well as the full corpus, to evaluate whether the trends identified within the pilot set are the same as or different to other sets and the full corpus.

# 6 REFINING THE MODEL - CONTEXTUALISING CUE DOMINANCE

## 6.1 CHAPTER INTRODUCTION

This chapter starts with the experimental validation of two fundamental aspects of the model developments – message selection and coding criteria. It then goes on to present the cue dominance statistics for the entire corpus (1500 messages) of five individual datasets (made up of 300 messages each). Finally, it will present the findings of the computational linguistic analysis conducted with the LIWC15 software tool.

## 6.2 SELECTION EXERCISE

The selection of microblogs judged to feature persuasive intent could arguably be described as highly subjective. To assess whether the message selection undertaken for the purpose of this research was sufficiently objective, a selection exercise was conducted to validate the approach. This selection exercise assessed whether the microblogs identified as containing persuasive intent by the participants match those selected in the process of building the model. As discussed in Chapter 3, candidates were given concise task instructions and a brief explanation of the model prior to commencing the selection exercise. As the model is intent-based rather than outcome-based, this validation exercise focusses on the recognition of persuasive intent, rather than attempting to assess whether a message has or has not succeeded in persuading an individual. The selection exercise was hosted on the Qualtrics survey platform and conducted in survey-format albeit not constituting a survey as such.

### 6.2.1 Research Design

The selection exercise featured a total of 150 Twitter messages evenly split across the five different topics ('Brexit', 'Donald Trump', 'Bernie Sanders', 'Hillary Clinton', 'Syria Vote'). 10 messages per topic were pre-identified as containing clear persuasive intent in the process of

building the model, meaning there were a total of 50 such messages featured in the exercise. Participants received instructions on the task containing an outline of the selection process. For each of the 150 messages displayed consecutively, participants were asked to choose between three options. Option a) Message contains clear persuasive intent, b) message may contain persuasive intent and c) message contains no persuasive intent. The task was completed in full by 17 out of 23 participants and only complete responses were analysed.

### 6.2.2 Data Analysis: Selection Exercise

The analysis of the selection exercise was initially conducted quantitatively to assess the level of agreement between the template and the answers chosen by participants. A report of frequency tables was generated within the Qualtrics platform following the completion of the experiment. For the purpose of measuring agreement, all neutral answers were counted as being in agreement with the template. However, the neutral answers were quantitatively and qualitatively evaluated separately for each message to better understand and consider the source of the insecurity. Messages for which there was a significant number of participants in disagreement with the template were also qualitatively evaluated and considered for the revision of the model and in the context of further corpus building.

### 6.2.3 Findings and Analysis: Selection Exercise

Analysis of the frequency tables generated from the exercise data found 2053 of 2550 possible instances of agreement. The figure of 2550 was yielded from 150 assessed messages multiplied with 17 participants. This equates to 84.4% agreement. The majority of responses sided with the template answer in 149 out 150 cases. The neutral option ("Possibly contains persuasive intent") was frequently chosen, 697 times in total (across 150 messages and by 17 participants). This constitutes 27.3% out of the 2550 responses. This is significant and affects how this data can be interpreted. It also necessitates additional analysis. First of all, it is important that we consider in how many cases (out of 150 total messages) the neutral option affected the

outcome in comparison to the template – meaning in how many cases was there only a majority in agreement with the template answer with the neutral responses taken into consideration. Out of 150 messages, this was found to apply in only three cases. In a further two cases the responses would have tied without the neutral options. This means that there were a total of 5 messages for which the neutral option shifted the result to agreement. If we add these 5 messages to the one message for which the majority of responses did not agree with the template answer, this leaves us with majority agreement on 144 out of 150 messages or 96%. This means that even when interpreted cautiously, there is substantial agreement on message selection.

The next section will be looking at a few of the messages more closely, in particular those where the participant consensus disagreed with the template, as well as those where agreement was particularly high.

The message in table 6.1 below shows a disagreement with the template when the neutral answers are disregarded. In the original selection process, the message was found to contain persuasive intent with clear appeals to credibility (ethos) and emotion (pathos). The undermining of the other candidates constitutes the appeal to credibility, while the reference to fear constitutes an appeal to emotion.

| ***Because the other two are either mind numbingly stupid, irritating or ludicrously deluded. That's scary. #FeelTheBern #OrEvenHillary*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 5 | 29.4 |
| Possibly contains persuasive intent. | 6 | 35.3 |
| Does not contain persuasive intent. | 6 | 35.3 |

***Table 6.1:*** *Selection Exercise Message 1*

A possible explanation for this may be that the message is presented primarily as a personal opinion or personal justification (of support for one candidate). Whilst this does not remove the persuasive intent, it is likely that message recipients may be less susceptible to recognising or responding to this type of message. The impact of this message may change if such

a statement is made by a person of significant authority or popularity, which would add to the existing appeal to credibility.

Participant consensus for the message in table 6.2 below significantly disagreed with the template when the neutral responses are disregarded. This message was originally selected as one not deemed to contain persuasive intent. Initially perceived as an inconsequential statement of observation or fact (if we assume that the message refers to actual poll results), the content of the message when considered more closely may indeed be classed as containing persuasive intent if we understand statements about popularity to constitute appeals to credibility (ethos).

| ***#BernieSanders is Narrowing the Gap in #SouthCarolina - #SCPrimary #VoteTogether #Bernie2016 #FeelTheBern*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 7 | 41.2 |
| Possibly contains persuasive intent. | 7 | 41.2 |
| Does not contain persuasive intent. | 3 | 17.6 |

***Table 6.2:*** *Selection Exercise Message 2*

Upon reflection, statements about candidate popularity and candidate viability, most certainly need to be considered as appeals to credibility (ethos) and messages featuring such statements should be viewed as featuring persuasive intent. Tables 6.3 and 6.4 below show two further messages from the selection exercise which were selected as containing persuasive intent and saw the participant consensus agree with this. Although less explicit than the message shown in table 6.2, both messages also highlight candidate popularity.

| ***#Bernie2016 is NOT ALONE in his beliefs - please spread the word so others can #FeelTheBern & #VoteTogether for USA!*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 11 | 64.7 |
| Possibly contains persuasive intent. | 5 | 29.4 |
| Does not contain persuasive intent. | 1 | 5.9 |

***Table 6.3:*** *Selection Exercise Message 3*

| ***#Bernie2016 is the only one who can beat Trump. #FeelTheBern #AmericaTogether*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 8 | 47.1 |
| Possibly contains persuasive intent. | 5 | 29.4 |
| Does not contain persuasive intent. | 4 | 23.5 |

***Table 6.4:*** *Selection Exercise Message 4*

The message shown in table 6.5 below was clearly identified as featuring persuasive intent by 14 participants, with one neutral vote, and two participants classing it as not persuasive. The message features emotive language by accusing supporters of the intervention as having 'blood on their hands'. The message features a clear appeal to credibility by questioning the morality of those on the other side of the argument.

| ***Anyone who supports a war literally has 'blood on their hands'. Difference is in World War II it was justified to kill Nazis.*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 14 | 82.4 |
| Possibly contains persuasive intent. | 1 | 5.9 |
| Does not contain persuasive intent. | 2 | 11.8 |

***Table 6.5:*** *Selection Exercise Message 5*

If we disregard the neutral votes, then the message shown in table 6.6 below was identified as containing persuasive intent by a small majority of 3. This is in disagreement with the researcher's template, which did not class this message as featuring persuasive intent. The message is a quote from the very well known John Lennon song 'Imagine'. It is possible that, given the age of the participants, the song reference was not picked up by all participants and that subsequently the conditional statement was seen as featuring persuasive intent. If we treat this message as though it was not a reference to a song, it could be argued that the conditional statement contains persuasive intent.

| ***WAR IS OVER (if you want it) #DontBombSyria*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 6 | 35.3 |
| Possibly contains persuasive intent. | 8 | 47.1 |
| Does not contain persuasive intent. | 3 | 17.6 |

***Table 6.6:*** *Selection Exercise Message 6*

The message in table 6.7 below was correctly identified as not containing persuasive intent by 14 participants, while two were uncertain, and one voted in favour of persuasive intent. Participants were instructed to focus on the message itself, rather than additional information referred to, but there may have been some confusion about this, given that this message positively mentions a specific magazine article. This may also indicate again that one of the participants was possibly not fulfilling the task correctly. Upon examining the individual participant response patterns this suspicion was confirmed, as the vast majority of the otherwise inexplicable outliers came from the same participant.

| *Yet another phenomenal cover from @mortenmorland for the @spectator #EUdebate #brexit* | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 1 | 5.9 |
| Possibly contains persuasive intent. | 2 | 11.8 |
| Does not contain persuasive intent. | 14 | 82.4 |

***Table 6.7:*** *Selection Exercise Message 7*

The message below in table 6.8 also shows a message that is incomplete and unclear about whom it is referring to, which means that it was not classed as containing persuasive intent by the researcher for the purpose of this research. Participants were torn on this particular message, which may be a result of insufficiently clear instruction on how to treat this type of (essentially incomplete) message.

| ***Top Man!! 😉 the more on our side the better 😉 #Brexit*** | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 6 | 35.3 |
| Possibly contains persuasive intent. | 5 | 29.04 |
| Does not contain persuasive intent. | 6 | 35.03 |

***Table 6.8:*** *Selection Exercise Message 8*

The message in table 6.9 yielded a total of 11 undecided answers, which is not necessarily surprising, as it was not considered as featuring persuasive intent primarily due its lack of clarity and ambiguous syntax. Ultimately only one participant saw definitive persuasive intent however, while a total of 5 agreed with the researcher's template classification.

| *#Hillary Clinton #DWSTweets pick influence peddlers to guide DNC platform by #PeopleOverProfits #ImWithHer #Bernie* | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 1 | 5.9 |
| Possibly contains persuasive intent. | 11 | 64.7 |
| Does not contain persuasive intent. | 5 | 29.4 |

***Table 6.9:*** *Selection Exercise Message 9*

A total of 14 participants correctly identified persuasive intent in the message in table 6.10 below, which features a very clear appeal to credibility (ethos) by questioning the referenced candidate's conduct and suitability for the presidency.

| *Find the one who talked about his penis on TV. Vote for the other one #TrumpIsAChild #Trump2016 @realDonaldTrump* | | |
|---|---|---|
| | Frequency | Percentage |
| Definitely contains persuasive intent. | 14 | 82.4 |
| Possibly contains persuasive intent. | 2 | 11.8 |
| Does not contain persuasive intent. | 1 | 5.4 |

***Table 6.10:*** *Selection Exercise Message 10*

## 6.3 CODING EXERCISE

Much like the selection of messages with persuasive intent, the categorisation of microblogs into the Aristotelian categories of ethos, logos, and pathos could arguably also be described as highly subjective. To assess whether the categorisation undertaken for the purpose of this research is sufficiently objective, a coding exercise was conducted.

### 6.3.1 Research Design

Like the selection exercise, the coding exercise was also hosted on the Qualtrics survey platform. Due to the complexity of the task participant recruitment took place amongst Loughborough University' School of Business and Economic research postgraduates rather than undergraduates. The demographics of gender and age were captured but ultimately disregarded

as the small sample size made it easy to see that there were no significant patterns to be observed with regard to this demographic information. Only speakers with native competence in the English language were considered as participants. A total of seven participants were recruited and provided with individual access links to the exercise. Six of these participants completed the full task. Participants were given brief task instructions and were asked to identify which Aristotelian appeal(s) (ethos, logos, or pathos) were present in a total of 50 microblogs with persuasive intent. Whilst the selection exercise only permitted one choice of response, the coding exercise was set up to allow for participants to select all appeals that apply to each message displayed. Participants were prevented from skipping messages without coding them.

### 6.3.2 Data Analysis

The data gathered during the coding exercise was evaluated quantitatively using descriptive statistics automatically generated by Qualtrics, as well as qualitatively, individually, message-by-message to examine the level of agreement with the template as well as the implications of any disagreement identified. Due to the low number of participants the descriptive statistics produced were used predominantly to visualise the distribution of responses during the process of analysis and all meaningful evaluation was subsequently done qualitatively.

### 6.3.3 Findings

The low number of participants and the small scale of the coding exercise makes it difficult to analyse and impossible to generalise from. The complexity of the exercise did not allow for a significantly larger number of participants within the scope of this project. Nonetheless, the exercise has yielded some valuable insights. Participant coding was most consistent with the researcher's template for appeals to emotion (pathos). There was a tendency to identify appeals to credibility (ethos) as appeals to emotion (pathos) or to miss the former in combined appeals.

There was also a tendency to over-identify appeals to reason (logos) where these were arguably not present.

The message below was coded as containing appeals to credibility and emotion. The often false accusation of flag-burning and 'hatred' of America is a frequent insult levied by the American Right against Liberals. It is a highly emotive accusation, hence the coding for pathos (appeal to emotion), but it is nonetheless an attack on (and thus inherently also an appeal to) the credibility of the opposing side. All six participants identified the appeal to emotion, one participant identified an appeal to reason, whilst none identified the presumed clear appeal to credibility.

*"I don't know about you guys, but I'm with the side not burning the flag and hating on America. #Trump2016"*

Appeals to credibility (ethos) were identified more accurately in messages making direct reference to specific individuals, such as the message below, in which the appeal to credibility was identified by all six participants.

*"Why so quiet biased media? #Trump2016 makes money & TELLS u he makes it. #Klintons creep quietly away w/ handfuls!"*

The following message, which as per the researcher's template contains appeals to emotion and credibility, was coded by 5 participants to feature an appeal to emotion, while only two participants identified the appeal to credibility. In this message, the appeal to credibility is a positive one. It appears as though throughout the exercise, coding accuracy is greater for negative appeals to credibility.

*#CA4Hillary #imwithher because she is fighting for everyday people who want a better life.*

The clear call to action below, was correctly identified as an appeal to emotion by five out of six participants. One participant incorrectly classed the message as an appeal to reason.

*"Round them up, get them out of America Make America Great Again, safe again, with Donald Trump #TRUMP2016"*

The appeal to reason (in the form of an argument presented as a logical conclusion) in the message below was correctly identified by four out of six participants, while the appeal to emotion (in the form of the call to action – "learn to share!") was identified by only two.

*#AmericaTogether is better off when the #99percent are better off! #FeelTheBern 1%/0.01% & LEARN TO SHARE! #NVcaucus*

Most of the 50 messages in this experiment were found to show one clear outlier in the coding, raising questions about one participant potentially not completing the task seriously.

## 6.4 Full Corpus Analysis

This section presents the findings from the coded individual datasets of 300 messages each as well as the full corpus of 1500 Twitter microblogs.

### 6.4.1 Syria Vote Dataset

The Syria Vote dataset was compiled from messages gathered immediately after the UK Parliamentary vote on military intervention against the terrorist organisation Islamic State (IS) in Syria on the 2nd of December 2015. Members of Parliament (MPs) voted 397 to 223 in support of the government proposed airstrikes. The vote itself as well as its outcome sparked widespread public debate and outrage, both in the form of protests as well as on various Social Media Platforms, including Twitter. This dataset was also used in the pilot analysis.

#### *6.4.1.1 Syria Vote Dataset: Cue Dominance - Aristotelian Appeals:*

Table 6.11 below shows how many of the 300 total messages fell into each coding category. The appeals that are present most frequently are appeals to credibility (ethos) and combined appeals to emotion (pathos) and credibility (ethos). The frequency table also shows that appeals to credibility frequently occur as single-appeals, whilst appeals to reason are much more common in combination with other appeals.

