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Clandestine Power Legitimised:

Explaining Trust in the Algerian Armed Forces

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Abstract

Although there is a well-researched theoretical tradition to explain institutional trust, very little research has been done in authoritarian countries in general, and MENA countries more specifically. This study aims to fill this gap in the literature by identifying the factors that explain institutional trust in Algeria, focused more specifically on Algeria's armed forces as one of the powerbrokers of the regime. It is found through various statistical tests that both the cultural and institutional theory of institutional trust do not extend well to the Algerian case, with some factors even showing strongly significant results that directly contradict existing theory. Nevertheless, some support is found for cultural and institutional factors identified in other authoritarian contexts. The single best explanatory factor is Algerians' sense of safety and security, where higher levels of perceived safety and security correlate strongly with higher levels of trust in Algeria's armed forces. After performing both a binary and a multinomial logistic regression, a final model is created to explain trust in Algeria's armed forces as accurately as possible.

Acknowledgements

When I hand in this thesis, I will be putting an end to 7 years of continuous academic study, having completed courses and programmes at 5 different universities in 4 different countries. When I started my Bachelor studies 7 years ago, in a vague programme called Liberal Arts and Sciences that I chose mostly because it was in English and involved history, I would not have believed it if someone told me I would be finalising my time in academics with a quantitative study on the armed forces of Algeria. Yet here I am anyway.

Being allowed to be a student for such a long time is a privilege that I am incredibly grateful for, and I feel almost compelled to thank my government for making that possible; I hope one day the rest of Europe may follow the example. My time in university has been nothing less than amazing, and although my time in Lund was not quite up to the standard of what I experienced before, I got to go through it with the most amazing classmates I have had in those 7 years. For that too, I am grateful.

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1. Introduction

Algeria is the largest country in Africa, possesses significant amounts of hydrocarbon wealth, is found on the fringes of Europe and shares a rich history with the other side of the Mediterranean, from the Romans to the more recent colonial past, the latter causing over a million of people Algerian descent to now live within Europe's borders. This information alone would lead one to assume that Algeria surely takes a prominent role in European interest, and thus in academic research. Reality, however, has proven otherwise. Unlike on its neighbours, European research on Algeria's political situation is incredibly limited, and because such research would be extremely difficult, if not impossible to perform by Algerian residents and citizens, the country remains greatly understudied.

The aim of this thesis is to make a contribution to filling this gap in academic research by studying one of the main powerbrokers in the highly complex Algerian regime: the armed forces. Although opinions diverge widely as to the exact extent of the army's power in Algerian politics, it is indisputable that the security apparatus of Algeria, consisting of both the army (*Armée Nationale Populaire*, or "ANP") and the intelligence agency (*Département du Renseignement et de la Sécurité*, or "DRS", recently reorganised as *Département de Surveillance et de Sécurité*, or "DSS"), plays a significant role in decision-making. The role of the Algerian army is "sui generis" (Zeraoui, 2012, p133), a unique case in which the security apparatus ruled and potentially continues to rule without ever taking an executive role directly (Chennoufi, 2016, p61), keeping politics firmly in the backrooms.

Considering the uniqueness as well as the durability of this situation, it is surprising that still very little research has been done on uncovering how the ANP have maintained such a prominent position. This study aims to shed some light on this question by focusing on statistical data available on trust in the army, meaning the extent to which Algerians state that they have trust in their armed forces, using the framework of institutional trust theory. After all, trust in the armed forces may well be the best measure available for the legitimacy of the armed forces in the eyes of the population (Garb & Malesic, 2016, p64), and legitimacy in turn may be even more important in non-democratic states than in democratic ones (Ma & Yang, 2014, p323). However, while the findings of this study may provide useful information

for potential future studies on the way trust in the armed forces relates to the power of the army in decision-making (or even to regime survival, in Algeria's case), my aim is not to attempt to draw conclusions about any such relationship, since that is a topic that deserves a thesis of its own, with a different approach and grounded in a different framework. Instead, I will focus on explaining the levels of trust in the Algerian armed forces, observed in the Arab Barometer¹, by establishing which groups and which views may correlate with greater or lower trust in the army, both contributing to existing theories on institutional trust and shedding more light on what explains trust in Algeria's ANP specifically.

I will thus aim to answer the following primary question: what factors can explain the extent to which Algerians continue to express trust in their armed forces? Since this question will be approached through archival data, this will involve asking more specifically which groups of people are most likely to trust the armed forces, and which views people who express greater levels of trust tend to have about potentially related topics compared to Algerians who have lower levels of trust in the armed forces.

These questions will be approached through a quantitative analysis, using data from the Arab Barometer (2017b), placed within the framework of institutional trust theory, a theory mostly applied and developed within a European and North American context, but with the potential to similarly explain institutional trust in the rest of the world. Through this, two explanatory models will be created, one using the methodologically appropriate but highly complex method of a [multinomial logistic regression](#)² and one using a [binary logistic regression](#), collapsing the 4-[category](#) ordinal variable into a [dichotomous](#) one, which is methodologically problematic (Agresti & Finlay, 2009, p500) but nonetheless the norm among studies of institutional trust, as the literature review will display³.

¹ Algerian respondents in the Arab Barometer have rather average levels of trust compared to respondents in other MENA countries, with 45% of respondents stating that they trust the Algerian armed forces "to a great extent". 28% trust the ANP to a medium extent, and only 8.3% do not trust the institution at all, leaving 17% who express limited trust in Algeria's armed forces (Arab Barometer, 2017b).

² Although this thesis was written within the framework of a field where there is general familiarity with basic statistical terms and concepts, it is being submitted at the Centre for Middle Eastern studies, which is a centre specialised in sectarianism and migration studies, with a fully qualitative research approach. In order to make this thesis more accessible within that particular context, Appendix A provides a basic introduction into the relevant statistics and Appendix B provides a glossary of terms used in this thesis.

³ Every author discussed in the literature review facing the same complication decided to collapse the 4-point ordinal variable into a binary one. These methodological considerations will be further discussed in chapter 4 and 5.

These analyses, performed in chapter 6, will show that although institutional explanations of institutional trust, which argue that an institution's performance determines trust, do seem to affect trust in the armed forces, it is far from the strongest explanatory variable. The cultural theory of institutional trust, which argues that cultural factors influence the extent to which citizens trust their institutions, also receives no more than limited and even highly contradictory support in the case of Algeria's armed forces, nor is there any significant evidence for the social-structural thesis, which argues that demographic factors influence institutional trust. Instead, the strongest factor explaining trust in Algeria's armed forces is the extent to which people feel that their safety and security is ensured, a variable that does not feature prominently in existing theories on political and institutional trust but that appears to have particular relevance in authoritarian countries, above all when it comes to trust in the armed forces in a country such as Algeria, where the military is known even among regular citizens to at the very least have *some* political influence.

Before performing this analysis, however, several other steps first need to be taken. First, it is necessary to briefly consider Algeria's historical and political context, not only because the country is quite unique in its complicated and opaque political system, but also because research on Algeria has been very limited. This means that several explanatory variables may be found in a reading of Algeria's historical and political context. Once this has been done, chapter 3 will establish the theoretical framework, followed by a review of existing literature on similar or related topics. This will then allow for the formulation of a large set of hypotheses in order to identify relevant variables.

Chapter 5 will introduce the methodology, outlining the variables used in both the multinomial and the binary logistic regression, followed by the results, which is divided into three sections: a bivariate correlation, the multinomial logistic regression, and the binary logistic regression. Chapter 7 will then provide a discussion in order to analyse these results and to establish a final model explaining trust in Algeria's armed forces, which will finally allow the drawing of conclusions. The appendix includes a glossary of terms (with links in the text for ease of access) and an explanation of the statistical tests used in order to ease understanding of the material of this thesis for readers unfamiliar with statistics.

2. Algeria: Society & Politics

Aside from providing an overview of Algeria's historical and political context, this chapter will aim to answer a few of the questions that form the foundation of the topic of this thesis. Most importantly, trust in the armed forces was chosen as a topic because of the unique way in which Algeria's regime works, namely with the army as well as the intelligence agency playing an unknown but potentially large role in the regime's political decision-making, as this chapter will show. A vital question to address here, then, is who rules Algeria? *Qui regne?* As the below analysis will show, that question does not have a straightforward answer. In a country where *qui tue qui?* – who kills who – has become one of the defining questions of the decade-long civil war in the 1990s (McDougall, 2017, p309), opaqueness is the norm in everything that has to do with politics, often leaving observers with more questions than answers.

The chapter is divided into three sections: one introducing the historical background, a second providing an analysis of *qui regne?* and the workings of the Algerian political system in recent years, and a third providing a brief look into the most recent developments, which starting in February 2019 (during the writing of this thesis) have catapulted Algeria into the attention of the international news more than ever since the 1990s.

2.1 Historical Background

In the year 1518, Aruj Bey, an Ottoman soldier better known by his nickname Barbarossa, established a military state in Algiers, laying the foundations for the Ottoman Regency of Algiers (McDougall, 2017, p9-11), which several centuries later would become known as French Algeria. While military states were far from exceptional in the early 16th century, however, it is quite remarkable to find a comparable situation still persisting after five centuries of almost uninterrupted military rule (Ibid, p119).

While it is debateable whether this background has any remaining influence on Algeria today, the struggle for independence from France has taken a more solid position in Algeria's national narrative. After the French had accidentally ousted Algeria's reigning regime in June 1830 after a rather serious escalation of a diplomatic incident, they incorporated it as part of

the French state proper with the founding of the 2nd Republic in 1848 (McDougall, p49). A famous 1954 quotation from the then interior minister and later president of France, François Mitterand, illustrates the view held in metropolitan France even a century after the accidental colonisation: “L’Algerie, c’est la France” – Algeria *is* France, and not just another colony. As a result, Algeria’s road to independence was hard. While Morocco and Tunisia both obtained independence in 1956, Algeria had to suffer through a horrific war. While the colonial period itself had been brutal enough on the non-European Arab and Berber population of Algeria, the war exceeded all limits, and was to set the scene for the political situation that continues to persist to this day.

Although history books in Algeria itself tend to ignore it, there certainly was significant peaceful, unarmed protest against French rule, but what was to be remembered in Algeria’s national narrative was the ultimately successful method: armed resistance (Zunes, 2016, p100). This began in earnest on All Saints Day 1954, when a relatively well-organised but then still unknown group of men executed a range of terrorist attacks across the country with the aim to unleash a revolution. They succeeded, largely due to indiscriminate retaliations setting off a tit-for-tat of cruelty that escalated to a point of no return. This group formed itself as the FLN, soon the sole face of the revolution, and later Algeria’s “vanguard political party”. As such, Algeria’s army was founded before the state (McDougall, 2017, p208), as a result of which the army came to see itself as the heir of the war of independence (Zeraoui, 2012, p138).

The first few years after independence solidified the army’s prominent position. First, there were the crises of the day, namely the war with Morocco and the great polarisation in society, which combined with war-fatigue made it easier for people to set aside aspirations for a different political system, such as democracy (Mohamed, 2012, p2). Second, there was the political infighting at the head of the country. When Algeria’s first president, Ahmed Ben Bella, tried to use the army to oust his then political rival Boumediene, the latter used the army to arrest and depose Ben Bella instead. Notwithstanding the personal gains and losses for particular individuals, what this achieved in the long term was a strong political role for the army against the very civilian leaders who had attempted to use the army in their favour (Bourrat, 2012, p23; Chennoufi, 2016, p46; McDougall, 2017, p250-251). While Boumediene himself was able to maintain a strong hold on Algerian politics (Mohamed, 2012, p4), he did so by turning the intelligence agency into his clients, giving significant

power to them as well (Chennoufi, 2016, p47-48). This triangle of power, the presidency, the army and the intelligence agency, together with any other relevant group at any particular time, came to be known as *le pouvoir* - “the power”.

After Boumediene’s assassination, the security forces handpicked his successor, Chadli. While known to be rather malleable and unintelligent, and undoubtedly chosen for that reason, Chadli’s ascendency to the presidency empowered him, making him stand up against his former sponsors (Chennoufi, 2016, p48; McDougall, 2017, p272-273). Regardless, both the ANP and the DRS remained powerful, and when in 1992 in the face of crisis Chadli was given an ultimatum to step down, he duly did as he was told (McDougall, 2017, p289).