***Table 6.11*** *Aristotelian Appeal distribution across the Syria Vote dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 69 | 23% |
| Pathos and Ethos (PE) | 67 | 22.33% |
| Logos and Ethos (LE) | 51 | 17% |
| Pathos (P) | 49 | 16.33% |
| Pathos and Logos (PL) | 33 | 11% |
| Logos (L) | 26 | 8.66% |
| Pathos, Logos and Ethos (PLE) | 5 | 1.66% |

Table 6.12 below does not differentiate between single and multiple appeals per message. This table shows the number of messages from the Syria Vote dataset of 300, that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a strong

preference of appeals to credibility (ethos) over reason (logos), and emotion (pathos), with appeals to emotion (pathos) still significantly more popular than appeals to reason (logos).

***Table 6.12:*** *Aristotelian appeal distribution across the Syria Vote dataset (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 192 |
| Pathos (P) | 154 |
| Logos (L) | 115 |

Table 6.13 below shows that single appeals are not significantly less popular than dual appeals, but that only very few messages, 1.66% of the total of 300, were judged to contain all three Aristotelian appeals.

***Table 6.13:*** *Distribution of appeal type presence across the Syria Vote dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 144 | 48% |
| Dual appeal | 151 | 50.33% |
| Triple appeal | 5 | 1.66% |

#### *6.4.1.2 Syria Vote Dataset: Cue Dominance - Heuristic versus Systematic Cues*

Coding for dual process cues is not based on presence, but on predominance. Table 6.14 below illustrates that there was a strong preference for the use of heuristic cues over systematic cues. Still, 21.33% of messages were judged to contain roughly equally prevalent heuristic and systematic cues.

***Table 6.14:*** *Cue predominance across the Syria Vote dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 201 | 67% |
| Systematic (S) | 35 | 11.66% |
| Heuristic and Systematic (HS) | 64 | 21.33% |

Table 6.15 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are significantly more prevalent in the pilot dataset than systematic cues.

***Table 6.15:*** *Cue predominance across the Syria Vote dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 265 |
| Systematic (S) | 99 |

Table 6.16 below illustrates a strong preference for single cue predominance. If we combine this with the distribution across Table 6.14, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur even more often on their own than they do in combination with strong systematic cues.

***Table 6.16:*** *Cue type predominance across the Syria Vote dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 236 | 78.66% |
| Both cues equally predominant | 64 | 21.33% |

#### *6.4.1.3 Syria Vote Dataset: Preliminary Statements of Correlation*

The statistics yielded from the Syria Vote dataset analysis suggest a preference of appeals to credibility (ethos) and appeals to emotion (pathos) over appeals to reason (logos) in the context of terse text. Appeals to reason occur significantly less frequently on their own and are more common paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

### 6.4.2 Brexit Referendum Dataset:

The Brexit Dataset was compiled from Twitter messages gathered on several EU-referendum-related hashtags during the referendum campaign leading up the vote on the 23rd of

June 2016. The EU referendum was held in the United Kingdom (UK) and Gibraltar to gauge support for the country either remaining a member of, or leaving, the European Union (EU) under the provisions of the European Union Referendum Act 2015 and also the Political Parties, Elections and Referendums Act 2000. The referendum resulted in a simple majority of 51.9% in favour of leaving the European Union. The EU referendum date was announced by then-Prime Minister David Cameron on the 22nd of February, which marked the official start of the UK Government campaign to remain a member of the European Union. Various campaigns in favour of an EU exit predated the official Remain campaign in some cases by many years. Unsurprisingly, public debate of the topic on Social Media was extremely prevalent.

#### *6.4.2.1 Brexit Referendum Dataset: Cue Dominance - Aristotelian Appeals:*

Table 6.17 below shows how many of the 300 total messages from the Brexit Referendum dataset fell into each coding category. The appeals that are present most frequently are appeals to credibility (ethos) and combined appeals to reason (logos) and credibility (ethos). Similar to the findings for the Syria Vote dataset, this frequency table also shows that appeals to credibility frequently occur as single-appeals, whilst appeals to reason are much more common in combination with other appeals.

***Table 6.17:*** *Aristotelian Appeal distribution across the Brexit dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 62 | 20.67 |
| Logos and Ethos (LE) | 56 | 18.67 |
| Pathos and Logos (PL) | 49 | 16.33 |
| Pathos and Ethos (PE) | 48 | 16 |
| Pathos (P) | 47 | 15.67 |
| Logos (L) | 34 | 11.33 |
| Pathos, Logos and Ethos (PLE) | 4 | 2.33 |

Table 6.18 below does not differentiate between single and multiple appeals per message. This table shows the number of messages (from the Brexit Referendum dataset of 300 messages in total) that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a slight preference of appeals to emotion (pathos) over appeals to credibility (ethos) and reason (logos), but the distribution is quite evenly spread out between the three appeals in comparison to the other datasets, potentially indicating a topical relevance to the distribution.

***Table 6.18:*** *Aristotelian appeal distribution across the Brexit dataset (simplified)*

| Appeal | Count |
|---|---|
| Pathos (P) | 157 |
| Ethos (E) | 149 |
| Logos (L) | 141 |

Table 6.19 below shows that single appeals are slightly more popular than dual appeals. As with the other datasets, only very few messages, 1.33% of the total of 300, were judged to contain all three Aristotelian appeals.

***Table 6.19:*** *Distribution of appeal type presence across the Brexit dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 157 | 52.33 |
| Dual appeal | 139 | 46.33 |
| Triple appeal | 4 | 1.33 |

#### *6.4.2.2 Brexit Referendum Dataset: Cue Dominance - Heuristic versus Systematic Cues*

Coding for dual process cues is based on predominance rather than presence. Table 6.20 below illustrates that there was a strong preference for the use of heuristic cues over systematic cues within the Brexit dataset. 12.6% of the messages were judged to contain roughly equally prevalent heuristic and systematic cues.

***Table 6.20:*** *Cue predominance across the Brexit dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 256 | 85.33 |
| Systematic (S) | 8 | 2.66 |
| Heuristic and Systematic (HS) | 36 | 12 |

Table 6.21 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are significantly more prevalent in the pilot dataset than systematic cues.

***Table 6.21:*** *Cue predominance across the Brexit dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 292 |
| Systematic (S) | 44 |

Table 6.22 below illustrates a strong preference for single cue predominance within the Brexit dataset. Combined with the distribution across Table 6.20, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur even more often on their own than they do in combination with strong systematic cues.

***Table 6.22:*** *Cue type predominance across the Brexit dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 264 | 88 |
| Both cues equally predominant | 36 | 12 |

#### *6.4.2.3 Brexit Referendum Dataset: Preliminary Statements of Correlation*

The descriptive statistics yielded from the Brexit dataset analysis also suggest a preference of appeals to emotion (pathos) and appeals to credibility (ethos) over appeals to reason (logos) in the context of terse text. Appeals to reason occur significantly less frequently on

their own and are more common paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

### 6.4.3 Donald Trump Dataset:

The Donald Trump dataset was compiled from messages collected on several relevant hashtags (such as #Trump2016 and #MakeAmericaGreatAgain) during the 2016 US election and Republican presidential primaries.

#### *6.4.3.1 Donald Trump Dataset: Cue Dominance - Aristotelian Appeals:*

Table 6.23 below shows how many of the 300 total messages fell into each coding category. The appeals that are present by far most frequently are appeals to credibility (ethos). The frequency table also shows that appeals to credibility and reason most frequently occur as single-appeals, whilst appeals to emotion are more common in combination with other appeals, but very rare in this dataset in general. It may be the case that the nature of the dataset as being focussed on a candidate in an upcoming election, accounts for this type of distribution.

***Table 6.23:*** *Aristotelian Appeal distribution across the Donald Trump dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 189 | 63 |
| Logos (L) | 49 | 16 |
| Logos and Ethos (LE) | 39 | 13 |
| Pathos and Ethos (PE) | 12 | 4 |
| Pathos and Logos (PL) | 8 | 2.66 |
| Pathos (P) | 2 | 0.66 |
| Pathos, Logos and Ethos (PLE) | 1 | 0.33 |

Table 6.24 below does not differentiate between single and multiple appeals per message. This table shows the number of messages from the Donald Trump dataset which feature appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a very strong

preference for appeals to credibility (ethos) over reason (logos), and emotion (pathos), with appeals to emotion (pathos) occurring significantly less frequently than appeals to reason (logos).

***Table 6.24:*** *Aristotelian appeal distribution across the Donald Trump dataset (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 241 |
| Logos (L) | 97 |
| Pathos (P) | 23 |

Table 6.25 below shows that single appeals are significantly more popular than dual appeals in the Donald Trump dataset. Only one out of the total of 300 messages, was judged to contain all three Aristotelian appeals.

***Table 6.25:*** *Distribution of appeal type presence across the Donald Trump dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 240 | 80 |
| Dual appeal | 59 | 19.66 |
| Triple appeal | 1 | 0.33 |

#### *6.4.3.2 Donald Trump Dataset: Cue Dominance - Heuristic versus Systematic Cues*

Unlike the appeal coding, coding for dual process cues is based on predominance instead of presence. Table 6.26 below illustrates that there was a strong preference (82%) for the use of heuristic cues over systematic cues. 13.33% of messages were judged to contain roughly equally prevalent heuristic and systematic cues, whilst only 4.66% of messages were predominantly systematic in nature.

***Table 6.26:*** *Cue predominance across the Donald Trump dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 246 | 82 |
| Systematic (S) | 14 | 4.66 |
| Heuristic and Systematic (HS) | 40 | 13.33 |

Table 6.27 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are even more prevalent than systematic cues in the Donald Trump dataset.

***Table 6.27:*** *Cue predominance across the Donald Trump dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 286 |
| Systematic (S) | 54 |

Table 6.28 below illustrates a strong preference for single cue predominance. When combining this with the distribution across Table 6.26, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur far more often on their own than they do in combination with strong systematic cues.

***Table 6.28:*** *Cue type predominance across the Donald Trump dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 260 | 86.66 |
| Both cues equally predominant | 40 | 13.33 |

#### *6.4.3.3 Donald Trump Dataset: Preliminary Statements of Correlation*

The descriptive statistics yielded from the Donald Trump dataset analysis suggest an extremely strong preference for appeals to credibility (ethos) over appeals to reason (logos) and appeals to emotion (pathos). Additionally, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

### 6.4.4 Hillary Clinton Dataset:

The Hillary Clinton dataset was compiled from messages collected on several relevant hashtags (such as #ImWithHer and #Hillary2016) during the 2016 US election and Democratic presidential primaries.

#### *6.4.4.1 Hillary Clinton Dataset: Cue Dominance - Aristotelian Appeals:*

Table 6.29 below shows how many of the 300 total messages from the Hillary Clinton dataset fell into each coding category. The appeals that are present most frequently by far, are appeals to credibility (ethos) with both other categories lagging far behind. The frequency table also shows that appeals to credibility frequently occur as single-appeals.

***Table 6.29:*** *Aristotelian Appeal distribution across the Hillary Clinton dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 196 | 65.33 |
| Logos (L) | 59 | 5.66 |
| Pathos and Ethos (PE) | 19 | 6.33 |
| Logos and Ethos (LE) | 17 | 5.66 |
| Pathos (P) | 7 | 2.33 |
| Pathos and Logos (PL) | 1 | 0.33 |
| Pathos, Logos and Ethos (PLE) | 1 | 0.33 |

Table 6.30 below does not differentiate between single and multiple appeals per message. This table shows the number of messages that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a strong preference of appeals to credibility (ethos) over reason (logos), and emotion (pathos), with appeals to reason (logos) still significantly more popular than appeals to emotion (pathos). This distribution is very similar to the distribution shown in the Donald Trump dataset, which may indicate further topical and context relevance, seeing as both datasets originate from the same election/candidacy context.

***Table 6.30:*** *Aristotelian appeal distribution across the Hillary Clinton dataset (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 233 |
| Logos (L) | 78 |
| Pathos (P) | 28 |

Table 6.31 below shows that single appeals are far more frequent than dual appeals, but that only very few messages, 1.66% of the total of 300, were judged to contain all three Aristotelian appeals.

***Table 6.31:*** *Distribution of appeal type presence across the Hillary Clinton dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 262 | 87.33 |
| Dual appeal | 37 | 12.33 |
| Triple appeal | 1 | 0.33 |

#### *6.4.4.2 Hillary Clinton Dataset: Cue Dominance - Heuristic versus Systematic Cues*

Coding for dual process cues was done based on predominance rather than presence. Table 6.32 below illustrates that there is a strong preference for the use of heuristic cues over systematic cues, with 92% of the messages judged to be predominantly heuristic in nature, whilst only 5% and 9% were judged to feature predominantly systematic or both systematic and heuristic cues.

***Table 6.32:*** *Cue predominance across the Hillary Clinton dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 276 | 92 |
| Systematic (S) | 9 | 5 |
| Heuristic and Systematic (HS) | 15 | 3 |

Table 6.33 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are significantly more prevalent in the Hillary Clinton dataset than systematic cues.

***Table 6.33:*** *Cue predominance across the Hillary Clinton dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 291 |
| Systematic (S) | 24 |

Table 6.34 below illustrates a strong preference for single cue predominance. Combined with the distribution across Table 6.32, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur even more often on their own than they do in combination with strong systematic cues.

***Table 6.34:*** *Cue type predominance across the Hillary Clinton dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 285 | 95 |
| Both cues equally predominant | 15 | 5 |

#### *6.4.4.3 Hillary Clinton Dataset: Preliminary Statements of Correlation*

The frequency statistics yielded from the Hillary Clinton dataset analysis, much like those from the Donald Trump one, suggest a strong preference for appeals to credibility (ethos) over appeals to reason (logos) and emotion (pathos). Both sets originate from the same election and candidacy context, which may be a significant factor affecting distribution. The analysis also indicates a strong preference for the predominance of heuristic cues over systematic ones.

### 6.4.5 Bernie Sanders Dataset:

The Bernie Sanders Dataset was compiled during the 2015-2016 U.S. Election primaries, during which former independent United States senator Bernie Sanders launched a serious but ultimately unsuccessful campaign to secure the presidential candidacy for the Democratic party. This dataset is fundamentally different to both other candidate sets, as it does not feature discourse about the candidate, but is instead made up solely of messages directly originating from the official Bernie Sanders Twitter account. This was included to provide a contrast to the other two candidate sets and to see whether there are significant differences between terse text campaign messages originating directly from the candidate and more general Twitter-based peer-to-peer persuasion between supporters and opponents of specific political candidates.

#### *6.4.5.1 Bernie Sanders Dataset: Cue Dominance - Aristotelian Appeals:*

Table 6.35 below shows how many of the 300 total messages from the Bernie Sanders dataset fell into each coding category. The appeals that are present most frequently are appeals to credibility (ethos) and combined appeals to reason (ethos) and credibility (ethos). The frequency table also shows that appeals to credibility frequently occur as single-appeals, whilst appeals to reason and emotion are significantly more common in combination with other appeals.

***Table 6.35:*** *Aristotelian Appeal distribution across the Bernie Sanders dataset*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 71 | 23.66 |
| Logos and Ethos (LE) | 71 | 23.66 |
| Pathos and Logos (PL) | 60 | 20.00 |
| Pathos and Ethos (PE) | 42 | 14.00 |
| Pathos (P) | 34 | 11.33 |
| Logos (L) | 19 | 6.33 |
| Pathos, Logos and Ethos (PLE) | 3 | 1.00 |

Table 6.36 below does not differentiate between single and multiple appeals per message. This table shows the number of messages from the Bernie Sanders dataset of 300, that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. It shows a preference for appeals to credibility (ethos) over reason (logos), and emotion (pathos), with appeals to reason (logos) being more popular than appeals to emotion (pathos. Overall the distribution is relatively even, however, compared to the other datasets.

***Table 6.36:*** *Aristotelian appeal distribution across the Bernie Sanders dataset (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 187 |
| Logos (L) | 153 |
| Pathos (P) | 139 |

Table 6.37 below shows that single appeals are not significantly less popular than dual appeals, but that only very few messages, 1% of the total of 300, were judged to contain all three Aristotelian appeals.

***Table 6.37:*** *Distribution of appeal type presence across the Bernie Sanders dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 134 | 44.66 |
| Dual appeal | 173 | 57.66 |
| Triple appeal | 3 | 1.00 |

#### *6.4.5.2 Bernie Sanders Dataset: Cue Dominance - Heuristic versus Systematic Cues*

Coding for dual process cues is predominance, rather than presence-based. Table 6.38 below illustrates that there was a strong preference of 66.66% for the use of heuristic cues over systematic cues (13.33%), while 20% of messages were judged to contain roughly equally prevalent heuristic and systematic cues.

***Table 6.38:*** *Cue predominance across the Bernie Sanders dataset*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 200 | 66.66 |
| Systematic (S) | 40 | 13.33 |
| Heuristic and Systematic (HS) | 60 | 20.00 |

Table 6.39 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are significantly more prevalent in the pilot dataset than systematic cues.

***Table 6.39:*** *Cue predominance across the Bernie Sanders dataset (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 260 |
| Systematic (S) | 100 |

Table 6.40 below illustrates a strong preference for single cue predominance similar to all other datasets. When combining this with the distribution across Table 6.38, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur far more often on their own than they do in combination with equally strong systematic cues.

***Table 6.40:*** *Cue type predominance across the Bernie Sanders dataset*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 240 | 80 |
| Both cues equally predominant | 60 | 20 |

#### *6.4.5.3 Bernie Sanders Dataset: Preliminary Statements of Correlation*

The descriptive statistics yielded from the Bernie Sanders dataset analysis suggest a preference of appeals to credibility (ethos) and appeals to reason (ethos) over appeals to emotion (pathos) in the context of terse text. Appeals to reason and emotion occur significantly less frequently on their own and are more common paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

### 6.4.6 Full Corpus Analysis

#### *6.4.6.1 Full Corpus: Cue Dominance - Aristotelian Appeals:*

Table 6.41 below shows how many of the 1500 total messages fell into each coding category. The appeal that is present most frequently is the appeal to credibility (ethos). The frequency table also shows that appeals to credibility frequently occur as single-appeals, whilst appeals to reason and emotion are much more common in combination with other appeals.

***Table 6.41:*** *Aristotelian Appeal distribution across the full corpus*

| Appeal | Count | Percentage |
|---|---|---|
| Ethos (E) | 587 | 31.13 |
| Logos and Ethos (LE) | 234 | 15.6 |
| Pathos and Ethos (PE) | 188 | 12.53 |
| Logos (L) | 187 | 12.46 |
| Pathos and Logos (PL) | 151 | 10.06 |
| Pathos (P) | 139 | 9.26 |
| Pathos, Logos and Ethos (PLE) | 14 | 0.93 |

Table 6.42 below does not differentiate between single and multiple appeals per message. This table shows the number of messages from the full corpus dataset of 1500, that contain appeals to credibility (ethos), reason (logos), and emotion (pathos) respectively. This shows a strong preference of appeals to credibility (ethos) over reason (logos), and emotion (pathos).

***Table 6.42:*** *Aristotelian appeal distribution across the full corpus (simplified)*

| Appeal | Count |
|---|---|
| Ethos (E) | 1002 |
| Logos (L) | 584 |
| Pathos (P) | 501 |

Table 6.43 below shows that single appeals occur more frequently than dual appeals, while only very few messages, 0.93% of the total of 1500, were judged to contain all three Aristotelian appeals.

***Table 6.43:*** *Distribution of appeal type presence across the full corpus dataset*

| Appeal Type | Count | Percentage |
|---|---|---|
| Single appeal | 913 | 62.46 |
| Dual appeal | 573 | 37.26 |
| Triple appeal | 14 | 0.93 |

#### *6.4.6.2 Full Corpus: Cue Dominance - Heuristic versus Systematic Cues*

Coding for dual process cues is not based on presence, but on predominance. Table 6.34 below illustrates that there was a strong preference for the use of heuristic cues over systematic cues. 14.33% of messages were judged to contain roughly equally prevalent heuristic and systematic cues while only 7.06% were found to be predominantly systematic in nature.

***Table 6.44:*** *Cue predominance across the full corpus*

| Predominant Cue | Count | Percentage |
|---|---|---|
| Heuristic (H) | 1179 | 78.6 |
| Systematic (S) | 106 | 7.06 |
| Heuristic and Systematic (HS) | 215 | 14.33 |

Table 6.45 below shows that without differentiating between single-cue and dual-cue predominance, heuristic cues are still significantly more prevalent in the full corpus than systematic cues.

***Table 6.45:*** *Cue predominance across the full corpus (simplified)*

| Cue (predominant or equal) | Count |
|---|---|
| Heuristic (H) | 1394 |
| Systematic (S) | 321 |

Table 6.46 below illustrates a strong preference for single cue predominance. If we combine this with the distribution across Table 6.44, we can see that systematic cues occur more frequently in combination with equally predominant heuristic cues than they occur on their own, whereas heuristic cues occur even more often on their own than they do in combination with strong systematic cues.

***Table 6.46:*** *Cue type predominance across the full corpus*

| Cue Type | Count | Percentage |
|---|---|---|
| Single Predominant Cue | 1285 | 85.66 |
| Both cues equally predominant | 215 | 14.33 |

### 6.4.7 Full Corpus: Preliminary Statements of Correlation

The descriptive statistics yielded from the full corpus analysis suggest a strong preference for appeals to credibility (ethos) across all five individual datasets. Context and topic appear to strongly influence whether appeals to emotion (pathos) or appeals to reason (logos) are the second preference. Appeals to reason and emotion occur less frequently on their own and are more commonly paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones.

## 6.5 COMPUTATIONAL LINGUISTIC ANALYSIS

This section presents the findings of the LIWC (Language Inference and Word Count) analysis for the individual datasets.

***Table 6.47:*** *LIWC Dimensions*

| LIWC Dimension | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | LIWC Personal Texts Avg. | LIWC Formal Texts Avg. |
|---|---|---|---|---|---|---|---|
| Self-references (I, me, my) | 2.43 | 2.30 | 2.20 | 3.71 | 1.30 | 11.4 | 4.2 |
| Social words | 8.99 | 5.63 | 7.31 | 8.69 | 7.44 | 9.5 | 8.0 |
| Positive emotions | 2.04 | 2.44 | 1.96 | 3.14 | 2.14 | 2.7 | 2.6 |
| Negative emotions | 4.30 | 1.56 | 1.90 | 1.62 | 1.94 | 2.6 | 1.6 |
| Overall cognitive words | 6.24 | 5.08 | 4.37 | 4.91 | 3.90 | 7.8 | 5.4 |
| Articles (a, an, the) | 5.34 | 5.48 | 4.27 | 7.20 | 4.67 | 5.0 | 7.2 |
| Big words (> 6 letters) | 25.43 | 20.33 | 11.89 | 22.83 | 27.62 | 13.1 | 19.6 |

Table 6.47 above shows a variety of LIWC dimensions in comparison to the LIWC average for personal texts and formal texts. All sets score below both averages for self-references (I, me,

my). The Syria Vote set scores particularly high for negative emotions, while all other set are relatively close to the two average scores. There is no significant deviation from the average scores for the dimensions of 'social words', 'positive emotions', overall cognitive words', and 'articles'. All sets except for the Donald Trump set score higher for 'big words' of more than 6 letters, whilst the Donald Trump set scores far below the formal text average and slightly below the personal text average.

***Table 6.48:*** *LIWC Summary Variables*

| LIWC Summary Variables | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders |
|---|---|---|---|---|---|
| Analytical Thinking | 69.11 | 87.56 | 73.57 | 81.27 | 89.81 |
| Clout | 75.05 | 65.84 | 82.43 | 72.67 | 80.99 |
| Authentic | 12.80 | 8.86 | 3.77 | 1.84 | 17.87 |
| Emotional Tone | 3.10 | 29.87 | 24.04 | 22.00 | 44.43 |

Table 6.48 above shows the LIWC summary variables of 'analytical thinking', 'clout', authentic', and 'emotional tone'. A high number for the variable of 'analytic thinking reflects formal, logical, and hierarchical thinking, while lower numbers reflect more informal, personal, here-and-now, and narrative thinking (Pennebaker et al., 2015). All datasets score relatively highly for this variable. The Syria Vote dataset has the lowest score. As detailed in the previous section of this chapter, this dataset also scores higher than all others for appeals to emotion, which might indicate a correlation between more emotive messages and lower scores for this particular summary variable.

A high number for the summary variable of 'clout' suggests an author who is speaking from a perspective of high expertise and is confident, while low numbers suggest a more tentative,

humble, even anxious style. All five score highly for this variable - in particular the Donald Trump and Bernie Sanders sets.

High numbers for the summary variable 'authentic' are associated with a more honest, personal, and disclosing text, whilst lower numbers suggest a more guarded, distanced form of discourse (Pennebaker et al., 2015). All sets score low for this variable, which might indicate that the variable is not particularly suitable for terse text as limited character count is likely to affect the individuality of messages and how genuine and honest a communicator can come across. The Bernie Sanders dataset has the highest score out of the five, and generally does feature longer sentences, fewer hashtags, and a more formal style.

A high number for the summary variable of 'emotional tone' is associated with a more positive, upbeat style; a low number reveals greater anxiety, sadness, or hostility. A number around 50 suggests either a lack of emotionality or different levels of ambivalence (Pennebaker et al., 2015). All sets score below 50 for this variable. The Syria Vote has by far the lowest score. This is unsurprising, as it certainly contains a lot of references to sadness, anxiety, and hostility due to the subject matter.

## 6.6 CHAPTER SUMMARY

This chapter presented the experimental validation of two fundamental aspects of the model developments – message selection and coding criteria. It demonstrated significant support for the selection criteria but yielded less conclusive findings for the coding exercise. It then presented cue dominance statistics for the entire corpus (1500 messages) of five individual datasets (made up of 300 messages each), showing a clear dominance of heuristic cues over systematic ones and a strong preference for appeals to credibility over appeals to emotion and reason. The prevalence of appeals to emotion and reason appears to correlate with the context and topic of the message. Finally, the chapter presented the findings of the computational linguistic analysis conducted with the LIWC15 software tool.

# 7 PRELIMINARY EXPLORATION OF PERSUASIVE EFFECT

## 7.1 CHAPTER INTRODUCTION

Up to this point, the focus of this research has been on persuasive intent rather than persuasive effect. The exploration of persuasive effect is not straight forward and will be most effective if conducted in a variety of ways, looking at individual factors one at a time, with results to eventually be collated and jointly analysed to produce a more thorough understanding of what does and does not have impact on persuasive effect.

What is persuasive effect? Persuasive effect is not the same as persuasive success. Persuasive effect may be the achievement of attitude change in a message recipient, but it may also be the mere reinforcement of existing attitudes. Taking into consideration the aims of the communicator, both of these persuasive outcomes may also constitute persuasive success. However, persuasive effect includes more than these two absolutes, and also includes partially successful persuasive outcomes and persuasive messages that contribute towards persuasive success. Finally, persuasive effect can be contrary to the intent of the communicator and is in and of itself a neutral measure.

This chapter focuses on memory as one of many factors that play a part in the persuasive effect of a message with persuasive intent.

## 7.2 MEMORY AND MEMORABILITY IN PERSUASION

Memory plays a key role in persuasion, especially in heuristic processing, which is generally said to require minimal cognitive effort for the recipient (Chaiken, 1980), as it relies on knowledge structures (also known as judgmental rules) that are learned and stored in memory (Chen et al., 1999). As demonstrated in previous chapters, the terse text Social Media context necessitates greater reliance on heuristic processing of persuasive messages.

The memorability of a message can be affected by a number of factors. In the context of religious sermons Joseph and Thompson (2004) found some support for their hypothesis that increased vividness would lead to increased memorability and persuasiveness, when they applied the Elaboration Likelihood Model to sermon preaching (Joseph and Thompson, 2004). They presented participants with sermons that were either high or low on vividness and assessed participant recall a week later by means of a questionnaire. They defined vividness as 'stories, picturesque examples, metaphors, quotes, and imagery' – features predominantly associated with appeals to emotion in the context of rhetorical persuasion.

Building on Graesser's (1981) work on prose memory, which proposed a schema-based model suggesting that typical argumentation and message content was more easily remembered than atypical argumentation and message content, Schmidt and Sherman (1984) examined how arguments contained in persuasive messages are represented and retrieved from memory (Graesser, 1981; Schmidt and Sherman, 1984). They conducted a recall experiment with 261 undergraduate students who were tasked with reading a political candidate's arguments for their position on several familiar social issues. These arguments varied in their perceived typicality for messages generally supporting each position. After either a 10-min or 2-day delay, participants were given either a recall or recognition test for the message content. Schmidt and Sherman's (1984) results strongly supported Graesser's (1981) findings, showing that over time, more typical than atypical arguments were correctly recalled, with recall protocols showing increasing clustering by typicality. However, recall of typical arguments was accompanied more by intrusion errors (false recalls) than was recall of atypical arguments, meaning that where atypical arguments were recalled, they were recalled with greater accuracy. Results are discussed in terms of their implications for studying the relation between attitudes and memory message content.

Categorising terse text microblogs in terms of typical and atypical message content poses significant challenges. People's communication behaviour has adapted to the Social Media context

and messages that would be clearly atypical in a conventional context, are more likely to be perceived typical in the terse text microblog environment of Twitter and similar platforms. It is likely that those who are actively involved in Social Media communications have become desensitized to what would once have been perceived as atypical message content. The character limit of Twitter microblogs likely encourages communications that would violate a number of conventional conversational norms, making atypical messages a much more common occurrence, and hence blurring the line between the typical and the atypical.

Meanwhile, the effects of emotive language on persuasion and memorability is less disputed. Macagno and Walton (2014) illustrate powerful word choices with a number of everyday examples "We fear war. We are afraid of terrorists. We desire peace. We love children.", and ascertain that the 'emotive power of these words can make them extremely effective instruments to direct and encourage certain attitudes and choices (Macagno and Walton, 2014).

But appeals to credibility, such as by means of quoting expert opinion or a communicator credibly asserting themselves as an authoritative expert voice, has also been found to increase memorability. Klucharev et al (2008) refer to the general persuasive effect of high expertise of the communicator as 'expert power' and found that a single exposure to a combination of an expert and their message or attitude leads to a long-lasting positive effect on memory for and attitude towards the message or attitude. Klucharev et al (2008) used functional magnetic resonance imaging to probe the neural processes predicting these behavioural effects and found that expert context was associated with distributed left-lateralized brain activity in prefrontal and temporal cortices related to active semantic elaboration (Klucharev et al., 2008). Furthermore, this "expert power" enhanced subsequent memory effects in the medial temporal lobe involved in memory formation.

Memory and memorability are vast fields of their own, and the experiment conducted here is a first attempt to investigate which type of terse text messages are most memorable, and which

types score low on memorability. These findings can then be collated with further research into the persuasive effect of messages intended to influence.