By this time, Algeria was in crisis mode. Firstly, there was what was later coined the “Berber Spring”, after in March 1980 a cancelled lecture on Kabyle poetry and subsequent repression of protests and strikes escalated into a greater conflict about Berber rights (McDougall, 2017, p276-277). Centred largely in the area of Kabylia, the source of the conflict lies in Algerian state-building in the 1960s laying a heavy focus on Arabness, something the Amazigh-speaking Kabyles could not identify with to the same extent as the rest of the population. Dismal damage litigation, from claiming the Berber population were just less Arabised than others (Ibid, p276) to recent comments by president Bouteflika that no country in the world has more than one official language⁴ (Willis, 2016, p86), served only to worsen the issue, causing the Amazigh/Berber movement to become increasingly a national one (Ibid, p85). Although the uprisings in the 1980s were eventually quelled, and although Kabyle dissatisfaction has been somewhat tempered by finally making Amazigh a national language in 2016, the issue continues to simmer. To date, one of the main Algerian political parties is a mostly Kabyle one, and demands for autonomy and even separation continue to surface.

However, the real source of the crisis was not political, but economic. While a decade of increasing oil prices had served to disguise Algeria’s major economic problems, the 1980s proved economically disastrous. Decades of oil rent had allowed a strong case of Dutch Disease to foster, so when the price of oil fell, the country soon had to file for bankruptcy (Boucetta, 2016, p33-41). As was the case in many MENA countries at the time, this

⁴ A claim rather easily refuted even before the internet was invented, yet Bouteflika uttered it when even Facebook already existed.

eventually forced *le pouvoir* to begin economic liberalisation, which came inevitably tied to some form of political liberalisation.

At first, this was supported by the DRS, who recognised the need for a new kind of legitimacy in the face of much overdue economic reforms (Chennoufi, 2016, p53). This allowed the Prime Minister, Mouloud Hamrouche, to push through significant reforms, with the aim to eventually allow political liberalisation after a process of approximately 3 years (McDougall, 2017, p286). He was not given 3 years, however, and when the first municipal elections were won in a landslide by the Front Islamique du Salut (Islamic Salvation Front, FIS), this Islamist organisation with a Salafist, anti-democratic manifesto, quickly became the face of the opposition. Their radical views alienated significant parts of the population, but just when their popularity seemed to fizzle out, the security forces sent in tanks against an ongoing FIS-led strike, greatly boosting their popularity as legitimate opposition against a ruthless *pouvoir*. In 1992, legislative elections were held, which were once again won by the FIS, at which point the security forces intervened (Lounnas, 2016, p78-80). The elections were cancelled and the FIS was banned, leading to a civil war mostly between the security forces and islamist groups.

Before discussing the rather crucial decade that followed, a few notes need to be made. Firstly, there is much uncertainty about the exact way in which the decade's events played out. As McDougall aptly points out, it is a "fundamentally unresolved conflict", and with laws in place criminalising writings on the period that negatively affect the state, "recounting the war became indistinguishable from taking a position within it" (Ibid, p292). Secondly, while authors such as John Entelis write mournfully of a "denied" democracy comparable to the Arab Spring, the reality in 1992 was far more complex than such writings let on. Entelis claims that for 9 months, Algeria was a democracy (2011, p657), but in reality the country had seen only limited liberalisation and an election in which no serious contender had any democratic aspirations (Lounnas, 2016, p78-79; McDougall, 2017, p296;). It was rather a democratic moment in time with the aim to determine the future authoritarian direction of the country, and when the uncompromising, harshly anti-democratic FIS seemed poised to take over power, the equally undemocratic *pouvoir* took action. Moreover, in that act, *le pouvoir* was supported even by groups that would usually be opposed to military power, because the radical Islamism of the FIS proved to be a common enemy to unite *le pouvoir* and the secular

middle classes who preferred an authoritarian one-party secular state over an equally authoritarian theocracy.

Under these circumstances, Algeria's dark decade began, characterised by a polarised conflict between militant Islamists and a militarised regime, both of whom went to great lengths to outdo each other's cruelty. Many horrific massacres took place, of which it remains uncertain to this day who committed them. While the perpetrators were clearly dressed and acted as Islamists, many suspicious factors have given very serious credence to theories that the DRS organised the massacres themselves in order to frame the Islamists, ensuring loss of legitimacy for the insurgents both nationally through horrific massacres of whole villages full of civilians, and internationally through for instance the brutal murder and beheading of a group of French monks (Entelis, 2011, p659-660; Bourrat, 2012, p28; McDougall, 2017, p308-315). While the truth behind these massacres will likely never be uncovered, what remains beyond doubt is that unimaginable cruelties were committed, which did little to lessen the polarisation.

But the war did end. Not with a single decisive battle that could put a date on the war's end, but through gradual fatigue that made atrocities gradually rarer, until eventually it could be said that the decade was left behind. The scars, however, remained, and so did *le pouvoir*, now with a greatly strengthened role for the DRS in particular (Martinez & Boserup, 2016, p2), headed since the start of the conflict by Mohamed Mediène, better known as Toufik. *Le Pouvoir* selected a new president, Abdelaziz Bouteflika, one of the last remaining veterans of the war of independence, and Algeria continued to be ruled in backrooms.

Despite these traumas, it would be wrong to claim that Algerians have become completely change-averse. Certainly, Algeria was an exception during the Arab Spring, seeing very few anti-regime protests, and the self-imposed "mental curfew" that persists, leaving Algiers' streets abandoned at night, does seem to be a lingering consequence of Algeria's dark decade (McAllister, 2016, p69-71). Nor do statistics show much optimism among Algeria's population, with the post Arab Spring elections seeing great voter apathy (Aghrout & Zoubir, 2016, p149) and Algerians youths showing lower confidence in democracy than youths in neighbouring countries (Tessler & Miller-Gonzalez, 2016, p39). The civil war plays a role, but it is wrong to think it would have pacified the population entirely. In particular, as Luis Martinez points out in elaborate detail, protests have greatly increased since the early 2000s.

While the Arab Spring may not have seen major protests demanding the fall of the regime, spontaneous, local protests with socioeconomic and regionalist aims have been the order of the day for over a decade, and increasingly so at that (2016, p14-21). Nor have they been unsuccessful, with the regime frequently meeting the protestors' demands (Boserup, 2016, p54). Additionally, public sector strikes take place on a near-daily basis (Entelis, 2011, p674). This persistent social and economic protest thus combined with a general distaste for anything related to politics (McDougall, 2017, p335), creating the rather unique political context in Algeria today.

Before turning to the question of who rules Algeria, it is useful to briefly consider Algeria's economy. Algeria is a rentier state, heavily reliant on hydrocarbon wealth (Boucetta, 2016, p27-29), meaning that the greatest threat to the regime's stability may well be a fall in the prices of that hydrocarbon wealth (Boserup, 2016, p60). *Le pouvoir*, over the decades, has relied heavily on foreign economic theories, combining Keynesian economics with a reliance on European ideas that the road to development leads through heavy industry (Boucetta, 2016, p32-34). These efforts have proven to be ineffective, with stagnating production from loss-making industries (Entelis, 2011, p654; Boucetta, 2016, p38-39) only adding to Algeria's economic timebomb, ready to explode with another drop in oil prices. Industry is now in decline and the country relies on food imports (Boucetta, 2016, p41), meaning that many Algerians face poverty (Martinez & Boserup, 2016, p7), including highly-educated Algerians, since unemployment increases with education level (Martinez, 2016, p20). Additionally, Algeria is plagued by pervasive corruption, siphoning off significant amounts of the country's hydrocarbon wealth (Entelis, 2011, p663; Boucetta, 2016, p27), while efforts to combat this corruption are often politically motivated, in particular forming a powerful way for the DRS to exert its influence on the rest of *le pouvoir* (Entelis, 2011, p663-667). While Algeria's economy is still more diversified than that of for instance Libya (Escribano, 2016, p14), and while the country was spared the rather significant costs of political transition (Ibid, p3), the economic situation remains precarious, with a particular risk of sudden collapse if factors outside of the country's control take a turn for the worse.

2.2 Qui Regne?

Algeria can be considered what Stepan & Linz have called, in a recent addition to their 1996 seminal work on regime types, an "authoritarian-democratic hybrid", in which the reigning

powers believe that “they will lose legitimacy and their followers’ support should they fail to embrace certain core features of democracy” (2013, p20). This is a regime-type that was identified with the MENA region in mind in particular, and has applied to Algeria through most of its post-independence history. Even throughout the dark decade of the 1990s, *le pouvoir* painstakingly made sure that the formal leader of the country (the president) was elected in a democratic showing. A main feature of Algeria’s regime, however, has been the great divide between formal and informal power (Mohamed, 2012, p4; Hachemaoui, 2016, p172-177). Formally, Algeria is a semi-presidential republic, with a strong presidency supported by a Prime Minister with a cabinet, and an elected unicameral parliament. Informal power, however, is harder to pinpoint.

As has been shown in the previous section, Algeria has traditionally been led primarily by three main stakeholders: the presidency, the DRS and the ANP. To this can be added several other potential stakeholders, such as workers’ and employers’ unions and the two main political parties, the FLN and the RND (Martinez, 2016, p13-14), of whom the extent of their influence has always been unknown. It is generally agreed upon by commentators and researchers that the 1990s were characterised by DRS hegemony, and that before the 1990s, no major decision could be made without the approval of both the army and the DRS. It is also generally agreed that parliament is powerless, while some influence can still be found in government, generally dominated by the FLN and the RND. Sonatrach, the state oil company, has also become a vital linchpin of *le pouvoir* (Entelis, 2011, p665), but due to the way its leaders are appointed Sonatrach is mostly relevant as a battleground for influence rather than as an independent actor.

Beyond this, however, researchers on Algeria have widely varying views as to who currently holds power. For instance, Miloud Chennoufi argued that the balance of power in Algeria is firmly in the hands of the president, despite still having to contend with the other two powerbases (2016, p55). Several pages later, in the same book edited by Zoubir & White, Eduard Soler I Lecha claims that the DRS has actually further increased its influence since 2004 (2016, p70). Just a few years earlier, in 2011, John Entelis wrote extensively about the continued influence of the DRS (2011, p667-669), while in 2012 Flavien Bourrat wrote that the army and the DRS were losing influence to the presidency (2012, p29-31), although he does conclude that the DRS maintains a veto right (Ibid, p32-33). In that same year, Mustapha Mohamed argued rather firmly that commentators who believed the DRS and army

were losing power were being misled by the intelligence agency's intentional efforts to seem less powerful (2012, p6-7), backed up in even more determined fashion by Mohammed Hachemaoui in 2016. Perhaps the best illustration of the continued opaqueness of Algerian decisionmaking, Hachemaoui's 20-page article reads like an internet conspiracy about hidden powers written at 3AM in a dimly-lit basement. Except it was not; it was written at Sciences Po by one of France's main Algeria experts, arguing that developments such as the dismissal of the all-powerful DRS leader Toufik had been a ruse to make people believe the DRS was losing power, and that critical public comments against the DRS by FLN officials had equally been set in scene (Hachemaoui, 2016).

Evidence for all these theories stems partly from different interpretations of the same major events. Since the mid-2000s, Bouteflika has seemingly attempted to limit the power of the security forces by appointing people allied to himself. For instance, Abdennour Benantar argues that Bouteflika shifted various important decisions from the army chief of staff to the Prime Minister (2016, p98), who he himself can appoint. The DRS, in turn, came under fire during the presidential elections in 2014, when the DRS opposed Bouteflika's candidacy for a 4th term, followed by denunciations of the DRS's political influence in the media by the secretary-general of the FLN (Martinez & Boserup, 2016, p1-2). A year later, Toufik, by that time the world's longest serving head of intelligence in the world, was forced into retirement, and the DRS was reorganised under a new name, the DSS. The media and other commentators quickly jumped on these developments to conclude that Bouteflika had finally taken control of *le pouvoir*, doing what no president had done before.

Other authors put significant questionmarks behind these developments. James McDougall argues rather cautiously that Toufik's successor, Major General Athmane "Bachir" Tartag, was Toufik's second-in-command, making him an odd choice if the aim was to change the status quo (2017, p337-338). Mohammed Hachemaoui, both in his 2016 article and in a more recent newspaper interview, takes this a step further by asking a rather poignant question: how would Bouteflika be able to do what no president was able to do before, including himself in his first three presidential terms, considering he is now gravely ill, having been unable to give speeches or appear in public for over half a decade? (2016, p171; 2018, §3). Bouteflika's health problems started as early as 2005 and reached a point of no return with a debilitating stroke in 2013, leaving him, allegedly, barely able to speak.