## 7.3 EXPERIMENT

A total 29 participants attended one of the two separate experiment sessions. Participants were not informed that they were taking part in a recall test, but instead advised that they would be watching a presentation of Twitter microblog messages and would then be asked a number of questions about those messages. The exercise conducted was identical on both dates aside from the order in which the messages were displayed. Participants watched a PowerPoint presentation of 100 tweets, 50 unique messages each shown twice in random order, with each message displayed for a total of 10 seconds to allow for conscientious reading. At the end of the presentation participants were handed a questionnaire with a few demographic questions followed by the request to note down as many messages as they remember.

## 7.4 ANALYSIS

The experimental recall test data was analysed qualitatively as well as quantitatively. Descriptive statistics were produced on the frequencies with which certain messages were recalled, whilst occurring patterns and phenomena were qualitatively evaluated in conjunction with the literature and triangulated with other findings.

In the analysis a distinction was made between participants who recalled the full message content, partial message content, and keywords only. In order to be counted as recalling the full message content, the message did not need to be recalled verbatim, but all key parts would have had to be written down. 'Partial message content' refers to messages whereby some but not all significant and meaningful content was recalled correctly. Incidents of recall that featured merely important words and brief phrases were counted as 'Keywords only'.

## 7.5 FINDINGS

Table 7.1 below shows the frequencies at which messages were recalled. 50 messages displayed to 29 participants yield a total of 1450 possible instances of recall. Out of those 1450 possible instances, the full message content was recalled 287 times (19.79%). Partial message content was recalled 164 times (11.31%). There were 41 instances (2.83%) where only keywords were recalled. There were a total of 451 (31.10%) instances of substantive message recall, meaning instances of either full or partial message content recall.

***Table 7.1:*** *Message recall frequencies.*

| | FULL MESSAGE CONTENT | PARTIAL MESSAGE CONTENT | KEYWORDS ONLY | FULL OR PARTIAL MESSAGE CONTENT |
|---|---|---|---|---|
| Total (out of 1450) | 287 | 164 | 41 | 451 |
| Percentage | 19.79% | 11.31% | 2.83% | 31.10% |

Table 7.2 below shows the average number of recalled messages for each individual participant. On average participants recalled 15.6 messages either in full or in part.

***Table 7.2:*** *Individual Participant Recall*

| | FULL MESSAGE CONTENT | PARTIAL MESSAGE CONTENT | KEYWORDS ONLY | FULL OR PARTIAL MESSAGE CONTENT |
|---|---|---|---|---|
| Total (out of 50) | 9.9 | 5.7 | 1.4 | 15.6 |

## 7.6 LIWC ANALYSIS

The next section takes a detailed look at the ten most frequently recalled messages, as well as the ten least frequently recalled messages. In addition to qualitative stylistic and semantic observations, the analysis examines the individual message scores for the LIWC (Language Inference and Word Count) variables of Analytical Thinking, Clout, Authentic, and Emotional Tone. As discussed in Chapter 6, these dimensions are defined as follows:

**Analytical thinking:** a high number reflects formal, logical, and hierarchical thinking; lower numbers reflect more informal, personal, here-and-now, and narrative thinking. This summary variable is based on research that looked at college admission essays and their use in predicting academic success, which found that higher grades were associated with greater use of articles and prepositions, thought to indicate categorical language (references to complex concepts), while lower grades were found to be associated with greater use of auxiliary verbs, pronouns, adverbs, conjuctions, and negations (i.e. more dynamic language) (Pennebaker et al., 2014).

**Clout:** a high number suggests that the author is speaking from the perspective of high expertise and is confident; low Clout numbers suggest a more tentative, humble, even anxious style. This summary variable is based on research on pronoun use and its reflection on social hierarchies (Kacewicz et al., 2014).

**Authentic:** higher numbers are associated with a more honest, personal, and disclosing text; lower numbers suggest a more guarded, distanced form of discourse. This summary variable is based on research on the prediction of deception based on linguistic styles (Newman et al., 2003)

**Emotional tone:** a high number is associated with a more positive, upbeat style; a low number reveals greater anxiety, sadness, or hostility. A number around 50 suggests either a lack of emotionality or different levels of ambivalence. This summary variable is based on research exploring linguistic markers of psychological change (Cohn et al., 2004)

The individual message scores are shown in comparison to the average score for the respective corpus.

### 7.6.1 Most Frequently Recalled Messages

1) *"1 innocent killed in Syria = 10 new recruits for ISIS. People who would never even think of joining will end up joining #DontBombSyria"*

The above message was remembered by 24 out of 29 participants, out of which 21 remembered the full message content and three remembered partial message content. The message features an appeal to reason by displaying consequences in the format of a simple mathematical equation and follows this up with a brief further explanation. The message also employs an appeal to emotion by making use of markedly emotive terminology ('innocent', 'killed'). The message originates from the Syria Vote corpus, which averages low LIWC scores for the variables of emotional tone and authenticity and relatively high scores for analytic thinking and clout. This message scores higher than the corpus average for analytic thinking, authenticity, and tone, and marginally lower for clout.

***Table 7.3:*** *LIWC variables for most frequently remembered message 1 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 80.03 | 66.81 | 54.89 | 25.77 |
| LIWC Average Score for Syria Vote Corpus | 69.11 | 75.05 | 12.80 | 3.10 |
| Difference | +15.80% | -10.98% | +328.83% | +731.29% |

1) *"You can bomb the world to pieces but you can't bomb the world to peace." #DontBombSyria"*

This message was recalled by 20 out of 29 participants, out of which 17 recalled the full message content and three recalled partial message content. A clear appeal to reason with an antithetical sentence structure. The homonym piece(s)/peace likely adds to the memorability of the message. The message features an appeal to reason, as well as an appeal to emotion through emotive lexical choices, such as "bomb" and "peace". Much like the most frequently recalled message above, this message also originates from the Syria Vote corpus and scores higher than the corpus average for analytic thinking and clout, and significantly higher (opposite end of the scale) for authenticity and emotional tone.

***Table 7.4.:*** *LIWC variables for most frequently remembered message 2 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 84.57 | 73.40 | 74.76 | 99.00 |
| LIWC Average Score for Syria Vote Corpus | 69.11 | 75.05 | 12.80 | 3.10 |
| Difference | +22.37% | -2.19% | +484.06% | +3093.55% |

2) *"If we don't #Brexit I'm convinced our grandchildren will be outnumbered by Muslims/subject to Sharia Law & subservient <hyperlink>"*

This message was recalled 19 times, 13 times in full and six times in part. It predominantly contains an appeal to emotion, fear in particular. Although the participants of this recall experiment are demographically unlikely to be the target audience for the message and are more likely to have recalled this message for the hyperbolic warning. The message features a conditional clause leading up to a highly negative prediction. This message originates from the Brexit corpus, which on average scores very high for analytic thinking, relatively high for clout, very low for authenticity and relatively low for emotional tone. In comparison to the corpus average, this frequently recalled message scores significantly lower for analytic thinking, notably higher for clout, similarly low for authenticity, and again very similar to the average for emotional tone.

***Table 7.5:*** *LIWC variables for most frequently remembered message 3 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 12.16 | 85.38 | 4.05 | 25.77 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | -86.11% | +29.67% | -54.28% | -13.72% |

3) *"Find the one who talked about his penis on TV. Vote for the other one. #TrumpIsAChild #Trump2016 @realDonaldTrump <hyperlink>"*

This message was recalled a total of 19 times, of which 13 participants recalled it in full, six recalled the message in part. Additionally, there were another three instances of keywords only recall. The message content is crude and explicit. It predominantly features an appeal to

credibility by ridiculing the candidate's conduct. This frequently recalled message originates from the Trump corpus, which scores relatively high for analytic thinking, very high for clout, extremely low for authenticity, and relatively low for emotional tone. In comparison to the corpus average, this message scores notably higher for analytic thinking, and very similar to the average for all other variables.

***Table 7.6:*** *LIWC variables for most frequently remembered message 4 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 96.69 | 85.38 | 4.05 | 25.77 |
| LIWC Average Score for Trump Corpus | 73.57 | 82.43 | 3.77 | 24.04 |
| Difference | +31.42% | +3.579% | +7.43% | +7.19% |

4) *"If #Brexit is as big an economic risk as @George_Osborne says, why did he vote for a referendum that makes it possible? Total nonsense."*

The above message was recalled 18 times, 11 times in full and seven times in part. It features appeals to reason and credibility. An attempt to undermine credibility is made by alleging contradictory behaviour and questioning the subject's position. It finishes with a dismissive statement ("Total nonsense"). This message originates from the Brexit corpus and scores relatively highly, yet below the corpus average for analytic thinking, almost exactly the same as the average for clout. The message scores extremely low for authenticity and tone. The extremely low score for authenticity is in line with the average, but the score for emotional tone is significantly lower.

***Table 7.7.:*** *LIWC variables for most frequently remembered message 5 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 62.61 | 65.56 | 1.00 | 1.00 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | -28.49% | -0.42% | -88.71% | -96.65% |

5) *"Interesting that 2 audience members wanting out of the EU to control borders were Asian and Polish. #bbcqt #Brexit"*

This message was recalled 17 times, of which 6 participants recalled the full message content, and a further 11 recalled partial message content. Additionally, two participants recalled keywords only. The message features an appeal to credibility and a more subtle appeal to reason. The message itself is ambiguous to an extent, as it is not clear whether it seeks to highlight that even immigrants are in favour of Brexit, or whether it is attempting to discredit the views of the two individuals on the basis that they are non-British. This message originates from the Brexit corpus and scores higher than the (high) corpus average for analytic thinking, slightly higher than the average for clout, very low and in line with the average for authenticity, and extremely high for emotional tone, for which the corpus average scores relatively low.

***Table 7.8.:*** *LIWC variables for most frequently remembered message 6 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 96.69 | 70.08 | 1.00 | 97.58 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | +10.43% | +6.44% | -88.71% | +226.68% |

6) *"#DontBombSyria ironic our government is using our tax money to bomb Syria, then charities ask us for human aid money"*

The above message was recalled a total of 16 times. All of these recall instances were of the full message content. The message features an appeal to credibility as well as an appeal to reason, seeking to undermine the subject (in this case "the government") by presenting their actions as antithetical. This message originates from the Syria Vote corpus and scores very similar to the average for analytic thinking, very high (and notably higher than the average) for clout, extremely low (but not far from the average) for authenticity, and extremely high for emotional tone, which yields an extremely low score for the corpus average.

***Table 7.9.:*** *LIWC variables for most frequently remembered message 7 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 65.29 | 99.00 | 1.00 | 96.76 |
| LIWC Average Score for Syria Vote Corpus | 69.11 | 75.05 | 12.80 | 3.10 |
| Difference | -5.53% | +31.91% | -92.19% | +3021.29% |

7) *Don't let O'Leary of Ryanair supporting Remain put you off - #Brexit means fewer jobs and expensive holidays <hyperlink>*

This message was recalled 11 times in full and 4 times in part. Additionally, there were two instances of keyword only recall. The message contains an appeal to credibility and an appeal to reason. The message presumes the reader to be negatively disposed to the individual (Michael O'Leary) who is supporting the same cause (remaining in the European Union) as the message communicator. An additional argument in favour of the cause (the appeal to reason) is added to the end of the message. This message originates from the Brexit corpus and scores lower than the average for analytic thinking, slightly higher for clout, higher for authenticity, and extremely high for emotional tone (for which the corpus average scores relatively low).

***Table 7.10.:*** *LIWC variables for most frequently remembered message 8 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 63.17 | 70.08 | 19.27 | 97.58 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | -27.85% | +6.44% | +117.49% | +226.68% |

8) *"#DonTheCon @realDonaldTrump calls climate change hoax until it affects his golf course <hyperlink> #ImWithHer @HillaryClinton*

The above message was recalled 15 times in full. There were two additional instances of recall whereby only keywords were recalled. The message features a negative appeal to credibility by means of a strong implication of hypocrisy. This message originates from the Clinton corpus, which scores high for analytic thinking, relatively high for clout, extremely low for authenticity,

and relatively low for emotional tone. The message scores lower than the corpus average for analytic thinking, notably higher for clout, extremely low (and in line with the average) for authenticity, and relatively low but in line with the average for emotional tone.

***Table 7.11:*** *LIWC variables for most frequently remembered message 9 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 69.57 | 90.87 | 1.00 | 25.77 |
| LIWC Average Score for Clinton Corpus | 81.27 | 72.67 | 1.84 | 22.00 |
| Difference | -14.39% | +25.04% | -45.65% | +17.14% |

9) *"BAE are once again profiting from death as shares rise hours after #SyriaVote's first airstrikes"*

This message was recalled 15 times in total, 13 times in full and two times in part. This message appeals to credibility and emotion – the latter through lexical choices and phrases such as "profiting from death". This last one of the ten most frequently recalled messages originates from the Brexit Corpus. Scores for analytic thinking are only slightly higher than the very high average for the corpus. The message scores very highly and notably higher than the average for clout. The message scores extremely high for authenticity (opposite end of the scale to the extremely low average score). The message also scores extremely high for emotional tone, in contrast to the relatively low corpus average.

***Table 7.12:*** *LIWC variables for most frequently remembered message 10 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 92.84 | 90.87 | 99.00 | 99.00 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | +6.03% | +38.02% | +1017.38% | +231.43% |

### 7.6.2 Least Frequently Recalled Messages

1) *"#Bernie2016 is NOT ALONE in his beliefs - please spread the word so others can #FeelTheBern & #VoteTogether for USA! <hyperlink>"*

This message was not recalled at all. The message features an appeal to credibility, assuring popularity and support. It also includes a clear call to action alongside the statement of solidarity. However, it is otherwise a relatively generic campaign statement, unlikely to stand out. It also features a number of hashtags that may have impacted memorability of the message by making it difficult to comprehend. This message originates from the Sanders corpus, which yielded high LIWC scores for the variables of analytic thinking, and clout. The corpus yielded average scores for emotional tone, and a relatively low score for authenticity, although both of these average scores were higher for this corpus than they were for any other. This message scores notably lower than the corpus average for analytic thinking, significantly lower for clout, in line with the relatively low average for authenticity, and lower for emotional tone.

***Table 7.13:*** *LIWC variables for least frequently remembered message 1 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 48.42 | 14.62 | 19.27 | 25.77 |
| LIWC Average Score for Sanders Corpus | 83.81 | 80.99 | 17.87 | 44.43 |
| Difference | -42.23% | -81.95% | +7.83% | -41.99% |

1) *"#CA4Hillary #imwithher because she is fighting for everyday people who want a better life. <hyperlink>"*

Only one participant recalled this message. This single instance of recall was for the full message content. The message itself is clear, albeit generic in both content and word choice. It features appeals to credibility ("fighting for everyday people" and emotion ("better life"). The hashtag placement may also have had an impact on the recall as it might have impacted message comprehension. This message originates from the Clinton corpus and scores lower than the corpus average for analytic thinking, extremely high for clout, extremely low but in line with the

average for authenticity, and relatively low but also in line with the corpus average for emotional tone.

***Table 7.14:*** *LIWC variables for least frequently remembered message 2 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 51.43 | 99.00 | 1.00 | 25.77 |
| LIWC Average Score for Clinton Corpus | 81.27 | 72.67 | 1.84 | 22.00 |
| Difference | -33.02% | +36.23% | -45.65% | +17.13% |

2) *"I've never actually met a #Hillary2016 supporter. Only people that fear losing benefits. #MakeAmericaGreatAgain #AlwaysTrump"*

The above message was recalled by two participants, in both cases the full message content was remembered. It features a negative appeal to credibility by means of suggesting that people's support for the candidate is solely motivated by the fear of losing benefits. This message originates from the Trump corpus and scores extremely low for analytic thinking, in contrast to the relatively high average score. The message scores significantly lower than the average for clout, significantly higher for authenticity, and in line with the relatively low average score for emotional tone.

***Table 7.15.:*** *LIWC variables for least frequently remembered message 3 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 8.19 | 25.24 | 43.37 | 25.77 |
| LIWC Average Score for Trump Corpus | 73.57 | 82.43 | 3.77 | 24.04 |
| Difference | -90.64% | -61.66% | +389.50% | -13.72% |

3) *"#Bernie2016, #FeelTheBern because #BernieIsBetter for educating America's next generation! #DemTownHall <hyperlink>"*

This message was recalled in full by only two participants. There were no instances of partial or keyword only recall. The message features a positive appeal to credibility by clearly stating what the candidate stands for. This message originates from the Sanders corpus and scores

extremely high for analytic thinking, significantly lower than the relatively high average for clout, higher than the corpus average for authenticity and notably lower for emotional tone.

***Table 7.16.:*** *LIWC variables for least frequently remembered message 4 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 92.84 | 50.00 | 31.94 | 25.77 |
| LIWC Average Score for Sanders Corpus | 83.81 | 80.99 | 17.87 | 44.43 |
| Difference | +10.77% | -38.26% | +78.73% | -41.99% |

4) *"Fairness is very important to UK citizens. The democratic deficit exhibited by the EU is unfairness issue that will cause #Brexit #bbcqt"*

The above message was recalled once in full, once in part, and once in keywords only. The message features an appeal to reason and an appeal to emotion, the latter by suggesting that the virtue of fairness is of great importance to the target audience (UK citizens). After establishing the premise that fairness is to be valued, the appeal to reason is then added, alleging that there is a "democratic deficit" in the European Union which is an "unfairness issue". The message implicitly advocates for a vote to leave the European Union, but does not explicitly address this. This message originates from the Brexit corpus and scores very much in line with the corpus average for analytic thinking and clout. It scores extremely low but not far below the corpus average for authenticity and scores extremely high for emotional tone, in contrast to a relatively low average score.

***Table 7.17:*** *LIWC variables for least frequently remembered message 5 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 87.28 | 67.52 | 1.00 | 94.75 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | -0.33% | +2.55% | -88.71% | +217.20% |

5) *"#AmericaTogether means working across traditional dividing lines to come up with solutions for all of us, not just the rich. #FeelTheBern"*

This message was recalled three times. All of these instances of recall featured partial message content only. The message features a positive appeal to credibility, outlining what the candidate stands for. This message originates from the Sanders corpus and scores slightly higher than the corpus average for analytic thinking, slightly lower for clout, significantly higher for authenticity, and extremely high for emotional tone.

***Table 7.18.:*** *LIWC variables for least frequently remembered message 6 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 92.84 | 71.09 | 58.07 | 99.00 |
| LIWC Average Score for Sanders Corpus | 83.81 | 80.99 | 17.87 | 44.43 |
| Difference | +10.77% | -12.22% | +224.96% | +122.82% |

6) *"#Bernie is not only the brakes to stop where we're headed but map & fuel to take us forward. #NotMeUs #FeelTheBern <hyperlink>"*

The above message was recalled three times, once in full and twice in part. The message features a positive appeal to credibility in the form of a metaphor. This message also originates from the Sanders corpus and scores notably lower than the corpus average for analytic thinking, clout, and emotional tone, whilst scoring extremely high for authenticity, in contrast to a relatively low corpus average score.

***Table 7.19:*** *LIWC variables for least frequently remembered message 7 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 54.14 | 68.29 | 98.01 | 25.77 |
| LIWC Average Score for Sanders Corpus | 83.81 | 80.99 | 17.87 | 44.43 |
| Difference | -35.40% | -15.68% | +448.46% | -41.99% |

7) *10 workers' rights #Brexit would put at risk:* ***<hyperlink>*** *There is no left wing case to Leave! #EUref #LabourIN*

This message was recalled once in full, twice in part, and once in keywords only. The message makes appeals to reason and credibility, making reference to risk and political identity. This message originates from the Brexit corpus and scores slightly lower than the corpus average for analytic thinking, notably lower for clout, notably higher but still relatively low for authenticity, and extremely low for emotional tone.

***Table 7.20.:*** *LIWC variables for least frequently remembered message 8 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 76.19 | 29.92 | 19.27 | 1.00 |
| LIWC Average Score for Brexit Corpus | 87.56 | 65.84 | 8.86 | 29.87 |
| Difference | -12.98% | -54.55% | +117.49% | -96.65% |

8) *"You cannot fight frustration by increasing it. Don't punish Syrian refugees for the madness of a frustrated man. #DontBombSyria #Leytonstone"*

The above message was recalled once in full and three times in part. The message makes appeals to reason through argument and appeals to emotion through lexical choices. The message originates from the Syria Vote corpus and scores notably higher than the corpus average for analytic thinking, slightly lower for clout, very low for authenticity, and extremely low but in line with the corpus average for emotional tone.

***Table 7.21.:*** *LIWC variables for least frequently remembered message 9 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 86.59 | 69.14 | 3.37 | 1.00 |
| LIWC Average Score for Syria Vote Corpus | 69.11 | 75.05 | 12.80 | 3.10 |
| Difference | +37.20% | -7.87% | -73.67% | -67.74% |

9) *"#CNN @HillaryClinton apologists saying "Nothing to see here" regarding #ClintonEmail because trust doesn't matter. #ImWithHer #ImNotWithHer"*

Four participants recalled this message, of whom one recalled it in full and three recalled it in part. The message features multiple hashtags throughout, which are likely to have impacted message comprehension and subsequently memorability to an extent. The message features a negative appeal to credibility, as well as an appeal to emotion through the explicit reference of trust as a universal virtue. The message originates from the Clinton corpus and scores significantly lower than the corpus average for analytic thinking, in line with the average for clout and authenticity, and extremely high for emotional tone.

***Table 7.22.:*** *LIWC variables for least frequently remembered message 10 and corresponding corpus average.*

| LIWC Variable | Analytic | Clout | Authentic | Tone |
|---|---|---|---|---|
| LIWC Score | 54.96 | 73.40 | 1.00 | 99.00 |
| LIWC Average Score for Clinton Corpus | 81.27 | 72.67 | 1.84 | 22.00 |
| Difference | -28.68 | +1.00% | -45.65% | +350.00% |

## *7.6 CHAPTER SUMMARY*

Messages were either remembered well (fully or partially) or not at all. Negative appeals to emotion and credibility are frequent across all corpora and these negative appeals have also featured in greater numbers in the most frequently recalled messages. The Sanders corpus has scored higher than all others for emotional tone, indicating greater positivity. This is in line with the qualitative analysis of the corpora, as detailed in chapter 6. This could be related to the different nature of the messages, meaning the fact that unlike messages from the other datasets, the messages from the Bernie Sanders set all originated directly from the candidates official Twitter account. Messages from the Sanders corpus were recalled less frequently than messages from other corpora, suggesting that positivity might not be the most effective persuasive strategy – an indication that necessitates further research.

As already discussed in chapter 6, all corpora score extremely low for the LIWC variable of authenticity. This likely indicates that the variable is unsuitable for the terse text context. A number of individual message outliers feature both in the most frequently recalled as well as in the least frequently recalled messages.

The sample size is too small to yield generalisations of any kind, but the LIWC scores prompt a number of questions that warrant further investigation. A lot of frequently recalled (but also some infrequently recalled) messages feature great discrepancies between their individual LIWC variable scores and their respective corpus average scores. This raises the question as to whether norm violations may increase the salience or memorability of a message, and subsequently whether this has any impact on the persuasive impact of a message.

Whilst it may be that the authenticity variable is unsuitable for terse text, it is also worth considering that authenticity may simply be of relatively low relevance to terse text memorability and/or persuasion. The terse text Social Media environment may simply be used in a more guarded and distant manner, whilst more honest, personal, and disclosing texts are less likely to be published in the form of an individual microblog, and more suitable for and more frequently utilised on Social Media platforms that permit lengthier posts.

There is an existing body of research that suggests that the persuasive effects of negative emotion is significant (Nabi, 1999). Further exploration of this theme and its applicability to terse text could be done through analysis of larger corpora in LIWC, examining the emotional tone variable in greater detail.

Additionally, further recall tests, and ideally repeat tests that assess recall over longer periods of time are likely to yield more conclusive findings. With hindsight it is doubtful that the recall category of 'Keywords only' was actually necessary, as instances of recall that fell into this category were few and far between, only accounting for 2.83%. This could be omitted in future experiments.

# 8 REVISED MODEL OF PERSUASION IN TERSE TEXT

## 8.1 CHAPTER INTRODUCTION

This chapter will refine the conceptual model constructed in chapters 4 and 5 based on the experimental research findings presented and analysed in chapters 6 and 7.

## 8.2 THE PROCESSING MODEL

The theory building presented in chapter 4 of this thesis, which followed the methodology of Dubin (1978), resulted in a conceptual processing model of persuasion in terse text that, in contrast to previous dual process models like the Heuristic Systematic Model (Chaiken, 1980) and the Elaboration Likelihood Model (Petty and Cacioppo, 1986), accounts for a number of important additional factors crucial to the terse text context as well as to our understanding of persuasive communication in general. Past models were generally constructed with the assumption that attitude change must be the primary outcome for persuasive efforts to be deemed successful, which contradicts a large body of research showing that attitude reinforcement tends to be the more likely outcome, with so-called 'response-shaping', the gradual alteration of attitudes being another possible outcome of persuasive activity. For the purpose of this research a definition of persuasion resulting in either attitude reinforcement, attitude change, or gradual attitude alteration was adopted and this definition was incorporated in the conceptual model alongside the possible outcome of no effect on attitude. This theoretical model is intent-based, which means that an unsuccessful persuasive outcome does not invalidate the entire persuasive process. The units of the model are shown in table 8.1 below.

***Table 8.1:*** *Units of the theoretical processing model*

| Unit | Description |
|---|---|
| Communicator | Communicator refers to the source of the message. |
| Message | The message, in this case one that features persuasive intent, in its entirety. |
| Delivery | Delivery refers to the format of the message, in this case terse text microblogs. |
| Audience | Audience refers to message recipients, in this case consumers of terse text Social Media content. |
| Route | The route (of processing) describes the manner in which messages are processed, such as heuristically, or systematically. |
| Outcome | Outcome refers to the effects of the persuasive message, such as attitude change or attitude reinforcement. |

The conceptual processing model constructed in chapter 4 is shown in figure 8.1 below.

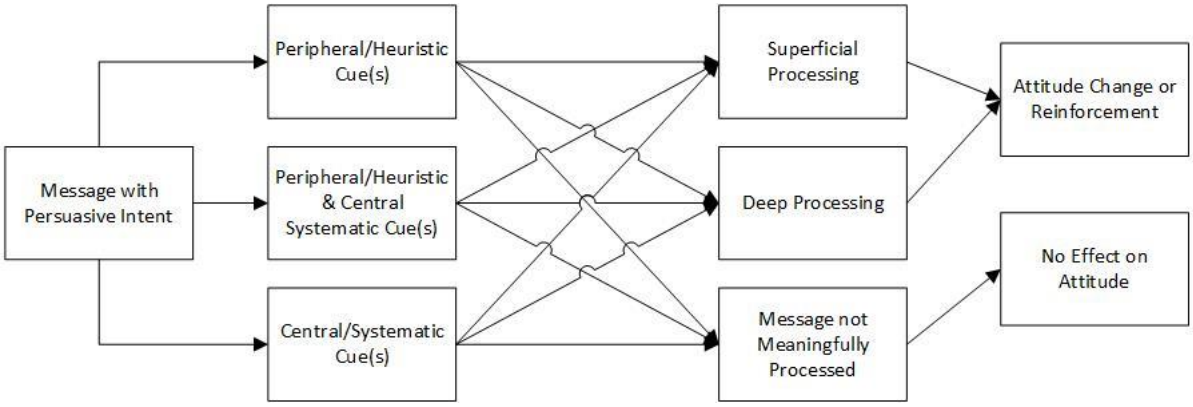


***Fig. 8.1:*** *Conceptual processing model of persuasive intent*

The research findings presented in chapters 6 and 7 do not necessitate changes to the content of the model, but the visualisation of it can be simplified considerably. Figure 8.2 below illustrates the revised visualisation of the theoretical processing model. It breaks the process down into a persuasive message, which contains persuasive cues (heuristic/peripheral or systematic/central cues or both). These cues affect how the message is processed (heuristically/peripherally or systematically/centrally).

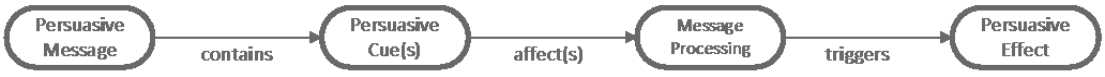


***Fig. 8.2:*** *Simplified theoretical processing model of persuasion in terse text.*

## 8.3 APPEAL PREDOMINANCE AND CUE DISTRIBUTION

The three Aristotelian appeals of ethos (credibility), logos (reason), and pathos (emotion) were found to date to be the most robust way of categorising persuasive message content. The selection exercise conducted in chapter 6 highlighted the need to explicitly consider references to popularity, such as polling, references to levels of support, event turnout and similar measures as appeals to credibility and Table 8.2 (previously introduced in chapter 5 as Table 5.1) has been amended to reflect this.

***Table 8.2:*** *Examples of Aristotelian Appeals (amended)*

| Appeal | Example |
|---|---|
| Pathos | • Graphic, detailed language/description<br>• Making it personal: "imagine if it was your child/relative/friend"<br>• Inducing fear or guilt by implying threat to or complicitness of the message recipient if they disagree with the message communicator<br>• Downplaying ethos by claiming to be equal to the audience: "one of you", to increase relatability<br>• Appeal to values and morality |
| Logos | • Likeness/comparison to related or unrelated past event(s) or situation(s)<br>• (appearing to be) providing the clear facts/unadulterated truth<br>• Quoting statistics (may not be accurate)<br>• Referring to specific "evidence" (may not be actual evidence)<br>• (rhetorical) questions |
| Ethos | • Highlighting (alleged) hypocrisy or contradiction<br>• Implicitly or explicitly raising doubts about the character/source<br>• Claiming to have 'evidence'<br>• Alleging ignorance<br>• Insults<br>• Quoting people of (perceived) significant standing<br>• Mockery of ideas/opponents<br>• Questioning values/morality<br>• Reminding the audience of opponent's (past) failings<br>• References to popularity, polling, levels of support |

The full findings of the coding for Aristotelian appeals and heuristic/systematic cues were presented individually in chapter 6. The following six tables show these findings in comparison.

Table 8.3 below shows the distribution of Aristotelian appeals across all five datasets as well as the full corpus. It illustrates that the Donald Trump and Hillary Clinton datasets both feature the most frequent appeals to credibility (ethos), although across all corpora this appeal is the most popular one. The Donald Trump and Hillary Clinton datasets are most closely related, as although the Bernie Sanders corpus refers to another candidate in the same electoral process, it was compiled solely from messages originating from the official Bernie Sanders Twitter account,

whilst both the Donald Trump and Hillary Clinton datasets were assembled from other Twitter users' discourse about the two candidates using relevant hashtags.