All this makes it far from unlikely that Bouteflika is being used as a puppet, leaving only the question “for whom?”. The theory that the DRS may play that role is further supported by an anti-corruption drive in 2010, unseating Bouteflika’s allies in Sonatrach and promoting a DRS ally as the only director to not be indicted (Entelis, 2011, p666-669). Additionally, earlier mentioned arguments that key decisions were moved from the army chief of staff to the Prime Minister are countered by the fact that Ahmed Ouyahia, Prime Minister on four separate occasions including most recently from 2017 until the 2019 crisis, is known to be an ally of the DRS (Al-Tahrir Al-Qawmi, 2012, p2; Hachemaoui, 2018, §6-9). The counter-argument to this is that Bouteflika’s brother Said, who has acted as an advisor, is potentially holding the reins of power in Bouteflika’s stead (which in turn is equally rejected by Mohammed Hachemaoui (2018, §6)).

Considering the multitude of varying views, it is difficult to draw conclusions. However, for this study, it is not necessary to know precisely who holds the balance of power. After all, the people of Algeria themselves are none the wiser, which means that while it is important to keep these dynamics in mind when analysing the Algerian people’s opinions, it is not needed to understand which of the three axes of power has overcome the other. What remains clear is that there is an ongoing competition between the three axes of power, and so far none has been able to defeat another decisively enough to make any conclusion indisputable.

Poignantly, the people of Algeria are aware of the existence of *le pouvoir* and the way in which the president does not control decision-making alone. History shows that the Algerian people may have a tendency to underestimate the extent of the complexity, as protests in the early 1990s were focused very much on the FLN, considered generally to have been a (seemingly successful) façade for military rule (Chennoufi, 2016, p52-53), but at the same time there is a clear awareness that there is much informal power hiding behind the formal institutions. This will also be the main point to take from the next section, which discusses the most recent political developments that have led to the resignation of president Bouteflika.

2.3 Recent Developments

Fate would have it that rather early in the research process, in February 2019, Algeria finally made headlines around the world for the first time in years as a result of president Bouteflika

announcing his candidacy for a 5th mandate. Significant protests followed, swelling to numbers incomparable to the minor protests of the Arab Spring, which after several weeks finally forced Bouteflika to renounce his candidacy for a 5th term. However, *le pouvoir* did not simply step aside in favour of opposition candidates. It was announced that the elections were to be cancelled entirely, and that a “national conference” was to be organised to decide the future of Algeria. As French newspaper Le Monde succinctly put it, “we wanted an election without Bouteflika, we find ourselves with Bouteflika without an election” (Chenaoui, 2019). Protests continued to increase in numbers, when Ahmed Gaid Salah, chief of staff of the Algerian army and vice-minister of defence, stated he was ready to support a constitutional move to remove Bouteflika for health reasons. Le Monde considered it a break of the strong relationship between the president and the army (Akef, 2019), and thus a major development.

Many of the protestors were less impressed, displaying a healthy amount of scepticism to such statements. Protests continued, millions of people turning up all across the country a few days later, unsatisfied with this easy solution and calling for the resignation of *le pouvoir* in general, including Gaid Salah himself. This poignantly shows that the Algerian people are still very aware of the army’s role, and wary of letting the army execute its strategy unchallenged. They may very well be right, as Mohammed Hachemaoui already argued three years ago that Bouteflika could be positioned easily as a scapegoat, and that *le pouvoir*, which he believes is centred more around the DRS than the ANP, would drop the president as soon as popular sentiment turned against him (2016, p183). Whether true or not, protests did not abate and anger only intensified at *le pouvoir* as a whole, eventually causing Bouteflika to announce his imminent resignation, to be realised at the end of April, when his mandate officially expires. At the time of writing, this is as far as the information goes.

Usually, one would expect this to be the point where I conclude that this is a momentous time for Algeria, that continuity lies in the balance and that the few months after publishing this thesis will be crucial. But I will not do so. Many authors have drawn such conclusions before, and each time they appear to have been proven wrong. The Sonatrach corruption scandal, Bouteflika’s debilitating stroke, Toufik’s dismissal, various appointments and political restructurings have all enticed authors to conclude that major change is just around the corner. Throughout the past 15 years in which these events took place, however, it is difficult to state with certainty that anything has really changed. Toufik was considered the mysterious

and all-powerful linchpin of *le pouvoir* for 25 years, but while his dismissal *may* have caused major change, there is very little certainty. Presidents, too, have come and gone over the past six decades of Algerian statehood. Bouteflika may become the exception, and the prominence of the armed forces in Algeria's political system might indeed be on the decline, but it is very early for such conclusions. Time will tell, but until then, this thesis will hopefully provide a useful contribution to the literature on institutional trust worldwide, and particularly trust in the armed forces, as well as to the literature on Algeria in particular.

What should above all be taken from these recent developments for the purposes of this research is that the protestors as well as the media are quite well aware that the army holds significant amounts of power. The reaction to Gaid Salah's announcement on a potential constitutional way to depose Bouteflika shows the extent to which the army's role in decision-making is known, which will be the main point to keep in mind throughout this thesis. Additionally, it is the people's reaction to damage mitigation from above that will determine the course of events, and it is the views of those people that are the subject of this thesis.

3. Theoretical Framework

The theoretical framework to be used for this study is institutional trust theory, which has its origins in psychology and aims to explain trust in institutions, thus matching perfectly with the aims of this dissertation. Other potential theories, such as civil-military relations and authoritarianism/democratisation, may be helpful in explaining factors surrounding the precise research question, but do not help explain the actual factors that will be analysed throughout this thesis.

Institutional trust theory, which is often focused on political trust more specifically (trust in purely political institutions such as the government or political parties), has mostly been characterised by two potentially opposing theories, the one arguing that the actual performance of institutions determines public trust in them, and the second arguing that cultural factors are more important in explaining trust in institutions, giving actual performance at best a secondary influence (Mishler & Rose, 2001, p33-37). The former theory is generally known as the institutional theory, also referred to as the evaluative dimension (Zhai, 2018, p351) or the performance theory (Boateng, 2018, p165-166), since its main argument is that evaluations of an institution's performance determine public trust in that institution. The latter theory is generally known as the cultural theory of institutional trust, which can also be considered an "affective" dimension of institutional trust (Zhai, 2018, p351).

The cultural theory of institutional trust has its basis in the literature on social capital and argues that political trust is largely determined by cultural factors, with particular focus on the extent to which there is generalised trust in society. Generalised trust, as opposed to particularised trust, is trust of strangers, not based on any knowledge of the particular individuals that end up being trusted (Bjørnskov, 2007, p2). This cultural theory was supported amongst others by Ronald Inglehart (e.g. Inglehart, 1988), who later founded the World Values Survey (WVS) and included a question on generalised trust, greatly facilitating statistical research and allowing it to be thoroughly tested in the early years of the WVS and its regional counterparts. In its latest version, the WVS asks, "generally speaking, would you

say that most people can be trusted or that you need to be very careful in dealing with people?" (Inglehart et al., 2014, p3).

In addition to generalised trust, the cultural theory also puts an emphasis on other non-performance factors, most notably social capital in general. Individuals who are more firmly rooted in society, with active engagement in groups and organisations, are more likely to trust the relevant institutions. Additionally, individuals who are part of the same group (e.g. ethnicity) as the relevant authority are more likely to trust that authority (Tyler, 1997, 328-330). There is thus a range of cultural factors that can influence institutional trust, since general psychological attitudes have many different ways in which they can be measured, and different contexts provide different relevant factors.

The institutional, performance-based perspective has received more empirical support in recent years (Ma & Yang, 2014, p326), but provides greater difficulties when it comes to finding an adequate way to measure it as a variable. After all, there is often no objective way of measuring the performance of a political institution, because decision-making as well as the consequences of those decisions are incredibly complex and require much more than a simple survey question to measure it. This leaves the researcher with two options: to use government-performance indicators such as macro-economic performance, poverty levels, crime rates or measurements of equality, or to use survey data in which individuals express the extent to which they believe a political institution is performing well. The former makes research rather complex, because it will require macro-level indicators that can thus only be applied to comparative or longitudinal research, whereas the latter suffers from a potential tautology: asking individuals whether they trust a government and whether they believe the government is performing well may be little more than asking the same question twice, leading to strongly correlating results even if the performance-based theory is not actually accurate. While this is a significant limitation, it has not, however, stopped the theory from being used widely, not only because of empirical support, but also because the theory makes intuitive sense in that one would expect actual performance to influence public trust. Nevertheless, there is no proper counter-argument against the tautology argument, which means that the interpretation of any results need to be done with this consideration in mind.

One of the most prominent authors attempting to find adequate measurements for performance-based theories is Tom Tyler (Tyler, 1997; Tyler, 2001; Tyler & Huo, 2002). In

summary, his writings suggest that performance can be measured through perceived motives and perceived quality of decision-making. Dejun Tony Kong operationalises these as “benevolence” and “competence” (2014, p387-388), where the former refers to the extent to which individuals believe the institution has the right motives and genuinely cares for the affected individuals, while the latter measures the extent to which individuals believe an institution is able to effectively make and implement the right decisions. The perceived benevolence and competence of an institution is then expected to influence trust in that institution through a positive association.

In addition to these two main theories, a third theory bears a brief mention. Formulated more recently, this so-called social-structural thesis is basically the argument that demographic factors can influence trust in institutions (Wu, Poteyeva & Sun, 2012, p190-191). This perspective is not mutually exclusive with the other theories, and thus merely suggests that demographic factors should be included, and that they can function as more than just [control](#) variables.

Although institutional trust theory is the obvious choice as a framework for a study on institutional trust, a brief consideration of the relevance of knowledge on political trust may be in order. As has been mentioned, institutional trust theory has often focused on trust in political institutions, with political trust theory a widely-used synonym. Although this may appear to limit the relevance of some of the theory’s findings for this study, trust in political institutions is also of great relevance for Algeria’s armed forces. After all, the political role the army has, as has been explored in chapter 2, means that Algeria’s armed forces cannot properly be called a non-political institution. I refer in this paper always to “institutional trust” as the all-encompassing term, but “political trust” may be very much applicable as well, and as a result, so can its literature.

4. Literature Review

The aim of this literature review is to provide an overview of findings from related studies on institutional trust. The findings of these related studies can then help identify factors that may potentially explain trust in Algeria's armed forces. For these two purposes, this chapter has been divided into two sections: the first will discuss the relevant literature to identify explanatory variables found in previous studies which may be of relevance for this study as well. The second section then lays out exploratory hypotheses based on these identified variables.

4.1 Relevant findings in the literature

Research on trust in the armed forces is relatively rare, having been included in the major values surveys only very recently, and comparable statistical research on the armed forces in non-democratic countries is even rarer. As a result, this literature review will consider an expanded range of research, looking beyond just articles concerning trust in the armed forces in non-democratic countries. In particular, many included articles concern political and institutional trust more generally rather than trust in the armed forces specifically. The reason for their inclusion, other than the lack of studies on trust in the armed forces, lies at the basis of the motivation for researching this topic in the first place: in Algeria, there may be a certain amount of congruence between trust in political institutions and trust in the armed forces due to the earlier described relation between the two. By including such works on related countries (particularly in the MENA region), a wider range of explanatory variables for trust in the armed forces can be identified. For similar reasons, studies on trust in the police have also been included.

An example of relevant literature on political trust comes from Dejun Tony Kong and his insightful research in Arab countries, including Algeria (2014). Using the same statistical resource (the Arab Barometer), Kong did an ordinary least-squares regression to find to what extent factors from cultural and institutional political trust theories influenced political trust (trust in elected institutions and the courts) in 3 Arab countries: Algeria, Morocco and Yemen. He found that institutional factors (perceived competence and benevolence) were strongly [significant](#) in all 3 countries, whereas generalised trust was only strongly significant

in Algeria, barely so in Yemen and not at all in Morocco. This thus provides evidence that institutional factors might also play a significant role in institutional trust in the MENA region, and in Algeria in particular. Cultural explanations such as generalised trust and social capital, however, cannot be ruled out entirely either. Interestingly enough, while Kong's data leads him to conclude that cultural explanations are seemingly less relevant, Algeria is the exception in his results, showing generalised trust to be a strongly significant determinant of political trust in the country, on par with perceived government competence.

While Kong's study is the only one to apply institutional trust theory to Algeria, many other researchers have attempted to test these cultural and institutional theories outside of the MENA region. For instance, Francis Boateng (2018) tested the extent to which perceived police effectiveness influenced people's trust in the police in Ghana, finding a strongly significant positive effect. Ghanaians who believe the police is effective are thus also more likely to trust the police. However, while Boateng had access to a dataset asking specifically about the effectiveness of the police, the data available for this thesis only reports respondents' perceived government competence, and not perceived competence of the armed forces. While this is no major limitation, since the army's unique role in Algeria makes perceived government competence particularly relevant, it does mean that the results of this particular study may differ from Boateng's results. Additionally, although Ghana may be culturally different from the countries on which most political trust theories were initially based, it is a democratic state with a relatively high degree of freedom (Freedom House, 2019) and thus differs strongly from the political context in Algeria.

Perhaps a more comparable study, then, is the one by Wu et al. (2012), who examined all three theories of institutional trust in the case of the police in Taiwan and China, where due to the focus on authoritarian states the results for China will be of greatest relevance. They similarly find that perceived police performance is a determinant of trust in the police in China, but they additionally find that perceived government performance is an even stronger indicator of trust in the police, with all three of their variables (responsiveness, perceived corruption and perception of the macroeconomic conditions of the country) showing a strongly significant effect. This suggests that it can be expected that government performance will also be linked with trust in the armed forces.

At the same time, Wu et al. find evidence for the cultural thesis, as their variable on generalised trust is strongly correlated with trust in the police. They include in this also a variable on orientation towards authority and find this to be similarly significant as an explanatory factor. These findings are echoed by other authors Ma & Yang (2014), who find that generalised trust is a significant variable in their study on political trust in East Asia, although much less strongly so than some of their alternative explanations. These texts together thus suggest that institutional and cultural theories of political trust apply relatively well in the Global South, giving little reason to believe they would not also apply in the case of the Algerian armed forces. As a counterweight to this, however, Reynolds, Semukhina & Demidov (2008) found that actual police performance (calculated by solved cases and crime rates) had little influence on trust in the police. This thus once again raises the theoretical issue of the institutional thesis touched upon earlier: actual institutional performance is difficult to measure, and when attempted by Reynolds et al., no significant effect was found. At the same time, perceived performance, which is easier to measure and does have much support in the reviewed literature, may be little more than a tautology.

The third theory of political trust briefly addressed in the previous chapter has less prominence in the field and thus does not feature in much of the relevant literature. Wu et al. (2012) argue that age, gender, class (measured by education, income and employment), marital status and area of residence (urban vs rural) have all been shown to have relevance in the literature, although their own analysis shows mixed results, with only class and area of residence showing any significant relationship, where people of higher social classes and those living in urban settings are more likely to trust the police than their counterparts. Other studies tend to use such factors as [control](#) variables rather than explanatory variables of their own, but similar effects are nonetheless found. For instance, Juha Kääriäinen argues that it is important to include variables such as education, employment and area of residence (2007, p417), and finds in his analysis of trust in the police in 16 European countries that age, gender, education, employment, area of residence and perceived income are all significant variables explaining trust in the police.

Many studies in authoritarian countries have come to similar conclusions. For instance, Ma & Yang (2014) found that people living in urban environments in East Asia were significantly less likely to trust their political institutions than those living in rural environments, which stands opposed to Wu et al.'s finding that people living in urban environments trusted the

police more in the case of China. Gender is found to be non-significant in most studies considered here, although Ma & Yang (2014) find that East Asian women are slightly more likely to trust their political institutions than men. Results on age are even more mixed, likely due to the fact that contextual historical circumstances can make a great difference, with different generations experiencing different situations, and marital status is found to be non-significant in both studies that applied it (Wu et al., 2012, p202; Boateng, 2018, p176). Employment status was used only in the two European studies included in this review, while Wu et al. (2012) found a significant effect for social class, of which employment status was one of the three included factors.

Education also shows mixed results, with Ma & Yang (2014, p336) and Yida Zhai (2018, p361) identifying significant [negative relationships](#), whereas Francis Boateng (2018, p176) found a barely significant [positive relationship](#), thus contradicting one another. On the other hand, Juha Kääriäinen (2007) found no effect at all in his 16 European countries. Education was also applied to trust in a military institution, namely the Slovenian armed forces. There, Maja Garb (2015) found a strongly significant negative relationship between education and trust in the Slovenian armed forces, but her results are hampered greatly by the fact that she goes no further than a [bivariate](#) analysis, which does not [control](#) for any other factors and can thus not be considered reliable.

Income, finally, has been shown to play a role in institutional trust, even across various operationalisations (e.g. estimated income and perceptions of personal economy). It is also a potentially complicated variable when it comes to trust in the police (and the army) in particular, since, as Juha Kääriäinen explains, a society that invests relatively little in the security services may actually see increased levels of trust if they instead spend that income on welfare, since it is generally expected that higher levels of income will lead to higher levels of trust in the relevant institution (2007, p410-411). Although Kääriäinen studies trust in the police in a European context, this observation may well prove very relevant in Algeria, a country with one of the biggest armies in the region and which spends significant amounts of its wealth on its security services (Solar I Lecha, 2016, p69), in addition to the large amounts of wealth lost in corruption among high-ranking officers, as chapter 2 has illustrated. A future macro-level comparative study could take particular note of this.

Despite this, results of income's influence on institutional trust are relatively mixed. Francis Boateng (2018) found no significant relationship between income levels and trust in the police in Ghana, whereas Juha Kääriäinen (2007) found a rather strong positive relationship between the perceived comfort of household income (as opposed to actual income) and trust in the police in European countries. Poignantly, Dejun Tony Kong (2014) finds that while perception of personal economy (similar to Juha Kääriäinen's variable) is not significant for Morocco and barely significant for Tunisia, it is a relatively good explanatory factor for trust in political institutions in Algeria, also displaying a positive relationship. There is thus some evidence that the variable may be of relevance in explaining institutional trust in Algeria.

All these variables taken together nonetheless point to relatively weak support for the social structural thesis. Demographic factors certainly appear to play a role, but the exact relationship appears highly-context dependent and is often weaker than alternative explanations. They will, however, be tested in the case of Algeria's armed forces as well, because they have all been identified as relevant [control](#) variables to strengthen the validity of the results for other variables. This inclusion as control variables will also enable the observation of significant relationships if they happen to occur. To this will be added a control variable relevant for this research in particular, namely employment in the armed forces or the police, where it can be expected that Algerians who work in the security sector (or whose spouse does) are more likely to trust the armed forces. A comparable variable was used by Maja Garb (2015).

There is, however, also a range of potentially relevant factors found in the literature that do not fit neatly within the established theories but that nonetheless deserve consideration. After all, much of the literature as well as the theory has been written and developed in highly developed democratic countries, which may have missed out on factors that are of particular relevance in authoritarian countries of the Global South, of which Algeria is an example. For instance, since the subjects of trust in these studies, whether it be the government, the police, the courts or the armed forces, are all part of the same authoritarian context, conservative, pro-authoritarian beliefs may well be correlated with trust in such institutions.

This is what Yida Zhai (2018) finds in her study of traditional values in China and their influence on trust in institutions and trust in the government. She identified four types of traditional values, namely social values, family values, political values and views on

democracy. She finds that both traditional social values and traditional political values correlate with higher levels of institutional trust (trust in parliament, political parties, national government and courts). All four types of traditional values were found to be significantly related to trust in government, with traditional social, family and political values all displaying a positive relationship and liberal-democratic values showing a negative relationship.

A similar study was done by Ma & Yang (2014), looking at political trust in several East Asian countries in order to assess whether there is a relationship between political trust and authoritarian orientations. They see authoritarian orientations as including “deference to authority, unquestioning obedience, and reliance on authorities” (Ibid, p326), for which they create a variable using several questions from the Asian Barometer. They find that people who display stronger authoritarian orientations are much more likely to report greater levels of trust in seven selected political institutions. Additionally, those who believe that democracy is functioning well were also more likely to trust the seven selected institutions. Similarly, Wu et al. (2012) found that orientations towards authority had a very strong positive relationship with trust in the police in China, whereas there was no significant effect at all in the case of Taiwan. This shows that while there is thus much evidence from East Asia that traditional as well as authoritarian views influence trust in political institutions, the same may not apply to democratic states in the same region. Dejun Tony Kong (2014) also provides some evidence that the same factors may not apply equally to Algeria: support for democracy did not prove to be a significant explanatory factor for political trust in any of the countries he studied, including Algeria.

Notably, although it does not generally feature in the cultural theory on institutional trust, both Ma & Yang and Yida Zhai frame their research within this tradition, arguing quite convincingly that traditional beliefs and authoritarian tendencies are very much cultural factors (Ma & Yang, 2014, p325-327; Zhai, 2018, p351-353). Since they appear to have a significant effect in East Asian authoritarian countries, it will be of great interest to apply comparable factors to the case of Algeria in order to shed further knowledge on the cultural theory in a non-democratic context.

In fact, another relevant factor that can be considered to fit within the existing theories is considered in existing literature, namely corruption, operationalised in various ways and able

to fit within both the institutional and the cultural theory depending on operationalisation. For instance, Francis Boateng (2018) assessed the influence of the degree to which people were willing to accept corruption on trust in the police, finding a non-significant effect, whereas Juha Kääriäinen (2007) and Wu et al. (2012) asked respondents about personal experiences of bribing, finding that respondents who had never experienced or been involved in bribery were more likely to trust the police than those who had. Finally, in a third way of conceptualising corruption as an explanatory factor, Ma & Yang (2014) found that respondents who believed that their society was generally corrupt were less likely to trust the seven selected institutions. The majority of comparable studies have thus found that the degree of corruption, whether perceived or experienced, has a strongly significant (negative) effect on institutional trust.

Similarly, another cultural factor may be the attitude of the media towards the regime, where journalistic opinion about institutions may eventually trickle down to the population at large. Garb & Malešič argue that journalists may trust institutions more if they can work in relative freedom from institutional interference (2016, p66), which implies that the extent to which a country provides freedom for journalists could influence the trust in institutions. Since this is a macro-level explanatory factor, however, it cannot be tested in this study.

An additional social-structural variable is also occasionally considered, namely ethnicity or belonging to a minority group. Francis Boateng (2018) includes ethnicity as a [control](#) variable, finding a barely significant effect (with the dominant ethnic group displaying higher levels of trust), and Kaitlyn Sanborn (2018) devotes a whole study to the effect of ethnic favouritism on trust in the armed forces at the macro level. Although she does not find a significant effect, her small sample (due to studying the effect on a country level) does display a pattern in which members of the favoured ethnic group display greater levels of trust in the armed forces than members of other groups. While these two studies thus find relatively weak correlations, Juha Kääriäinen (2007) finds that in the European context, members of discriminated groups were significantly more likely to report higher levels of trust in the police. These three studies taken together imply that ethnicity may play a role, but the precise direction of a potential relationship is likely to be highly context-dependent. When formulating a hypothesis, this context, addressed in chapter 2, will thus have to be taken into account.

Two last variables considered in the literature are worth noting, despite not definitively falling within any theoretical tradition. First, there is sense of security, which has been of particular interest in studies on trust in the police, since in that instance it could be considered a factor within performance theory. Juha Kääriäinen (2007), for instance, finds that Europeans who feel safe walking alone at night are far more likely to trust the police than those who do not, and Wu et al. (2012) find that Chinese individuals who report feeling generally safe are more likely to trust the police. Reynolds et al. (2008) find a similar link between fear of crime and trust in the police, although Francis Boateng, using a similar variable but with a different methodology, finds no significant effect for fear of crime. Although these studies have all focused on trust in the police rather than in the armed forces, security concerns and sense of safety can still be considered relevant when considering trust in the armed forces, since the military is similarly tasked with keeping citizens safe.

Finally, Maja Garb (2015) found that individuals who had the intention to potentially emigrate in the future displayed lower levels of trust in the Slovenian armed forces. Since emigration is also a big topic in Algeria, this factor may also prove relevant in the Algerian context.