***Table 8.3*** *Comparison of Aristotelian appeal distribution (in %) across all datasets*

| Appeal | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Ethos (E) | 23 | 20.67 | 63 | 65.33 | 23.66 | 31.13 |
| Logos (L) | 8.66 | 11.33 | 16 | 5.66 | 6.33 | 12.46 |
| Pathos (P) | 16.33 | 15.67 | 0.66 | 2.33 | 11.33 | 9.26 |
| Logos and Ethos (LE) | 17 | 18.67 | 13 | 5.66 | 23.66 | 15.6 |
| Pathos and Ethos (PE) | 22.33 | 16 | 4 | 6.33 | 14.00 | 12.53 |
| Pathos and Logos (PL) | 11 | 16.33 | 2.66 | 0.33 | 20.00 | 10.06 |
| Pathos, Logos and Ethos (PLE) | 1.66 | 2.33 | 0.33 | 0.33 | 1.00 | 0.93 |

Table 8.4 below does not distinguish between single and multiple appeals and, unlike Table 8.3, counts all instances of use of each of the three appeals. This shows an even clearer predominance of appeals to credibility above both other appeal types, as well as a slight preference of appeals to reason over appeals to emotion.

***Table 8.4:*** *Comparison of Aristotelian appeal distribution (in %) across all datasets in (simplified)*

| Appeal | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Ethos (E) | 64 | 49.66 | 80.33 | 77.66 | 62.33 | 66.8 |
| Logos (L) | 38.33 | 47 | 32.33 | 26.00 | 51.00 | 38.93 |
| Pathos (P) | 51.33 | 52.33 | 7.66 | 9.33 | 46.33 | 33.4 |

Table 8.5 below shows a significant preference of single appeals over dual appeals in the full corpus. This is however skewed by a strong single appeal preference in the Donald Trump and Hillary Clinton datasets, whilst in the Syria Vote and Bernie Sanders sets, dual appeals were

marginally favoured. This likely indicates that such a preference is dependent on context and/or topic, which is an important consideration for the model.

***Table 8.5:*** *Comparison of appeal type distribution (in %) across all datasets*

| Appeal Type | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Single appeal | 48 | 52.33 | 80 | 87.33 | 44.66 | 62.46 |
| Dual appeal | 50.33 | 46.33 | 19.66 | 12.33 | 57.66 | 37.26 |
| Triple appeal | 1.66 | 1.33 | 0.33 | 0.33 | 1.00 | 0.93 |

Tables 8.6 and 8.7 below show the clear predominance of heuristic over systematic cues across all datasets as well as the full corpus. Table 8.7 does not distinguish between single and joint predominance and shows the binary distribution without considering whether the cues occurred on their own or together as equally predominant.

***Table 8.6:*** *Comparison of cue predominance (in %) across all datasets*

| Predominant Cue | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Heuristic (H) | 67 | 85.33 | 82 | 92.00 | 66.66 | 78.6 |
| Systematic (S) | 11.66 | 2.66 | 4.66 | 5.00 | 13.33 | 7.06 |
| Heuristic and Systematic (HS) | 21.33 | 12 | 13.33 | 3.00 | 20.00 | 14.33 |

***Table 8.7*** *Comparison of cue predominance (in %) across all datasets (simplified)*

| Cue (predominant or equal) | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Heuristic (H) | 88.33 | 97.33 | 95.33 | 97 | 86.66 | 92.933 |
| Systematic (S) | 33 | 14.66 | 18 | 8 | 33.33 | 21.4 |

Table 8.8 shows a strong preference for single cue predominance across all five datasets as well as the full corpus.

***Table 8.8:*** *Comparison of cue type predominance (in %) across all datasets*

| Cue Type | Syria Vote | Brexit | Donald Trump | Hillary Clinton | Bernie Sanders | Full Corpus |
|---|---|---|---|---|---|---|
| Single Predominant Cue | 78.66 | 88 | 86.66 | 95 | 80 | 85.66 |
| Both cues equally predominant | 21.33 | 12 | 13.33 | 5 | 20 | 14.33 |

## 8.4 CHAPTER SUMMARY

This chapter presented the revision of the processing model into a more simplified visualisation, as well as the full breakdown of appeal and cue predominance. Existing models of persuasion have consistently favoured appeals to reason (or systematic/central cues) as most effective for the purpose of persuasion, but there is also substantial research documenting the importance of emotion in arguments, decision-making, and attitude change. The statistics produced on the full corpus of Twitter microblogs compiled and coded for this research, however, shows a substantial preference for appeals to credibility over appeals to reason and appeals to emotion. This is true for the entire corpus as well as for each individual subset. Context and topic appear to strongly influence whether appeals to emotion (pathos) or appeals to reason (logos) are the second preference. Appeals to reason and emotion occur less frequently on their own and are more commonly paired with either of the other two appeals. Furthermore, the analysis indicates a strong preference for the predominance of heuristic cues over systematic ones, which confirms earlier predictions of the necessity for greater reliance on heuristic cues in terse text messages with persuasive intent.

# 9 CONCLUSION

## 9.1 INTRODUCTION

This chapter concludes the research by presenting a summary of findings in relation to the research objectives, followed by a discussion of the research implications in general as well as in relation to specific recent political events. The chapter will then address the limitations of this research and make recommendations for further research, followed by a few concluding remarks.

## 9.2 SUMMARY OF FINDINGS AND RESEARCH OBJECTIVES

### 9.2.1 Objective 1

*To ascertain the degree to which recent changes in the communications landscape have affected how individuals, organisations or entities seek to persuade.*

As discussed in the Literature Review (Chapter 2), the changes to our communication behaviour as a result of the hyper-connectivity of the Digital Age have been substantial. They have empowered and provide a platform for individuals who would have likely never been given such a platform in traditional media. As Schmidt and Cohen (2010, p.1) state "…any person with access to the internet, regardless of living standard or nationality, is given a voice…" (Schmidt and Cohen, 2010). Gowing (2009, p.13) urges leaders in the political, military and corporate sphere to urgently "…recalibrate their understanding of the new media environment", asserting that "the implications of this new level of empowerment are profound but still, in many ways, unquantifiable". Previous models of persuasion and persuasive communication predate the Digital Age and thus do not account for the ever more prevalent format of terse text Social Media. Imposed character limits as well as voluntary brevity in digital communication have a profound impact on message content and structure, ultimately making it near impossible to construct a definitively persuasive message. Furthermore, this research has shown that there is a strong

preference for appeals to credibility within persuasive messages, which has not previously been observed in traditional forms of communication.

### 9.2.2 Objective 2

*To characterise the components of the persuasive terse message.*

Chapter 3 saw the application of the Aristotelian appeals of reason (logos), emotion (pathos), and credibility (ethos) to terse text including pilot data analysis. Additionally, messages were coded for predominance of heuristic versus systematic cues, inspired by existing dual-process models of persuasion such as the Elaboration Likelihood Model (Petty and Cacioppo, 1986) and the Heuristic Systematic Model (Chaiken, 1980). This categorisation of message features was further explored in the validation exercises in Chapter 6 and the analysis of the full terse text corpus. The recall test presented in Chapter 7 provided preliminary insights on the effects of specific cues on message memorability. The exercises have found that the previously well documented appeal to emotion (pathos) remains popular and likely effective within terse text Social Media communication, but that the most frequently featured appeal is in fact the appeal to credibility (ethos) – appeals which either seek to discredit an opponent or opposing group or seek to build up the persuader's own credibility. Appeals to reason (logos) meanwhile were found to be less popular, but nonetheless significant, especially when paired with appeals to credibility within the same message.

### 9.2.3 Objective 3

*To compile, select and code Twitter micro-blogs featuring persuasive intent from an extensive repository of microblogs gathered on five separate topics.*

As detailed in Chapters 5 and 6 a total of 1500 Twitter microblogs were coded for the presence of the Aristotelian appeals of logos (appeal to reason), pathos (appeal to emotion), and ethos (appeal to credibility), as well as for dominance of either heuristic (superficial) or

systematic (deep) persuasive cues. Five separate corpora of 300 messages each were created on the topics of Donald Trump, Hillary Clinton, Bernie Sanders, Brexit, and the 2015 UK parliamentary vote on military intervention in Syria.

### 9.2.4 Objective 4

*To construct a conceptual model of terse text persuasion informed by existing research and theory from behavioural science, linguistics, philosophy, political science and pilot data analysis.*

An extensive interdisciplinary literature review was conducted in chapter 2. A conceptual processing model was designed in chapter 4 to address a number of shortcomings identified with existing dual process models of information processing and persuasion, which made these models inapplicable to terse text Social Media discourse.

The most straight-forward and widely-applied means of categorising persuasive message content is Aristotle's ethos-logos-pathos differentiation, which distinguishes between appeals to credibility (ethos), appeals to reason (logos), and appeals to emotion (pathos).

Chapter 5 furthered theory building to include information about message content and persuasive cues to the conceptual processing model. Two types of coding systems were introduced and a coded pilot dataset was analysed to yield preliminary descriptive statistics on cue distribution and dominance. The pilot data shows that terse text messages only very rarely feature all three Aristotelian appeals. Single appeals are only marginally more frequent than dual appeals. The pilot data furthermore suggests a preference for appeals to credibility (ethos) and appeals to emotion (ethos) over appeals to reason (logos) and a very strong predominance of heuristic over systematic cues.

### 9.2.5 Objective 5

*To experimentally validate fundamental aspects of the methodology through several experiments.*

Chapter 6 presented the validation of the message selection and coding approach which is fundamental to the data analysis that informed the theoretical model. The selection and coding of microblogs with persuasive intent could arguably be described as highly subjective without evaluation of the method to ensure a satisfactory level of replicability. To assess whether the message selection and message coding undertaken for the purpose of this research was sufficiently objective, two exercises were conducted to ascertain the degree to which research participants were able to either select or code the messages accurately compared to the selection and coding conducted by the researcher. These exercises resulted in several important findings, such as highlighting the necessity to include references to popularity, in particular poll performance and rally attendance into the category of messages with clear persuasive intent. It was also found that coding accuracy was greatest for messages containing negative appeals to credibility.

### 9.2.6 Objective 6

*To revise the conceptual model into a final one based on validation, further data and computational linguistic analysis.*

Chapter 8 has documented the revision of the conceptual model into its final version, taking into consideration the findings from the experimental research conducted and presented in Chapters 6 and 7. This model of persuasion in terse test is the first of its kind, bringing the existing research of persuasion, which last peaked in the 1980s, into the 21st century, combining existing knowledge from distinct academic fields, and accounting for the changes that have affected written communication over the last few decades.

## 9.3 RESEARCH IMPLICATIONS AND CURRENT RELEVANCE

This section discusses the implications of the research conducted, both in general as well as specifically in relation to two of the recent major political events, which produced the microblog data used in this research.

### 9.3.1 General Implications

This research has a number of implications for the evaluation and practice of influential Social Media discourse. The model developed in this thesis is the first of its kind for the context of terse text Social Media, a format that has become extremely prevalent over the past decade. Previous models, such as the Elaboration Likelihood Model or the Heuristic Systematic Model presented a dual process understanding of persuasion, differentiating between a superficial (heuristic or peripheral) and a deep (systematic or central) route to persuasion, whilst generally concluding that messages which trigger deep processing are more effective in achieving the persuasive goal. It is questionable as to whether this was ever accurate or whether this may reflect an idealistic view whereby systematic processing is viewed as superior without actually being more effective. The existing research on heuristics and phenomena such as confirmation bias has certainly always indicated substantial influence of heuristic processes on decision making and attitudes. This research has shown that in the context of terse text Social Media, heuristic cues are significantly more frequently used in persuasive communication, which evidences the fundamental need to re-evaluate our understanding of persuasion with respect to the importance of heuristics and requires us to discard previously held beliefs that deep (central/systematic) cues and message processing is required for (lasting) persuasive effect.

The Aristotelian appeal categories of ethos (appeal to credibility), pathos (appeal to emotion), and logos (appeal to reason) are to date applicable to persuasive messages. However, while it was originally believed that all three appeals need to be present in order for a message to be persuasive (Ehninger et al., 1978), this research has shown that this most likely does not apply

to the terse text context, where limited character-count greatly affects message length and subsequently the number of appeals than can be made within any one message. It was found that there is a very strong prevalence of appeals to credibility (ethos) over appeals to reason (logos) and emotion (pathos), which shows us that the current binary (fact-focussed versus emotional) understanding of persuasive communication is insufficient and that appeals to credibility must be viewed and understood as a category of their own.

### 9.3.2 Social Media and the Brexit Referendum

Polonski (2016) claims that "Remain lost the battle online long before it lost the political battle on the ground", and asserts that "the overwhelming Leave sentiment across all social networking platforms was consistent and undeniable" based on analysis of 30 weeks' worth of Instagram data from over 18,000 users and 30,000 posts (Polonski, 2016, p.1). Polonski's data indicates that not only were there twice as many Brexit supporters on Instagram, they were also five times more active than their Remain-advocating counterparts. The same pattern could be found on Twitter, where the Leave camp outnumbered the Remain camp 7 to 1 (Polonski, 2016).

Bots are social media accounts which automate interaction with other users. These automated scripts generate content through platforms such as Twitter and interact with genuine users. Political bots are automated accounts which are particularly active during elections, in political crises, or on public policy issues. Howard & Kollanyi (2016) found bot activity in the lead-up to the Brexit referendum which played a "small but strategic" role. They found that a family of hashtags associated with the argument for leaving the EU dominated amongst bot accounts that were active during this time, as well as that less than 1 percent of their sampled accounts generated almost a third of all sampled messages (Howard and Kollanyi, 2016).

Polonski (2016) also found that 3 of the most frequently used hashtags in his data - which was not differentiating between genuine and bot accounts - came from the Leave side and were well integrated into all networked conversations online: #Brexit, #Beleave and #VoteLeave.

Polonski ascertains that this meant that Leave supporters were able to "create the perception of wide-ranging public support for their cause that acted like a self-fulfilling prophecy, attracting many more voters to back Brexit" (Polonski, 2016).

The findings from this research would confirm this view. A perceived level of popularity is an effective appeal to credibility, that may well sway some voters. Bot activity, especially where it originates from or is sanctioned by other state actors, effectively constituting election interference, is significant, even when message content is generally neither particularly complex nor in itself persuasive. In this case, quantity can easily win over quality. Whilst it is difficult to ensure effective persuasive message content, it is much easier to feign extensive support for a candidate or cause by means of amplifying messages of support.

### 9.3.3 Social Media and the 2016 US Election

Persily (2017) describes Donald Trump's campaign in the 2016 US Presidential Election as "unprecedented in its breaking of established norms of politics" and states that "this type of campaign could only be successful because established institutions—especially the mainstream media and political-party organizations—had already lost most of their power, both in the United States and around the world." (Persily, 2017, p.64).

Ferrara and Young (2015) found that, in general, negative tweets are retweeted at a pace 2.5 times higher than positive ones, and that people are naturally more inclined to retweet content that aligns with their pre-existing political views. They assert that this is likely to result in the spreading of content that is "often defamatory or based on unsupported, or even false, claims" (Ferrara and Yang, 2015, p.1).

Much like during the UK Brexit Referendum, the prevalence of social media bots is another significant issue in the latest US presidential campaigns. Ferrara (2018) found that between 16 September and 21 October 2016, bots produced about a fifth of all tweets related to the upcoming election. Across all three presidential debates, pro-Trump Twitter bots generated

about four times as many tweets as pro-Clinton bots. During the final debate in particular, that figure rose to seven times as many (Ferrara, 2018).