4.2 Hypotheses

The literature reviewed above identified a large number of factors that may explain trust in Algeria's armed forces. Due to the mostly explorative nature of this thesis, with no comparable research on trust in North African armies having been done before, a multiple hypothesis testing approach will be used. Therefore, rather than choosing a small number of hypotheses that will be tested with the full expectation that the [null hypothesis](#) will be rejected, this study will outline an extensive list of potential factors, intended to be as exhaustive as possible, to be tested for their influence on trust in the armed forces. While certain outcomes will be hypothesised, it should not be expected that all or even a majority of the included variables actually influence trust in Algeria's armed forces, since institutional trust theory's application to the diverse cases of the Global South has so far still been limited, while research into trust in the armed forces has been even rarer. Instead, the purpose is to identify variables that do and do not influence trust in the armed forces, and then to finally create a model of factors that together explain trust in the armed forces as well as possible. This will then create an overview of factors that may equally be relevant in comparable cases,

in order to contribute to existing theory, which in this context is currently still underdeveloped.

The hypotheses to enable this are outlined below, separated into five categories: social-structural (demographic) factors, cultural factors, institutional factors, other factors based on previous research, and factors based on Algeria's political and historical context.

Social-Structural Factors

The social-structural theory of institutional trust posits that demographic factors can play a significant role in explaining trust in institutions. Since this includes a range of variables and because those same variables will be included as [control](#) variables, it will be more convenient to summarise this in only one hypothesis, rather than creating separate hypotheses for each particular demographic variable. One variable, ethnicity, will be included separately as a variable based on Algeria's political and historical context.

Hypothesis 1: Demographic factors (gender, age, education, employment status, marital status, area of residence, income and working for the security services (or having a spouse who does)) influence the extent to which an individual trusts Algeria's armed forces.

Cultural Factors

Previous research and an existing theory suggest that generalised trust and civic engagement are linked to institutional trust in that engaged citizens and individuals who state that they trust other people in general will be more likely to also trust institutions. Dejun Tony Kong (2014) found that this relationship was present in Algeria (for political trust), and elsewhere Wu et al. (2012) and Ma & Yang (2014) found the same in China and East Asia more generally. The question posed here is whether these factors also apply to the Algerian armed forces. Civic engagement will be measured through two concepts, namely group membership (as similarly defined by Dejun Tony Kong (2014)) and political interest.

Hypothesis 2: Algerians who trust people in general will express greater trust in Algeria's armed forces than their counterparts.

Hypothesis 3: Algerians who display greater levels of civic engagement (through political interest and membership of groups & organisations) will express greater trust in Algeria's armed forces.

Two studies on traditional beliefs have been highlighted in the literature review. Ma & Yang (2014) and Yida Zhai (2018) found that authoritarian orientations have a positive effect on institutional trust in East Asia and China. Their data source was the Asian Barometer Survey, which includes several questions on authoritarian beliefs that do not feature in the Arab Barometer. While a variable on authoritarian beliefs will still be created, pro-democratic attitudes will also be assessed. Additionally, Yida Zhai (2018) finds that pro-democratic attitudes have a negative relationship with institutional trust, although this effect was not present for political trust in Algeria (Kong, 2014).

Hypothesis 4: Algerians who display a stronger authoritarian orientation will express greater trust in Algeria's armed forces than their counterparts.

Hypothesis 5: Algerians who are more supportive of a democratic system will express less trust in Algeria's armed forces than their counterparts.

Yida Zhai (2018) additionally studied the effect of traditional, conservative values on institutional trust, finding a positive relationship in all of the combinations she studied. Again, however, the variables she used are not available in the same way in the Arab Barometer due to the particular fields of interest that researchers in the MENA region tend to have (the Arab Barometer was set up with such regional considerations in mind (Tessler & Jamal, 2006, p434)). As a result, this paper will use traditional value indicators available in the Arab Barometer, namely views on women's rights, level of religiosity and tolerance for other groups. Religiosity was additionally found to be a significant explanatory factor by Maja Garb (2015). It should be noted, however, that all of these hypotheses may display a particularly complex relationship in the Algerian context due to the decade-long civil war between the Algerian security forces and an Islamist guerrilla insurgency, where Islamists with very conservative views fought against the Algerian army.

Hypothesis 6: Algerians who display more traditional conservative views on the role of women in society will express greater trust in Algeria's armed forces.

Hypothesis 7: Algerians who display higher levels of religiosity will express greater trust in Algeria's armed forces.

Hypothesis 8: Algerians who display more xenophobic beliefs will express greater trust in Algeria's armed forces.

Institutional Factors

Previous research and existing theory have also suggested that good performance by the government can increase institutional trust. The research done by Dejun Tony Kong (2014) included the case of Algeria, and following Tom Tyler (1997; 2001), measured the concept through two distinct factors, namely *competence* and *benevolence*. Kong found as hypothesised that both were correlated with political trust in Algeria, displaying a positive relationship. Benevolence, however, displayed only a barely significant effect in the case of Algeria. Although many conceptualisations are possible, this one was chosen because it was applied by a comparable study which used the same data source, thus including the same questions for operationalisation.

Hypothesis 9: Algerians who display greater levels of perceived competence of the government will express greater trust in Algeria's armed forces than their counterparts.

Hypothesis 10: Algerians who display greater levels of perceived benevolence of the government will express greater trust in Algeria's armed forces than their counterparts.

The most recent Arab Barometer allows for an additional question to gauge the extent to which citizens approve of the government, asking to what extent they are angry at the government. Since this can provide an additional measure for the relationship between government performance and trust in the armed forces, it will also be included in the analysis.

Hypothesis 11: Algerians who express greater anger at the government will express lower levels of trust in Algeria's armed forces.

Other Factors

Sense of security has been shown to be a significant explanatory variable for trust in the police, which can be said to fit within the institutional theory on institutional trust because the police is directly responsible for the safety and security of citizens. Although this may also apply to the armed forces, the ANP's rather complex position in society means that sense of security cannot necessarily be seen as a variable for performance-based explanations of institutional trust, which is why it features in this section. There is, however, an expectation that the same pattern observed in the case of the police elsewhere will also be observed in the case of the armed forces.

Hypothesis 12: Algerians who believe that their personal safety and security are ensured will express higher levels of trust in Algeria's armed forces.

Ethnicity has been shown to be relevant, although its effect is highly context dependent. Francis Boateng (2018) and Kaitlyn Sanborn (2018) both find that ethnic favouritism may play a role, but in the case of Algeria, despite some state discrimination against the Amazight minority, there are no statistics available on ethnic balance in the armed forces and no indication that Berbers would be significantly underrepresented in the armed forces. Tension has largely revolved around the use of language, which itself has been mostly resolved in 2016. Additionally, Juha Kääriäinen finds the opposite effect in European states, with ethnic minorities displaying higher levels of trust in the police. Although this is not implausible in the case of Algeria, it will be hypothesised that Algerians belonging to the Berber minority are less likely to trust the armed forces, due to the fact that anti-government tensions do exist and because previous research displaying this effect was done in other parts of Africa, rather than in Europe.

Hypothesis 13: Algerians belonging to the Amazight Berber minority will express lower levels of trust in Algeria's armed forces than their counterparts.

The Arab Barometer asks only one question related to corruption, asking about the extent to which corruption exists in state agencies, roughly conforming to the formulation used by Ma & Yang (2014), who observed a negative relationship between perceived corruption and institutional trust.

Hypothesis 14: Algerians who believe that state agencies are corrupt will express lower levels of trust in Algeria's armed forces.

Intention to migrate was used as an explanatory factor by only one study reviewed above, but it is worth briefly considering whether a similar effect may exist when it comes to trust in Algeria's armed forces due to the relevance of the topic in Algeria's context. Maja Garb (2015) found that individuals with an intention to emigrate displayed lower levels of trust in the (Slovenian) armed forces.

Hypothesis 15: Algerians who have an intention to emigrate will express lower levels of trust in Algeria's armed forces.

Factors based on Algeria's historical and political context

Although it is hypothesised that traditional values tend to lead to greater institutional trust, Algeria's decade-long civil war suggests there may still be a significant rift between Islamists and the armed forces. As a result, an alternative hypothesis can be formulated.

Hypothesis 16: Algerians who express anger at Islamists will express greater trust in the armed forces.

Finally, it is necessary to also consider general political trust. After all, the assumption has been made that the involvement of Algeria's armed forces in day-to-day decision-making could lead political trust theory to apply at least to some extent to trust in the ANP. This assumption thus requires, and hypothesises, a positive relationship between trust in political institutions and trust in the armed forces. A non-significant effect on this hypothesis would severely damage the foundation on which the research question is based, and can thus not be left out of the list of most relevant independent variables. For the same reasons, however, it should not be included in the full model, since it may to some extent be measuring the same concept and thus undermine the remaining variables.

Hypothesis 17: Algerians who display higher levels of trust in political institutions will express greater trust in the armed forces.

5. Methods

The [dependent variable](#), trust in the armed forces, is measured on a 4-point rating scale, thus creating an [ordinal variable](#). This complicates the analysis because, as an ordinal variable with only four [categories](#), the variable cannot be treated as [continuous](#) and is not [dichotomous](#), which leaves very few statistical methods for analysis. The most logical option would then be an ordinal logistic regression, but statistical tests showed that the data in the sample fails the [test of parallel lines](#) ($p < 0.001$), meaning that an ordinal logistic regression was also not possible. Other authors reviewed above and facing the same issue have all opted for the same solution: to dichotomise the dependent variable into “trust vs no trust” in order to facilitate more simple statistical analyses, most notably a regular [binary logistic regression](#) (for instance Wu et al., 2012; Tessler & Miller-Gonzalez, 2016; Boateng, 2018). Books on how to correctly conduct statistical research advise against this, however, claiming that a 4-point [Likert/rating scale](#) cannot be dichotomised without losing significant amounts of data (Agresti & Finlay, 2009, p500). For instance, a person indicating that they have “not very much trust” in the armed forces may not have said “no” when asked whether they trust the armed forces, but would be coded as if they did.

While this gap between what statisticians consider correct and what other contributions to institutional trust theory have done may provide a dilemma, it can also provide an opportunity to test and compare both methods. In light of this, this study will have two separate analyses of the same data in order to both test the robustness of the findings and to judge to what extent dichotomisation may indeed prove methodologically problematic, thus also providing insights into the advantages and disadvantages of these methodological approaches. Before this, however, a more simple [bivariate](#) analysis will be performed to visualise how the variables influence the dependent variable on their own. Once all three analyses have been performed, a final model will be created using stepwise-deletion in a binary logistic regression due to the fact that objective reduction of the number of variables is not possible with a multinomial logistic regression. While interpreting the final model, the findings of the multinomial logistic regression should nonetheless not be disregarded.

5.1 Sample

The data used for the analysis is from the Arab Barometer, available at arabbarometer.org. The Arab Barometer is an extensive public opinion survey that contains four waves, starting in 2006, as a result of the cooperation between several research institutes, both outside and inside the MENA region, with day-to-day business handled in the United States. Although practical and political limitations have made sure that not all Arab countries have been covered, fourteen Arab countries were included in at least one wave of the Arab Barometer, and four, including Algeria, were included in every wave. The survey uses probability sampling, mostly through stratification, and gathers its data through face-to-face interviews. These interviews are held at the respondents' homes by locally-staffed interviewers, overseen by a steering committee based both in the MENA region and in the United States (Arab Barometer, 2019).

Precise sampling methods can vary, however, as different countries provide different challenges and have different information needs. Data for Algeria in the most recent survey, wave IV (2016-2017), is collected through stratified area probability sampling (Arab Barometer, 2017c, p2). This method was chosen in order to create the most representative dataset possible, allowing equal participation across all regions of a country, and because a fully random sample is not feasible due to a lack of access to a full register of citizens. Stratification is geographically based through the use of maps and the latest estimates of population size in any particular geographic location, in the case of Algeria using a minimum number of respondents for each region (wilaya), set at 10. The sample includes 1200 respondents.

This particular dataset was chosen due to the easy availability, with sound, well-tested methods and supported by resources that an MA thesis could never begin to approach. Surveys such as this one have been held since 1981 (the World Values Survey, which is now in its 8th wave of data on the values of individuals all over the world), with its methodology continuously perfected both through cumulative experience and the availability of large amounts of research funds. Region-specific surveys have since been created for much of the world, including the Arab Barometer for the MENA region. Although performing a survey oneself is an option, it would not be possible for an MA student to create an equally large or random sample such as this one. This is also why so many researchers have done the same

(most studies reviewed earlier used the World Values Survey or any of the regional versions), and why it has been possible to make available the funds to continuously hold such surveys. Although the WVS also has data on Algeria, it was decided to use the Arab Barometer both because it currently provides the most recent data, and because it is fine-tuned to address the issues that are considered by its creators as the most relevant topics in the MENA region (Tessler & Jamal, 2006, p434).

There are, however, some limitations to the use of an archival dataset, of which three deserve mention. First of all, archival data suffers from common method and common source bias (Kong, 2014, p394). Although the various regional surveys are strengthened in their use of well-tested formulations, this same asset also creates a limitation in that most of the quantitative research being done is based on data that uses the same methodology. Secondly, archival data means that the research becomes restrained to the variables that are available in the data, without an ability to ask the exact questions that would be relevant for the research (Kääriäinen, 2007, p416-417). Although this problem is partly counteracted by the sheer size of the survey, with Wave IV of the Arab Barometer containing nearly 300 questions, this does inevitably mean that not every relationship can be tested. For the purposes of this particular research, a missing factor that stands out the most is a question about the performance of the armed forces, which would more directly test the conclusions of the institutional theory on institutional trust. Equally, actual performance measures cannot be found in a survey on attitudes and values. Thirdly, some variables display a greater number of missing values than others, and when used for a logistic regression, this means that a respondent will be excluded from the sample entirely if they merely failed to answer one single question used in the analysis. As a result, studies using archival data and making no efforts to combat the issue may suffer from a large amount of missing cases⁵. Although missing values are to some extent unavoidable, it is of interest for the research to limit the number of missing values as much as possible, and to keep this in mind when selecting the relevant variables (Ma & Yang, 2014, p331).

Although any research making use of the World Values Survey or its regional values survey equivalents (such as the Arab Barometer) should keep these limitations in mind, it has not

⁵ For instance, Wu et al. (2012) exclude almost half of their Chinese sample in the final analysis, and Dejun Tony Kong's (2014) findings on Algeria are based on only 487 Algerians from a sample of 1300. Since the respondents who do not fill in certain questions are likely not to be entirely random, this can strongly affect the results and can display relationships that may not actually be present in the population at large.

made social scientists abandon quantitative research altogether. Throughout this thesis, it will thus be assumed that quantitative research in the social sciences is a valid research method, and that respondents of the survey have provided answers that are representative of their genuine views and beliefs.

5.2 Variables: Multinomial Logistic Regression

A total of 26 variables have been created: 1 [dependent variable](#), 17 [independent variables](#) and 8 [control](#) variables. All of these will be used for the initial [bivariate analysis](#). Formulations for each variable are available in the Arab Barometer wave IV questionnaire (2017a) and were created based on the Arab Barometer Wave IV dataset (2017b). Table 1 displays basic descriptive information for each of the variables, including the number of respondents and missing values.

Dependent Variable

Trust in Armed Forces. Respondents were asked how much trust they have in several institutions, one of which was the armed forces, with answers on a [4-point scale](#) ranging from 1 (a great deal of trust) to 4 (no trust at all). This item was reverse-scored for clarity to make sure that higher values display greater levels of trust, so that 1=no trust at all, 2=not very much trust, 3=quite a lot of trust, and 4=a great deal of trust. The majority of Algerian respondents expressed great trust (45.7%) or medium trust (28.4%) in the armed forces, whereas only 8.3% of respondents claimed to have no trust at all.

Independent Variables

Generalised Trust. Respondents were asked, “Generally speaking, do you think most people are trustworthy or not?” Answers were reverse-scored as 0=No and 1=Yes.

Political Interest. Respondents were asked to what extent they are interested in politics, with answers on a 4-point scale reverse-scored so as to range from 1 (not interested at all) to 4 (very interested).

Group Membership. Respondents were asked whether they are a member of any organisation or formal group, with answers reverse-scored as 0=No and 1=Yes.

Authoritarian Orientations. Only one question was available in the Arab Barometer that matched to some extent the formulation of those used in the reviewed literature, namely by Yang & Ma (2014) and Yida Zhai (2018), who used the Asian Barometer. Respondents were asked on a 4-point [Likert scale](#) whether they agreed that “citizens must support government’s decisions even if they disagree with it”, reverse-scored to range from 1 (strongly disagree) to 4 (strongly agree), with higher values showing stronger authoritarian orientations.

Support for Democracy. Respondents were asked on a 4-point Likert scale to what extent they agreed or disagreed with five statements related to democracy, covering the following topics: 1) economic performance, 2) indecisiveness and “full of problems”, 3) order & stability, 4) whether despite its problems it is still better than alternatives, and 5) whether citizens are prepared for democracy. Question 4 was reverse-scored but subsequently deleted after the scale reliability analysis indicated a negative [inter-item correlation](#) and an unsatisfactory [Cronbach’s alpha](#) ($\alpha=0.691$)⁶. The four remaining items were combined into a scale ($\alpha=0.759$) based on the mean value, with cases excluded only if 2 or more questions were not answered (in order to significantly reduce the number of missing values). Dropping question 5 would have increased the alpha to 0.823, but since the reliability of the scale was already satisfactory, limiting the data further was considered unnecessary⁷. In the final scale, higher values (up to 4) indicate stronger support for democracy.

Traditional Views on Gender. Respondents were asked on a 4-point Likert scale to what extent they agreed or disagreed with six statements related to the role of women in society. This covered the following topics: 1) becoming president, 2) working outside the home 3) competency in political leadership, 4) importance of university education, 5) inheritance rights, and 6) husbands having the final say in family matters. Questions 4 and 5 were dropped after the reliability analysis due to a lack of correlation. After reverse-scoring question 1 and 6, the remaining four items were combined into a scale ($\alpha=0.621$) based on the mean value and with higher values indicating more traditional views on gender. Cases were included if at least three questions were answered. Although the [Cronbach’s alpha](#) is below 0.7, it is still a relatively high value for a 4-point scale and the best indicator for traditional views on women available in the data.

⁶ Values above 0.7 are generally to be desired.

⁷ This will be reconsidered in the analysis.

Religion. Respondents were asked whether they considered themselves to be religious on a 3-point scale, recoded as 1=not religious, 2= somewhat religious and 3=religious. Except for a single Christian respondent, all religious individuals identified as Muslim.

Xenophobia. Respondents were asked on a 5-point scale whether they would like, not care or dislike having as neighbours 1) people of a different religion, 2) people of a different race or colour, 3) immigrants or foreign workers, and 4) people of a different sect of Islam. The variables were reversed and recoded into three categories to create 1=like/not care, 2=dislike and 3=strongly dislike. This was done because “strongly like” and “like” are somewhat odd when asked about having certain people as neighbours, and would depend more on interpretation of the question than actual xenophobic belief. Someone who does not care what race, religion or background their neighbour has is not necessarily more xenophobic than someone who would greatly enjoy such a scenario. The four 3-category variables were then combined into a scale ($\alpha=0.776$) based on the mean, with a minimum of three responses to qualify for inclusion, and with higher values indicating more xenophobic beliefs.

Competence. Respondents were asked on a 4-point scale to rate the government’s performance in seven different areas: 1) “managing the economy”, 2) “creating employment opportunities”, 3) “narrowing the gap between rich and poor”, 4) “improving basic health services”, 5) “keeping prices down”, 6) “providing security in the country”, and 7) “addressing educational needs”. Each question was rated from very bad (reverse-coded as 1) to very good (reverse-coded as 4), with a 5th option “not the government’s responsibility” (recoded as missing). Question 6 was dropped after the reliability analysis due to relatively low inter-item correlation. The remaining six variables were then combined into a scale ($\alpha=0.848$) based on the mean value, allowing for two missing answers to be included in the scale⁸. In the final scale, higher values implied greater perceived government competence.

Benevolence. Respondents were asked on a 4-point Likert scale whether they agreed with the following three statements: 1) “government employees are aware of citizens’ needs”, 2) “political leaders are concerned with the needs of ordinary citizens”, and 3) “sometimes, politics are so complicated that I cannot understand what is happening”. Although Dejun

⁸ The possibility to answer “not the government’s responsibility” increased the number of missing values. In order to limit the implications, two unanswered questions were deemed acceptable for inclusion, especially considering the very high Cronbach’s alpha and the large number of composite questions.

Tony Kong (2014) also used the Arab Barometer to create his benevolence variable for the case of Algeria, the questions in his dataset (Wave I) were slightly different. In this case, question 3 had to be dropped because the reliability analysis showed very low inter-item correlations. Additionally, it does not appear to be measuring perceived benevolence at all. The remaining two variables also did not appear to be measuring the same concept according to the reliability analysis, making it impossible to create a scale. Instead, the second question was selected on its own because it appears to quite accurately ask respondents about perceived benevolence of the government, whereas question 1 appears to be asking about the benevolence of any regular civil servant. After reverse-scoring the variable, answers ranged from 1 to 4, with higher values indicating higher perceived government benevolence.

Anger at government. Respondents were asked to what extent they agreed that they felt angry towards the government on a 4-point Likert scale. Responses were reverse-coded so that higher values implied greater anger at the government.

Personal Security. Respondents were asked on a 4-point scale to what extent they felt their personal and family's safety and security were ensured. Responses were reverse-coded into 1=absolutely not ensured, 2=not ensured, 3=ensured, and 4=fully ensured.

Ethnicity. No question asked specifically about ethnicity, but respondents were asked about their primary and secondary language. Although self-perception would have been a more reliable indicator of ethnicity, language knowledge can serve as an approximation of ethnicity considering Algeria's context. As chapter 2 explored, political conflicts have largely been about language. Respondents who indicated Amazight as either their primary or secondary language were coded as 1 (Berber), whereas respondents who did not mention Amazight were coded as 0 (not Berber). The main limitation is that respondents were not asked about a third language: Algerians who identify as Berbers would be relatively likely to speak three languages (Amazight, Arabic and French).

Perceived corruption. Respondents were asked to what extent they believe there is corruption in state agencies. Responses were reverse-coded into 1=not at all, 2=to a small extent, 3=to a medium extent, and 4=to a large extent.

Intention to emigrate. Respondents were asked whether they are thinking about emigrating, recoded into 0=No and 1=Yes.

Anger at Islamists. Respondents were asked to what extent they agreed that they felt angry towards Islamists on a 4-point Likert scale. Responses were reverse-coded so that higher values implied greater anger at Islamists.

Political Trust. In the same way as for the dependent variable, respondents were asked to indicate on a 4-point scale the extent of their trust in eight other institutions, four of which can be considered political institutions. These same four institutions were also selected by Dejun Tony Kong (2014), and are 1) government, 2) courts and legal system, 3) parliament, and 4) political parties. After reverse-coding all four questions, a scale was created ($\alpha=0.849$), where values were accepted if at least three questions were answered. Higher values indicate higher levels of political trust.

Control Variables

Income. The Arab Barometer asks respondents about both perception of income and actual income. However, due to the fact that the variable for actual income has a disproportionately large number of missing values⁹, the analysis will instead use the variable for perception of income (similar variables were used by Juha Kääriäinen (2007) and Wu et al. (2012)). This variable included long descriptions of income-related comfort levels on a 4-point scale, reverse-scored as: 1) income does not cover expenses and respondent faces significant difficulties, 2) income does not cover expenses and respondent faces some difficulties, 3) income covers expenses without difficulties, 4) income covers expenses well and respondent is able to save.

Education. Respondents were asked about their level of education on a 7-point scale, with 1=illiterate and 7=MA and above. The large number of non-[ordinal](#) categories made the variable unfit for use in a logistic regression. As a result, responses were collapsed into three categories: primary, secondary and tertiary education. Responses 1, 2 and 3 (illiterate/no education, elementary, and preparatory/basic) were recoded as 1=primary, responses 4 and 5

⁹ The variable included 187 missing values, equal to 15.6% of respondents, which in later analysis was found to significantly affect the findings, with several variables displaying a far stronger effect due to the exclusion of respondents who could not or did not want to share their level of income. Additionally, women were overrepresented in the missing values.

(secondary, and mid-level) were recoded as 2=secondary, and responses 6 and 7 (BA, and MA and above) were recoded as 3=tertiary.

The remaining demographic variables were straightforward: *gender* (recoded as 0=male, 1=female), *age* ([continuous](#)), *employment status* (recoded as 0=not employed, 1=employed), *marital status* (recoded as 0=never married, 1=married or formerly married), *area of residence* (0=urban, 1=rural), and *working for army or police*, including when a spouse worked for the army or the police¹⁰ (0=no, 1=yes).

Table 1 displays the descriptive data for each of the variables.