During the selection exercise presented in chapter 6 of this thesis it became apparent that tweets quoting poll figures, rally attendance and similar measures of popularity were identified as containing clear persuasive intent. There is a pattern emerging whereby it is likely that bots had relatively little influence by means of message content due to the complexity of the persuasive process , but may have potentially had significant influence by means of artificially inflating candidate popularity to the point of making Donald Trump a viable candidate in the eyes of a sufficiently large portion of voters – meaning that the number of favourable and supportive messages sent about the candidate likely had a much greater effect than the nature of these messages did. According to Ferrara (2018) a lot of the bot activity was actually comprised of retweets from genuine Twitter users, thus aiding message spread and visibility above all. Politically active social bots have, unsurprisingly, been found to be biased by design, meaning that, for example, Trump-supporting bots systematically produced overwhelmingly positive tweets in support of their candidate (Ferrara, 2018). Ratkiewicz et al. (2011) demonstrated that this type of systematic bias alters public perception and can create the false impression that there is a grassroots, positive, sustained support for a particular candidate that does not actually exist at the time (Ratkiewicz et al., 2011). In fact, increasing the perceived viability of a candidate, may in fact subsequently make them a serious contender – a case of "fake it 'till you make it", so to speak. Whilst this research has found that at individual message level, negativity appears to be more effective (in particular in the context of negative appeals to the credibility of an opponent), which is a finding that also agrees with Perloff (2003), who (albeit prior to the rise of Social Media) stated that, in politics, messages were commonly organised around negative arguments, such as criticisms of other candidates. When we look at the collective effect of sustained observable positivity towards a candidate, as explained above and presented by Ferrera (2018)

and Ratkiewicz (2011), even fake, bot-generated messages can have a significant impact on an audience.

## 9.4 LIMITATIONS AND FUTURE RESEARCH

This section outlines the limitations of this study and scope for future research.

### 9.4.1 Limitations

There are a number of limitations that must be considered for this research. Although the message selection criteria were validated with considerable success, it is important to note that the datasets themselves were not compiled at random, message selection took place by one individual, based on subsequently validated selection criteria, but from large spreadsheets of unprocessed Twitter microblogs. Although the raw microblogs were deliberately not left in chronological order, the order they were in during the selection process cannot be described as random. Furthermore, as the raw microblogs were selected by an API based on specific hashtags, the raw data only ever captured messages containing the specific hashtags and the degree to which this is representative of the entire Twitter discourse on the respective topics is questionable. Hashtags were selected for being most popular per topic, so a good level of representativeness of the raw data is likely, but no analysis was conducted to quantify and demonstrate this.

As is to be expected for interpretivist qualitative research, none of the experiments covered a large enough sample size to generalise from the findings. The sample size for the coding exercise in particular was very small and the complexity of the task meant that it was difficult to source sufficient suitable participants to conduct this particular experiment on a larger scale. The findings from this particular research are thus limited in depth and breadth.

### 9.4.2 Future Research

There is substantial scope and necessity for further research in this area, as the popularity of Social Media and digital communication is still set to increase further over the next few years and beyond (Statista, 2017).

This research saw messages coded and evaluated for Aristotelian appeals and Heuristic/Systematic cues only. Other coding systems, such as coding for Grice's conversational maxims of quality, quantity, manner, and relation are possible and may give additional insight into the distribution and effectiveness of pragmatic and semantic features. Better randomisation in message selection for future studies would address some previous limitations.

The recall tests conducted produced very rich data, and additional recall tests would be highly beneficial to explore the areas of memorability and persuasiveness in greater detail. A lot of frequently recalled messages featured great discrepancies between their individual LIWC variable scores and their respective corpus average scores, which begs the question as to whether norm violations may increase the salience or memorability of a message, and subsequently whether this has any impact on the persuasive impact of a message. There is an existing body of research that suggests that the persuasive effects of negative emotion is significant. Further exploration of this theme and its applicability to terse text could be done through analysis of larger corpora in LIWC, examining the emotional tone variable in greater detail. Repeated recall tests that assess recall over longer periods of time would also be likely to yield more conclusive findings. Recall tests conducted with larger participant cohorts and a larger variety of messages, as well as the comparison of findings over multiple sessions and longer time frames would be likely to produce much deeper insights.

Functional Near-Infrared Spectroscopy (fNIR) is the use of near-infrared spectroscopy for the purpose of functional neuroimaging, allowing brain activity to be measured through hemodynamic responses associated with neuron behaviour. The fNIR system allows researchers

to quantitatively assess brain functions, such as attention, working memory, planning, decision making and problem solving, while individuals perform cognitive tasks. An FnIR experiment was initially planned as part of this research, but was ultimately not pursued upon conclusion that it was too substantial a topic to be touched upon as merely a small part of this thesis and would be better suited for a separate research project either in its own right or in conjunction with other experiments such as eye-tracking. Both FnIR and eye-tracking as response-measures have great potential to deliver further insights into the persuasive effect of terse text messages, especially now that a coding system for appeals and cues has been devised, in particular as measurability of responses to persuasive messages is otherwise extremely limited.

The Bernie Sanders dataset used in this research was compiled solely of messages originating from the candidates account. It would be highly insightful to compile corpora of each candidate in this way, and to conduct an in-depth comparative analysis between them (for this particular, or other past and future electoral campaigns). Individual candidate datasets could be analysed for presence of Aristotelian appeals, cue dominance, as well as for content features such as negativity and positivity of the message, memorability, as well as more specific linguistic features. This type of analysis could deliver substantial insight into effective Social Media based campaigning for political purposes.

This research has raised a number of questions about whether the existing models of persuasion were potentially inherently flawed even for their intended traditional communication context. With the recent increase in Twitter's permitted character count, as well as the prevalence of Social Media networks without an imposed character limit and hence permissive of standard length texts, further research should look into modelling persuasion in digital communication in general without focussing on terse text alone, as well as revisiting and critically re-evaluating the existing body of research into traditional persuasive communication.

## 9.5 CONCLUDING REMARKS

To date persuasive messages have predominantly been evaluated with a binary understanding of emotive versus fact-focussed content. This understanding ultimately led to binary models of persuasive communication, such as the Heuristic Systematic Model (Chaiken, 1980) and the Elaboration Likelihood Model (Petty and Cacioppo, 1986), which both distinguish between a deep, fact-driven processing route and a superficial, heuristic one. Although there are indeed no more than two ways to process a persuasive message, a ternary model of categorising persuasive message content has existed in the field of Rhetoric since the fourth century BC, which, as demonstrated in this thesis continues to be relevant and applicable to date, both in traditional spoken and written communication, as well as in the context of terse text digital communication.

The importance of emotion in persuasion, decision-making, attitude change and reinforcement has been extensively documented by researchers from the fields of behavioural science (e.g. Nabi, 1999), linguistics (e.g. Macagno and Walton, 2014), and political communication (e.g. Nye, 2004). This thesis has shown that although emotion remains important in terse text, a third category of 'credibility' must be considered separately from the other two. Appeals to credibility (ethos) can be made in a variety of ways, such as by means of highlighting (alleged) hypocrisy or contradiction or by either implicitly or explicitly raising doubts about the character or source of the message. Appeals to credibility may also consist of claims to have 'evidence', mockery of opponents or their ideas, insults directed at individual or groups of opponents, or quotes from people of (perceived) significant standing. Alleging ignorance, questioning of values or morality, and reminding message recipients of an opponent's (past or present) failings also constitute appeals to credibility.

All of these appeals to credibility could arguably be binarily divided according to whether they are emotive or fact-focussed in nature, which ultimately means that past research is not wholly invalidated as such. However, the extensive presence of appeals to credibility in the

context of political campaigns and the surrounding Social Media discourse, certainly warrants the singling out of this particular category of persuasive appeal and provides substantial necessity for further exploration of the concept of credibility in terse text as well as traditional persuasive communication.

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# 11 APPENDICES

Participant Information Sheet – Selection Exercise

Task Instructions – Selection Exercise

Participant Information Sheet – Coding Exercise

Task Instructions – Coding Exercise

Participant Information Sheet – Recall Test

Task Instructions – Recall Test

## 11.1 APPENDIX 1: PARTICIPANT INFORMATION SHEET – SELECTION EXERCISE

**Persuasive Intent in Terse Text**

**Adult Participant Information Sheet**

**Main Investigator:** Stefanie Hills (s.a.hills@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**Supervisors:** Tom Jackson (t.w.jackson@lboro.ac.uk), Martin Sykora (m.d.sykora@lboro.ac.uk), Ejovwoke Onojeharho (e.onojeharho@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**What is the purpose of the study?**

This study seeks to validate a methodology used to select Twitter messages with persuasive intent. The results will be used to ascertain the effectiveness of the current approach used by the main researcher, and will influence and shape future approaches.

**Who is doing this research and why?**

This exercise is part of a PhD research project supported by Loughborough University, investigated by Mrs Stefanie Hills and supervised by Prof. Tom Jackson, Dr Martin Sykora, and Dr Ejovwoke Onojeharho at the Center for Information Management (School of Business and Economics).

**Are there any exclusion criteria?**

This exercise is for 18 to 23 year-old Loughborough University undergraduate students who are native speakers of English. Anyone not fulfilling these criteria will not be able to participate.

**What will I be asked to do?**

You will be asked to complete an exercise in survey format on the Qualtrics platform. In this exercise you will be categorising Twitter messages according to whether you feel they feature persuasive intent or not. You will be sent full instructions on how to approach this task on a separate sheet.

**Once I take part, can I change my mind?**

Yes. Prior to commencing the exercise in Qualtrics you will be asked to give your informed consent. If you do not wish to participate, simply select 'no' and the questionnaire will be terminated.

If at any time, before, during or after the sessions you wish to withdraw from the study please just contact the main investigator. You can withdraw at any time, for any reason and you will not be asked to explain your reasons for withdrawing.

However, once the results of the study are aggregated (expected to be by 31 March 2017), it will not be possible to withdraw your individual data from the research.

**Will I be required to attend any sessions and where will these be?**

This exercise is administered remotely and there are no sessions to attend in person.

**How long will it take?**

The exercise should take approximately one hour. The survey must be completed within two weeks of receiving full instructions and access link.

**What personal information will be required from me?**

You will be asked about your gender, nationality, where you grew up, English Language ability and education.

**Are there any risks in participating?**

You will read messages containing emotive language regarding recent political events. Some messages feature potentially offensive language or content.

**Will my taking part in this study be kept confidential?**

Your data will be processed and stored anonymously and only kept for as long as required for administration and evaluation of this research project.

**I have some more questions; who should I contact?**

You should contact the main investigator, Stefanie Hills, by email on s.a.hills@lboro.ac.uk

**What will happen to the results of the study?**

The results will be aggregated and statistically evaluated. The aggregated results will be quoted in Stefanie's final PhD thesis and in future publications.

**Is there anything I need to do before the sessions?**

You will need to carefully read the instructions that will be sent to you prior to completing the exercise on the Qualtrics survey platform.

**What do I get for participating?**

As a thank you for dedicating your time to this project, you will receive £15 Amazon voucher as soon as administratively possible, but no later than the 31st of March 2017. Your voucher code will be emailed to you.

**What if I am not happy with how the research was conducted?**

If you are not happy with how the research was conducted, please contact Ms Jackie Green, the Secretary for the University's Ethics Approvals (Human Participants) Sub-Committee:

Ms J Green, Research Office, Hazlerigg Building, Loughborough University, Epinal Way, Loughborough, LE11 3TU. Tel: 01509 222423. Email: J.A.Green@lboro.ac.uk

The University also has a policy relating to Research Misconduct and Whistle Blowing which is available online at http://www.lboro.ac.uk/committees/ethics-approvals-human-participants/additionalinformation/codesofpractice/ .

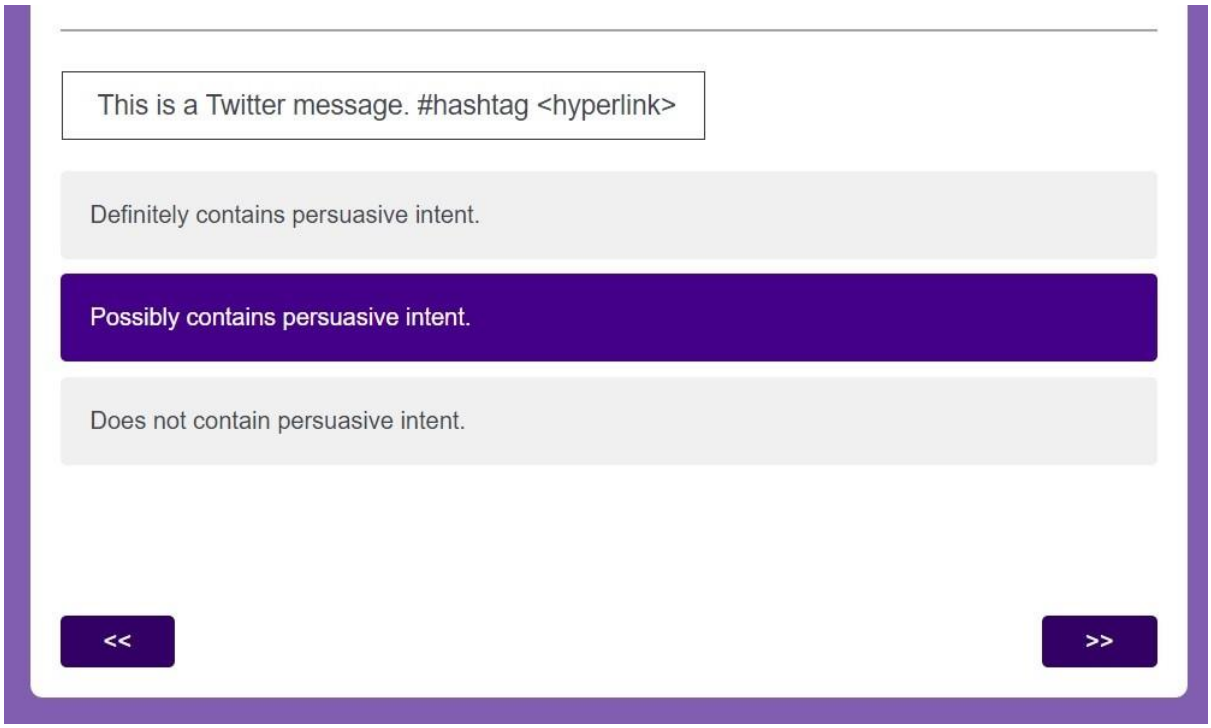
## 11.2 Appendix 2 Task Instructions – Selection Exercise

# Selection Exercise: Instructions

**Task:**

You will be asked to assess 150 twitter messages and determine whether you feel they contain persuasive intent or not.

The exercise is hosted in survey format and each message looks more or less like this. Hyperlinks to external content have been removed and replaced with '<hyperlink>'.




**What is persuasive intent?**

In short, a message with persuasive intent seeks to influence the opinion of the reader.

Persuasive messages generally contain one or several appeals, such as

**1) Appeals to emotion** **2) Appeals to reason** **and/or** **3) Appeals to credibility**

Hyperlinks to external content are common on Twitter, but in this instance **we are only interested in the content of the character-limited message in front of us**. Ignoring any hyperlink present – does the message feature persuasive intent or not?