Table 1: Variables Multinomial Regression

Variables	N	Miss	Min	Max	Med.
Dependent Variable					
Trust in armed forces	1186	14	1	4	
Demographics					
Income Perception	1171	29	1	4	
Education	1189	11	1	3	
Gender	1200	0	0	1	
Age	1200	0	18	87	34
Employment	1195	5	0	1	
Marital Status	1198	2	0	1	
Area of Residence	1200	0	0	1	
Work for army/police	1195	5	0	1	
Cultural Factors					
General Trust	1182	18	0	1	
Political Interest	1193	7	1	4	
Group Membership	1194	6	0	1	
Authoritarian Orientation	1155	45	1	4	

Variables	N	Miss	Min	Max	Med.
Cultural Factors (cont)					
Views on democracy	1123	77	1	4	2.75
Traditional views gender	1198	2	1	4	2.75
Religious beliefs	1188	12	1	3	
Xenophobia	1193	7	1	3	1.50
Institutional factors					
Competence	1190	10	1	4	2.00
Benevolence	1188	12	1	4	
Anger at government	1183	17	1	4	
Other factors					
Personal Security	1197	3	1	4	
Ethnicity/Berber	1200	0	0	1	
Corruption	1187	13	1	4	
Intention to Emigrate	1196	4	0	1	
Anger at Islamists	1154	46	1	4	
Political Trust	1175	25	1	4	1.75

5.3 Variables: Binary Logistic Regression

The binary logistic regression requires all factors to be converted into [dichotomous](#) or [continuous](#) variables. As a result, only those variables where changes are made will be discussed below. A full overview of all variables in the binary regression can be found in Table 2.

¹⁰ In one case, both the individual themselves and the spouse worked for the armed forces or the police.

Two variables could not be dichotomised because of their nominal, non-ordinal nature. For these, dummy variables were created. For *Education*, dummy variables were created for the categories secondary and tertiary (reference category: primary) and for religion dummy variables were created for the categories somewhat religious and religious (reference category: not religious).

The following ordinal variables were dichotomised:

- Trust in Armed forces.* Recoded into 0=no/low trust, 1=medium/great trust.
- Income perception.* Recoded into 0=does not cover expenses, 1= covers expenses.
- Political interest.* Recoded into 0=not/somewhat interested, 1=(very) interested.
- Authoritarian Orientation.* Recoded into 0=disagree (non-authorit.), 1=agree (authorit.).
- Benevolence.* Recoded into 0=disagree (not benevolent), 1=agree (benevolent).
- Anger at government.* Recoded into 0=not/not very angry, 1=somewhat/very angry.
- Personal security.* Recoded into 0=not ensured, 1=ensured/fully ensured.
- Corruption.* Recoded into 0=no/small extent, 1=medium/large extent.
- Anger at Islamists.* Recoded into 0=not/not very angry, 1=somewhat/very angry.

Table 2: Variables Binary Regression

Variables	N	Miss	x=0	x=1
Dependent Variable				
Trust in armed forces	1186	14	303	883
Demographics				
Income Perception	1171	29	405	766
Secondary	1189	11	756	433
Tertiary	1189	11	896	293
Gender	1200	0	600	600
Age	1200	0		
Employment	1195	5	705	490
Marital Status	1198	2	543	655
Area of Residence	1200	0	790	410
Work for army/police	1195	5	1158	37
Cultural Factors				
General Trust	1182	18	962	220
Political Interest	1193	7	948	245
Group Membership	1194	6	1057	137
Authoritarian Orientation	1155	45	815	340

Variables	N	Miss	x=0	x=1
Cultural Factors (cont)				
Views on democracy	1123	77		
Traditional views gender	1198	2		
Somewhat Religious	1188	12	501	687
Religious	1188	12	896	293
Xenophobia	1193	7		
Institutional factors				
Competence	1190	10		
Benevolence	1188	12	997	191
Anger at government	1183	17	493	690
Other factors				
Personal Security	1197	3	325	872
Ethnicity/Berber	1200	0	1045	155
Corruption	1187	13	170	1017
Intention to Emigrate	1196	4	923	273
Anger at Islamists	1154	46	608	546
Political Trust	1175	25		

6. Results/Findings

6.1 Bivariate Correlations

As a first, explorative step, all variables were tested for their correlation with trust in the armed forces without controlling for any outside factors, thus providing some indications of how the variables interact directly. The results of this are shown in Table 3.

Rather weak support is found for the social-structural thesis, as most demographic variables do not appear to provide any explanations of the dependent variable. The primary exception is perception of income, which displays a very significant ($p < 0.001$) positive relationship, meaning that, without considering any other factors, individuals who report having little to no financial difficulties were more likely to trust the Algerian armed forces than individuals who did face financial difficulties. Gender and employment also showed significant effects ($p < 0.05$), but in a large sample such as this one, the low p-value suggests that this would at best be a very weak relationship. Surprisingly, the control variable for working in the army/police is also only barely significant, meaning that individuals who work for the police or the army do not trust the army much more than their civilian counterparts (although it should be noted that only 37 individuals reported working for the armed forces or having a spouse who did, which means that the sample size was relatively low).

The cultural theory of institutional trust performs better in the bivariate correlations, although quite poignantly the most standard measure of the cultural theory, that of generalised trust, does not show a significant effect at all, suggesting that individuals who trust people in general do not trust the Algerian armed forces more. This is contrary to the core arguments of the cultural theory and also contradicts Dejun Tony Kong's (2014) finding that generalised trust was significant as an explanatory variable in Algeria while it was not in Morocco and Yemen. Nevertheless, the cultural factors identified in more recent literature adjusted for the context of the Global South show far clearer relationships. Authoritarian orientation ($p < 0.001$) and religious beliefs ($p < 0.01$) both show a strongly significant effect, with authoritarian orientations correlating positively with trust in the armed forces, and religious beliefs correlating negatively. The latter relationship shows a paradoxical effect compared to the one hypothesised, but this does not come as a great surprise due to Algeria's history. It should additionally be noted that the relationship is characterised by a U-shape, where

individuals identifying as “somewhat religious” are more likely to trust the armed forces than individuals who identify as either “religious” or “non-religious”. It is nonetheless interesting to see that the relationship in Algeria’s context directly contradicts the relationship found in other non-democratic contexts.

Table 3: Bivariate Correlations^a

Variable	Statistics	Value
<i>Demographics</i>		
Income Perception ***	Rho (ρ)	.119
	P	.000
Education	Rho (ρ)	-.006
	P	.825
Gender (1=female)*	Rho (ρ)	.065
	P	.024
Age	Rho (ρ)	.052
	P	.074
Employment (1=employed)*	Rho (ρ)	.058
	P	.046
Marital status (1=married)	Rho (ρ)	.043
	P	.141
Area of res. (1=rural)	Rho (ρ)	.040
	P	.171
Work for army/police*	Rho (ρ)	.057
	P	.049
<i>Cultural Factors</i>		
General Trust	Rho (ρ)	.040
	P	.172
Political Interest***	Rho (ρ)	.118
	P	.000
Group Membership	Rho (ρ)	.054
	P	.065
Authoritarian Orientation***	Rho (ρ)	.124
	P	.000
Views on Democracy***	Rho (ρ)	.137
	P	.000
<i>Cultural Factors (Cont.)</i>		
Traditional Views Gender	Rho (ρ)	-.002
	P	.944
Religious beliefs***	Rho (ρ)	-.087
	P	.003
Xenophobia*	Rho (ρ)	.057
	P	.049
<i>Institutional Factors</i>		
Competence***	Rho (ρ)	.263
	P	.000
Benevolence***	Rho (ρ)	.096
	P	.001
Anger at Government***	Rho (ρ)	-.267
	P	.000
<i>Other Factors</i>		
Personal Security***	Rho (ρ)	.333
	P	.000
Ethnicity/ Berber	Rho (ρ)	-.035
	P	.232
Corruption***	Rho (ρ)	-.164
	P	.000
Intention to Emigrate***	Rho (ρ)	-.159
	P	.000
Anger at Islamists	Rho (ρ)	-.047
	P	.115
Political Trust***	Rho (ρ)	.296
	P	.000

* = p<0.05, ** = p<0.01, *** = p<0.001

a. This analysis was performed with the variables for the multinomial logistic regression. The results for the binary variables were almost entirely the same, with the only significant difference being for the variable for political trust: in its binary version, this displayed a spearman’s rho of 0.808 (as compared to 0.296 in its 4-point ordinal version), indicating a remarkably strong congruence.

More surprising is the relationship observed for views on democracy: individuals who are supportive of democracy display much greater levels of trust in the armed forces (p<0.001).

Although the significant effect provides evidence for the cultural theory, the observed relationship is the inverse of that seen in other literature and is peculiar considering the army's role in holding back genuine democratisation. Support was also found for political interest, a more traditional measure for the cultural theory, and in this case in the hypothesised direction: individuals displaying greater political interest displayed greater levels of trust. It is nonetheless interesting that this effect extends to trust in the armed forces in an authoritarian country in the same way as it does to trust in government in democratic countries.

Group membership did not display a significant effect (although the variable is slightly hampered by only 137 respondents (11.4%) reporting to be part of a group or organisation), and neither did traditional views on gender. Xenophobic views are barely positively correlated with trust in the armed forces ($p < 0.05$), but the observed relationship ($p < 0.049$) is almost negligible in a bivariate correlation with a sample of this size.

Much stronger support was found for the institutional theory, with all three variables displaying very strong results at or below $p < 0.001$. Perceived government competence displays a [rho value](#) of 0.263, indicating that individuals who deem the government to be performing well display far higher levels of trust in the armed forces. Similarly, individuals who display anger at the government are much less likely to trust the armed forces. This suggests that performance theory can also be applied to trust in the armed forces in an authoritarian country such as Algeria, even when the performance measure asks about government instead of the armed forces in particular. Perceived benevolence, although perceptibly less significant than other performance indicators, is also one of the strongest explanatory variables in the bivariate correlations, similarly displaying the hypothesised positive relationship.

However, the factors that fall outside of existing theories or are difficult to classify also display very strong bivariate correlations. The most important explanatory variable in the model is personal security, with individuals who feel their personal and family's security is ensured displaying much higher levels of trust in the Algerian armed forces. Algerians who believe that government is generally corrupt and individuals with an intention to emigrate trust the armed forces less than their counterparts ($p < 0.001$). Ethnicity, on the other hand, does not display any significant effect, meaning that Amazight speaking Algerians trust the

armed forces to a similar extent as Algerians who do not speak Amazight. More surprisingly, Algerians who state being angry at islamists are not more likely to trust the Algerian armed forces. This thus suggests either that the civil war's wounds do not run as deep anymore, or that the relationship between the two factors is more complex than initially hypothesised. Finally, as hypothesised, political trust is a very strong explanatory factor for trust in the armed forces. There is thus a great amount of congruence between the two variables.

6.2 Multinomial logistic regression

While multinomial logistic regressions are not particularly difficult to perform, they are visually highly complex and can only be interpreted by analysing the very large number of data points it assesses. This greatly complicates visualisation, an issue that will be addressed by displaying summarised results below in Table 4, and more detailed results in Appendix C. Table 4 thus displays a summary of the results of the likelihood ratio tests, from which can be inferred whether there is a significant relationship between trust in the armed forces and any particular variable. A great deal of caution should be taken when interpreting these values, however, because a multinomial regression treats every non-[continuous](#) variable as [categorical](#) of nominal nature. Consequently, a significant result does not always mean a linear or even relevant result. For this reason, significance levels have not been indicated with the use of asterisks in the table, because conclusions cannot be drawn based purely on the [chi-square](#) value and the [degrees of freedom](#).

Regardless, the direction of the relationship (where applicable) is indicated in the table. The full list of parameter estimates, from which these directions have been inferred, can be found in Appendix C¹¹. This section will further discuss the observed relationship for each relevant variable based on the full results found in Appendix C to allow for basic interpretation of the results. Chapter 7 will then analyse the results more generally.

As was the case for the bivariate analysis, the demographic variables do not appear to have a particularly strong influence on trust in the armed forces. Education, age, marital status and area of residence all did not influence the dependent variable. Only gender significantly influenced trust in the armed forces when [controlling](#) for other variables, with women expressing greater trust in the institution. Income, while highly significant in a bivariate

¹¹ An explanation of how to interpret the values can be found in Appendix A.

relationship, did not prove significant in the full multinomial regression. The more detailed parameter estimates in Appendix C do however show a rather clear (non-significant) trend, where higher levels of economic comfort are correlated with higher levels of trust in the armed forces. This shows one of the limitations of using a multinomial logistic regression for an ordinal variable such as this one: while the chances of a [type I error](#) are greatly reduced, which should perhaps be the priority, the chances of a [type II error](#) are greatly increased. As such, despite the clearly visible trend, the multinomial regression does not indicate that income perception plays a role in explaining trust in Algeria’s armed forces.