Here's what's most important: **This exercise is not about ascertaining what you, personally, find persuasive**. This is a task about identifying whether a message is intended to be persuasive – it does not matter at all, whether you are, personally, persuaded. **What matters is what the message/messenger is intending to achieve.**

**What should be classed as a message WITHOUT persuasive intent?**

- "Hashtag hijacking" –adverts or messages that use a popular hashtag but are unrelated to the topic the hashtag refers to.
- Incomprehensible messages
- Unclear stance: Messages where it is not at all clear which side of the argument they are arguing for or against.
- Primarily linked/external content: Messages that do not have enough content by themselves to identify a standalone argument for either side.
- Messages advertising external content (such as upcoming TV programs, events)
- Message only containing a news headline and hyperlink.
- Inconsequential personal statements – "I support xyz". Without referring to another authority (appealing to credibility) or further elaboration as to why (through appeals to emotion or reason), such statements are generally not deemed to contain persuasive intent.
- Messages where persuasive intent is only clear in the hashtags (hashtags like #feelthebern or #makeamericagreatagain are of course quite intense standalone phrases, but we are really only interested in messages that show persuasive intent beyond just the hashtag)

**Context of the Twitter Messages**

1) The 2016 United States Democratic and Republican Primaries, in particular candidates Bernie Sanders, Hillary Clinton, and Donald Trump (messages collected in June 2016).
2) The 2016 UK "Brexit" Referendum (messages collected prior to the referendum vote).
3) The December 2015 UK parliamentary vote on military intervention against ISIS in Syria (messages collected immediately following the vote).

## 11.3 APPENDIX 3: PARTICIPANT INFORMATION SHEET – CODING EXERCISE

**Persuasive Intent in Terse Text**

**Adult Participant Information Sheet**

**Main Investigator:** Stefanie Hills (s.a.hills@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**Supervisors:** Tom Jackson (t.w.jackson@lboro.ac.uk), Martin Sykora (m.d.sykora@lboro.ac.uk), Ejovwoke Onojeharho (e.onojeharho@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**What is the purpose of the study?**

This study seeks to validate a methodology used to identify/code different appeals present in Twitter messages with persuasive intent. The results will be used to ascertain the effectiveness of the current approach used by the main researcher, and will influence and shape future approaches.

**Who is doing this research and why?**

This exercise is part of a PhD research project supported by Loughborough University, investigated by Mrs Stefanie Hills and supervised by Prof. Tom Jackson, Dr Martin Sykora, and Dr Ejovwoke Onojeharho at the Center for Information Management (School of Business and Economics).

**Are there any exclusion criteria?**

This exercise is for Loughborough University research postgraduate students who are native speakers of English (or who consider themselves to hold native competence). Anyone not fulfilling these criteria will not be able to participate.

**What will I be asked to do?**

You will be asked to complete an exercise in survey format on the Qualtrics platform. In this exercise you will be identifying different types of persuasive appeals in Twitter messages. You will be sent full instructions on how to approach this task on a separate sheet.

**Once I take part, can I change my mind?**

Yes. Prior to commencing the exercise in Qualtrics you will be asked to give your informed consent. If you do not wish to participate, simply select 'no' and the questionnaire will be terminated.

If at any time, before, during or after the sessions you wish to withdraw from the study please just contact the main investigator. You can withdraw at any time, for any reason and you will not be asked to explain your reasons for withdrawing.

However, once the results of the study are aggregated (expected to be by 31 March 2017), it will not be possible to withdraw your individual data from the research.

**Will I be required to attend any sessions and where will these be?**

This exercise is administered remotely and there are no sessions to attend in person.

**How long will it take?**

The exercise should take approximately one hour. The survey must be completed within one week of receiving full instructions and access link.

**What personal information will be required from me?**

You will be asked about your gender, nationality, where you grew up, English Language ability and education.

**Are there any risks in participating?**

You will read messages containing emotive language regarding recent political events. Some messages feature potentially offensive language or content.

**Will my taking part in this study be kept confidential?**

Your data will be processed and stored anonymously and only kept for as long as required for administration and evaluation of this research project.

**I have some more questions; who should I contact?**

You should contact the main investigator, Stefanie Hills, by email on s.a.hills@lboro.ac.uk

**What will happen to the results of the study?**

The results will be aggregated and statistically evaluated. The aggregated results will be quoted in Stefanie's final PhD thesis and in future publications.

**Is there anything I need to do before the sessions?**

You will need to carefully read the instructions that will be sent to you prior to completing the exercise on the Qualtrics survey platform.

**What do I get for participating?**

As a thank you for dedicating your time to this project, you will receive £15 Amazon voucher as soon as administratively possible, but no later than the 31st of March 2017. Your voucher code will be emailed to you.

**What if I am not happy with how the research was conducted?**

If you are not happy with how the research was conducted, please contact Ms Jackie Green, the Secretary for the University's Ethics Approvals (Human Participants) Sub-Committee:

Ms J Green, Research Office, Hazlerigg Building, Loughborough University, Epinal Way, Loughborough, LE11 3TU. Tel: 01509 222423. Email: J.A.Green@lboro.ac.uk

The University also has a policy relating to Research Misconduct and Whistle Blowing which is available online at http://www.lboro.ac.uk/committees/ethics-approvals-human-participants/additionalinformation/codesofpractice/ .

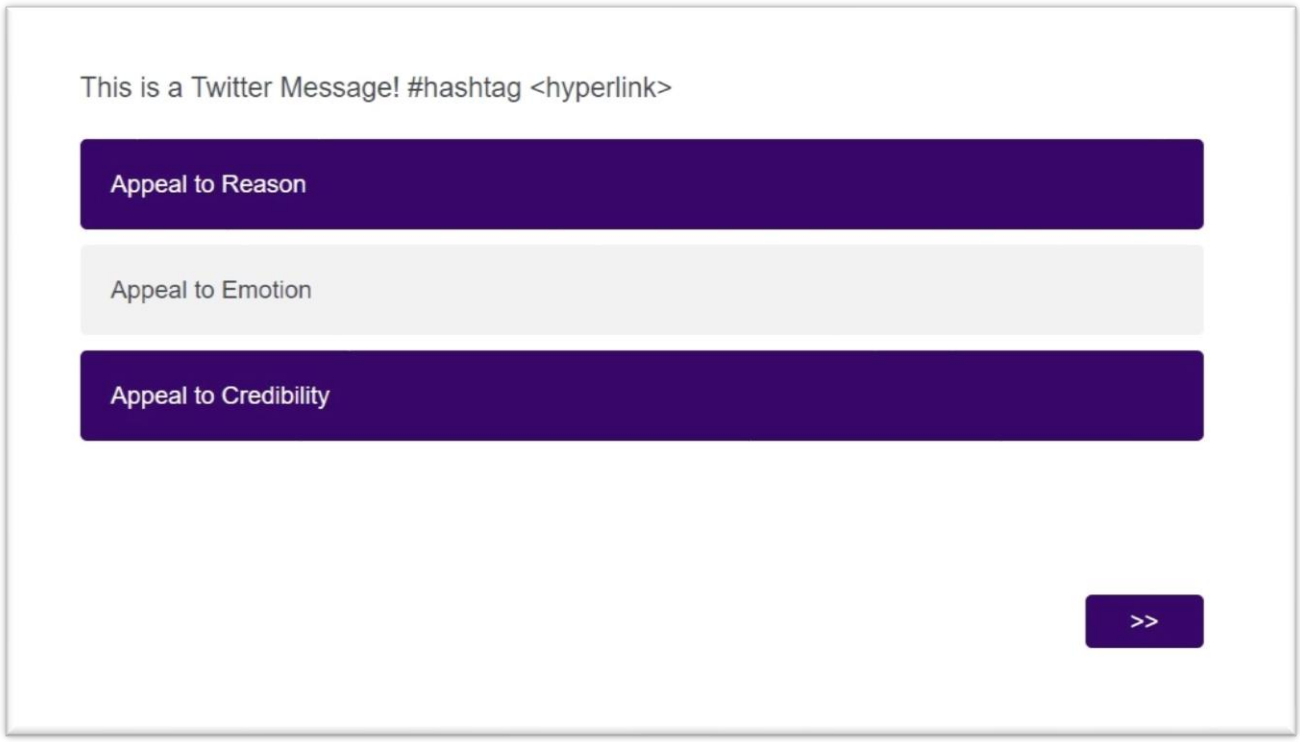
## 11.4 APPENDIX 4 CODING EXERCISE TASK INSTRUCTIONS

# Task Instructions

After answering a few demographic questions, you will be presented with a total of 50 Twitter messages with persuasive intent, gathered from hashtags associated with recent political events.

**We strongly advise that you keep these task instructions open in another window or print them out for reference whilst you are completing the exercise.**

The exercise is conducted in survey format and each message looks more or less like this. (Hyperlinks to external content have been removed and replaced with '<hyperlink>'). You click on each appeal that you feel applies to the respective Tweet. Selected appeals with be highlighted in purple.




**What do I have to do?**

We want you to identify different types of appeals present in each Tweet.

**What are persuasive appeals?**

The concept of persuasive appeals dates back to Aristotle, who identified three appeals present in persuasive speeches and writing: logos (appeal to reason), pathos (appeal to emotion), and ethos (appeal to credibility).

**What constitutes each type of appeal?**

**Appeals to emotion:**

- Graphic, detailed, dramatic language/description
- Making it personal: "imagine if it was your child/relative/friend"
- Attempts to inducing fear by implying threat to the message recipient if they disagree with the message communicator
- Attempts to induce guilt by implying complicity of the message recipient if they disagree with the message communicator
- Downplaying ethos by claiming to be equal to the audience: "one of you", to increase relatability
- Appeal to values and morality

**Appeals to reason:**

- Likeness/comparison to related or unrelated past event(s) or situation(s)
- (appearing to be) providing the clear facts/unadulterated truth
- Quoting statistics (may not be accurate)
- Referring to specific "evidence" (may not be actual evidence, can be the mere claim that "evidence" exists)
- (rhetorical) questions

Note: There is no requirement for being factual or truthful in an appeal to reason. Appeals to reason can be based on false premises, misconceptions, and outright lies. It is the intent (to appeal to reason/make a reasoned argument) that matters.

**Appeals to credibility**

- Highlighting (alleged) hypocrisy or contradiction
- Implicitly or explicitly raising doubts about the character/source
- Claiming to have 'evidence'
- Alleging ignorance
- Insults

- Quoting figures of authority or people of (perceived) significant standing
- Mockery of ideas/opponents
- Questioning values/morality
- Reminding of opponent's (past) failings

Note: Appeals to credibility can be both negative and positive.

**What else do I need to know?**

Messages can contain multiple appeals. Please select all that you feel apply to each message.

There are no right or wrong answers per se. I merely need to you complete this task to the best of your ability, according to the instructions above. This will help me strengthen my methodological approach and build a more robust model of terse text persuasion.

Many thanks for participating!

## 11.5 APPENDIX 5 PARTICIPANT INFORMATION SHEET – RECALL TEST


**Persuasive Intent in Terse Text**

**Adult Participant Information Sheet**

**Main Investigator:** Stefanie Hills (s.a.hills@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**Supervisors:** Tom Jackson (t.w.jackson@lboro.ac.uk), Martin Sykora (m.d.sykora@lboro.ac.uk), Ejovwoke Onojeharho (e.onojeharho@lboro.ac.uk), Centre for Information Management, School of Business and Economics, Loughborough University, LE11 3TU

**What is the purpose of the study?**

This study seeks to understand how people seek to persuade others in terse text, especially in the context of Social Media.

**Who is doing this research and why?**

This exercise is part of a PhD research project supported by Loughborough University, investigated by Mrs Stefanie Hills and supervised by Prof. Tom Jackson, Dr Martin Sykora, and Dr Ejovwoke Onojeharho at the Center for Information Management (School of Business and Economics).

**Are there any exclusion criteria?**

This exercise is for Loughborough University undergraduate students who are native speakers of English (or who consider themselves to hold native competence). Anyone not fulfilling these criteria will not be able to participate.

**What will I be asked to do?**

You will be asked to view a presentation of Twitter messages and will then be asked to complete a brief paper-based questionnaire. You will be given full instructions on the day.

**Once I take part, can I change my mind?**

Yes. If at any time, before, during or after the sessions you wish to withdraw from the study please just contact the main investigator. You can withdraw at any time, for any reason and you will not be asked to explain your reasons for withdrawing.

However, once the results of the study are aggregated (expected to be by 31 March 2017), it will not be possible to withdraw your individual data from the research. All your responses will be anonymised however, and your contact details will be kept separate from questionnaires and only as long as needed (until your 'thank you' voucher has been sent out).

**Will I be required to attend any sessions and where will these be?**

You will attend one of two possible sessions. 24th or 29th March, 11am, in Room BE2.47 (on the second floor in the Sir Richard Morris Building). Please attend only the session you signed up for, as space in the room is limited.

**How long will it take?**

The exercise should take approximately 50mins in total. Please arrive on time so that we can start promptly. Late-comers will unfortunately not be able to participate.

**What personal information will be required from me?**

You will be asked about your gender, nationality, where you grew up, English Language ability and education, and your field of study.

**Are there any risks in participating?**

You will read messages containing emotive language regarding recent political events. Some messages feature potentially offensive language or content.

**Will my taking part in this study be kept confidential?**

Your data will be processed and stored anonymously and only kept for as long as required for administration and evaluation of this research project.

**I have some more questions; who should I contact?**

You should contact the main investigator, Stefanie Hills, by email on s.a.hills@lboro.ac.uk

**What will happen to the results of the study?**

The results will be aggregated and evaluated both qualitatively as well as quantitatively. The aggregated results will be quoted in Stefanie's final PhD thesis and in future publications.

**Is there anything I need to do before the sessions?**

You will need to have read this participant information sheet so that you can give your informed consent to participate on the day.

**What do I get for participating?**

As a thank you for dedicating your time to this project, you will receive £15 Amazon voucher as soon as administratively possible, but no later than the end of April 2017 (I will request your vouchers immediately after the session, but due to the Easter Holidays I cannot guarantee that the SBE Finance Office will be able to send them out instantly. Your voucher code will be emailed to your university email address.

**What if I am not happy with how the research was conducted?**

If you are not happy with how the research was conducted, please contact Ms Jackie Green, the Secretary for the University's Ethics Approvals (Human Participants) Sub-Committee:

Ms J Green, Research Office, Hazlerigg Building, Loughborough University, Epinal Way, Loughborough, LE11 3TU. Tel: 01509 222423. Email: J.A.Green@lboro.ac.uk

The University also has a policy relating to Research Misconduct and Whistle Blowing which is available online at http://www.lboro.ac.uk/committees/ethics-approvals-human-participants/additionalinformation/codesofpractice/ .

## 11.6 Appendix 6 Questionnaire/Worksheet – Recall Test

Loughborough University

**Number:**

**Terse Text (Social Media) Persuasion**

**Classroom Exercise**

1) **I have read the Participant Information Sheet that was sent to me and consent to taking part in this research.**

- ☐ **Yes**
- ☐ **No**

2) **What gender do you identify as?**

- ☐ **male**
- ☐ **female**
- ☐ **neither/non-binary**

3) **What is your nationality?**

_____

4) **In which country/countries did you attend primary and secondary school?**

_____

5) **Which of these options best describes your standard of education in English/Literature/Linguistics?**

- ☐ **Less than GCSE/equivalent**
- ☐ **GCSE or equivalent**
- ☐ **A-level or equivalent**
- ☐ **Further/Higher Education (partial or completed degree)**

6) **This test is for people with a native command of English only. Are you a...**

- ☐ **Native speaker of English**
- ☐ **Native speaker of English and at least one other language**
- ☐ **Not a native speaker of English but consider your command of English to be equivalent to that of a native speaker**

7) **If there is anything unusual about your schooling or English language background (not covered by the questions above), please let us know here:**

_____

8) **What is your current field of study?**

_____

**Task:**

**You have just seen a presentation of Twitter messages.**

**Please write down as many messages as you can remember.**

**Do not worry about the exact wording. If you remember only part of a message, please write it down anyway.**

**Please either number the messages or use bullet points to indicate the start of a message.**

*(additional blank pages were supplied to participants but not included in this appendix)*