Table 4: Multinomial Logistic Regression^a

N	973
Missing	227
Pseudo R²	.327 (C&S) / .357 (Nagelk.)

Variable	χ ²	DoF	Sign.	Effect
<i>Demographics</i>				
Income Perception	9.56	9	.387	Positive ^b
Education	6.50	6	.370	No
Gender (1 = female)	10.26	3	.016	Positive
Age	1.30	3	.728	No
Employment	4.77	3	.189	Positive ^b
Marital Status	1.86	3	.601	No
Area of res. (1=rural)	1.43	3	.698	No
Work for Army/Police	3.25	3	.355	Positive ^b
<i>Cultural Factors</i>				
General Trust	7.62	3	.055	Negative ^b
Political Interest	10.54	9	.309	Positive ^b
Group Membership	0.99	3	.803	No
Authoritarian Orientation	14.42	9	.108	Positive ^p
Views on Democracy	22.52	3	.000	Positive

Variable	χ ²	DoF	Sign.	Effect
<i>Cultural Factors (cont)</i>				
Traditional View Gender	10.39	3	.016	Positive
Religious Beliefs	8.48	6	.205	Negative ^b
Xenophobia	5.30	3	.151	Positive ^b
<i>Institutional Factors</i>				
Competence	15.01	3	.002	Positive
Benevolence	11.54	9	.241	Mixed
Anger at Government	24.88	9	.003	Negative
<i>Other Factors</i>				
Personal Security	51.05	9	.000	Positive
Ethnicity (1=Berber)	0.76	3	.859	No
Corruption	23.55	9	.005	Mixed
Intention to Emigrate	7.17	3	.067	Negative ^b
Anger at Islamists	2.78	9	.973	No

a. The -2 log likelihood for the full model is 2010.64

b. Non-significant.

The same applies to employment, where the full results displayed in Appendix C show a slight positive trend, but at non-significant levels with the lowest p-value at p=0.108. Education is also not significant, although showing a slight negative trend. Working for the army/police, finally, also proved to be non-significant, but this may have been caused largely by the low number of respondents in this category, since there appears to be a rather strong trend that individuals who work for the army or police were very unlikely to have no trust at all in the armed forces. This trend is only visible for the extremes, however, as there was no distinguishable relationship at all, whether significant or not, for the moderate categories of

trust in the armed forces. The remaining demographic variables did not appear to influence trust in the armed forces at all, indicating that there is relatively little support for the social-structural thesis in the context of Algeria's armed forces.

The explanatory strength of the cultural factors was also greatly reduced by controlling for other factors, with only two variables remaining significant within the model as a whole. Firstly, the counterintuitive result relating to support for democratic institutions proved to be robust, continuing to show a highly significant positive correlation. Although the trend is not entirely linear, this can most likely be explained by the lower number of respondents stating they have no trust at all in the armed forces. Perhaps even more surprising is the relatively strong effect of traditional views on gender, which was shown to be unrelated to trust in the armed forces in a bivariate relationship. However, quite notably, it appears that this effect is only present when comparing the highest level of trust to the remaining options (see Appendix C), meaning that Algerians with traditional views on gender are more likely to express great trust in the Algerian armed forces, but that they are not more likely to express medium trust as compared to low or no trust. This suggests that this relationship will likely not be visible if the variables are dichotomised, as they will be for the binary regression.

Similarly, generalised trust is far more significant when controlling for other factors, although it falls just short of the 95% [confidence interval](#). Noteworthy is that in the more detailed results, there is actually a statistically significant effect ($p=0.049$) for the first category, where Algerians who trust people in general are more likely to express no trust at all in Algeria's armed forces. This thus runs counter to the hypothesis, showing a negative relationship. Political interest, while highly significant in a bivariate analysis, is also not significant in the full model, lending no support for the hypothesis on civic engagement. It nonetheless shows a very clear positive trend in the more precise results, which is non-significant but not entirely negligible considering the [dependent variable's ordinal](#) nature. This similarly applies to authoritarian orientations, which also shows a rather linear, positive trend. Xenophobia, on the other hand, does not appear to be particularly relevant in explaining trust in Algeria's armed forces. As a [continuous](#) (scale) variable, it is less likely to cause a [type II error](#), and the most significant observed variation is only between medium and great trust.

Religious beliefs, although non-significant in the full model, do display a clearly visible pattern. Religious Algerians appear more likely to express great distrust in the Algerian

armed forces than their non-religious counterparts ($p=0.060$), and somewhat religious individuals are significantly more likely to express limited trust in Algeria's armed forces than religious individuals ($p=0.022$). This thus follows the same negative relationship as in the bivariate correlation, although not significant within the full model.

Much stronger evidence is found for the institutional factors. Perceived competence is highly significant, with individuals who express lower levels of perceived government competence displaying far lower levels of trust in the armed forces ($p<0.001$). This also applies to anger at the government, which does not display a significant effect in the category for no trust (due to the low number of cases), but which is highly significant for limited trust, with individuals who are angry at the government far more likely to express limited trust in the armed forces. Benevolence, on the other hand, shows slightly mixed results, although with a largely negative (non-significant) trend, which would be contrary to the hypothesis. As an institutional explanatory factor, then, it is not a good measure of trust in the Algerian armed forces compared to the other two measures.

The strongest explanatory factor, however, continues to be Algerians' sense of security, which is significant on all levels ($p<0.001$). Algerians who believe their safety and security are ensured are far more likely to trust the Algerian armed forces. Additionally, individuals who believe their personal security is fully ensured are in particular far more likely to express great trust in Algeria's armed forces, even when compared to medium levels of trust. At the same time, although intention to emigrate is not significant in the full model, it does display a significant ($p=0.022$) negative relationship for the lowest level of trust, with individuals who have an intention to emigrate more likely to express no trust at all in the Algerian armed forces.

More complicated are the results for perceived corruption of state institutions. Although this variable is significant in the full model, which assumes the dependent variable to be nominal, the results are rather mixed across the various levels of trust. Individuals who believe there is no corruption in state institutions are far more likely to display medium levels of trust in the armed forces, but Algerians who believe there is some corruption are also more likely to display no trust at all in the armed forces. There is thus a rather erratic pattern that is hard to reconcile with an ordinal variable such as trust in the armed forces, which means that despite the significance in the full model, it cannot be said with any certainty that perception of

corruption significantly influences trust in the armed forces in any particular direction. Finally, ethnicity and anger at islamists do not appear to have any effect on trust in the armed forces.

6.4 Binary logistic regression

Although [dichotomising](#) an [ordinal](#) variable of this type may not be methodologically sound, the resulting analysis is far simpler, which explains why previous researchers have opted for this solution. The results of the binary logistic regression are summarised in Table 5. The general [explanatory strength](#) of the model has been reduced by dichotomisation, explaining only approximately 20-29% of the variance in the [dependent variable](#).

As Table 5 displays, the binary logistic regression lends greater support for the social-structural thesis, although the effect of the demographic variables is still rather limited. Income, gender and employment all appear to influence trust in the armed forces in the same way as the bivariate correlations already showed, although their effect is mostly rather limited. Only income perception is highly significant, with an [odds ratio](#) of 1.7. It is further found that when education is broken down, a U-shape becomes apparent: individuals with secondary and tertiary education both trust the armed forces less than individuals who have only enjoyed primary (or no) education, but individuals who have completed only secondary education may trust the armed forces less than individuals who have completed tertiary education.

The binary regression equally does not show very strong support for the cultural variables. Generalised trust becomes a significant explanatory variable in the model when [controlling](#) for other factors, but in the opposite direction from the one hypothesised, and views on democracy remains a very robust explanatory variable, still within a 99.9% [confidence interval](#), but still in the opposite direction from the one hypothesised. Political interest does appear to have a significant positive effect on trust in the armed forces, and Algerians identifying as religious are more likely to express distrust in the armed forces than their non- or somewhat religious counterparts. Traditional views do not appear to have an influence on trust in the armed forces when the dependent variable is dichotomised into a simple yes/no question, and group membership continues to be of no relevance to the model.

Table 5: Binary Logistic Regression

N	973
Missing	227
Pseudo-R²	.200 (C&S) / .293 (Nagelk.)

Variable	B	S.E.	Odds	Sign.
Demographics				
Income Perception**	0.54	0.18	1.71	.004
Secondary (educ.)*	-0.49	0.22	0.62	.025
Tertiary (educ.)	-0.46	0.26	0.63	.073
Gender (1 = female)*	0.47	0.21	1.60	.023
Age	0.00	0.01	1.00	.917
Employment*	0.45	0.20	1.56	.024
Marital Status	-0.28	0.26	0.75	.279
Area of res. (1=rural)	0.10	0.18	1.11	.580
Work for Army/Police	0.54	0.57	1.72	.338
Cultural Factors				
General Trust*	-0.45	0.22	0.64	.042
Political Interest**	0.63	0.23	1.87	.007
Group Membership	0.03	0.28	1.03	.907
Authoritarian Orientation	0.19	0.22	1.21	.385
Views on Democracy***	0.54	0.13	1.71	.000

Variable	B	S.E.	Odds	Sign.
Cultural Factors (cont)				
Traditional View Gender	0.14	0.15	1.15	.364
Somewhat religious	-0.14	0.28	0.87	.619
Religious*	-0.69	0.31	0.50	.025
Xenophobia	0.20	0.15	1.22	.190
Institutional Factors				
Competence**	0.67	0.20	1.94	.001
Benevolence	-0.57	0.29	0.57	.053
Anger at Government	-0.31	0.20	0.74	.121
Other Factors				
Personal Security***	1.08	0.19	2.95	.000
Ethnicity (1=Berber)	0.05	0.25	1.05	.834
Corruption	-0.15	0.34	0.86	.656
Intention to Emigrate*	-0.56	0.22	0.57	.010
Anger at Islamists	-0.07	0.18	0.93	.697

* = p<0.05, ** = p<0.01, *** = p<0.001

Most surprisingly, the institutional factors also lose much of their explanatory strength when variables are dichotomised. Perceived competence, which itself is measured on a scale, remains highly significant, but anger at the government, now compared to trust in the armed forces with 1 instead of 9 [degrees of freedom](#), is shown to be statistically non-significant. Benevolence, although close to the 95% [confidence interval](#), is also not significant, and either way the observed relationship runs in the opposite direction from the one hypothesised.

The most robust and relevant explanatory factor remains personal security, which remains significant at the p<0.001 level, with a very high odds ratio at 2.95. The model also shows that Algerians with an intention to migrate have less trust in the armed forces even when controlling for other factors, but ethnicity, perception of corruption and anger at islamists are all non-significant.

7. Analysis

Based on the results above, two general topics require further analysis: methodological considerations, and the results itself.

The results of the three statistical tests are summarised in Table 6. Although there is some significant variation in the results across the three different tests, there is also a lot of congruence, and much of the variation can be quite clearly explained: bivariate analyses are always more likely to yield significant results because it does not [control](#) for spurious variables, and the multinomial logistic regression is always more likely to miss significant effects when applied to an [ordinal variable](#), particularly in cases where there are 9 [degrees of freedom](#). Similarly, the suggestion that dichotomising an ordinal variable is ill-advised appears to be confirmed, as it does appear that the binary logistic regression missed some of the variance that was present. This is visible in the lower [R-square](#) results, but also in the fact that anger at the government, highly significant in the other models, was found to be non-significant in the dichotomised version.

Considering the complexity of the multinomial regression on the one hand, and the loss of data of the binary regression on the other, it is difficult to say which of the tests is better suited. Nonetheless, in attempting to create an explanatory model for trust in Algeria's armed forces, which will be the main purpose of this analysis, the binary logistic regression will be used. This was chosen because it is the only model that can more or less objectively exclude a certain variable, whereas the multinomial logistic regression would require far more subjective judgement. The results of the multinomial regression should nonetheless be kept in mind, and will be considered when assessing the final model.

As to the results itself, three variables strongly affect trust in the armed forces regardless of the statistical method used: perceived government competence, personal security and views on democracy, although it should be noted that the latter, views on democracy, is correlated with trust in the armed forces in the opposite direction from the one hypothesised. Furthermore, there is strong evidence that both income and political interest positively correlate with trust in Algeria's armed forces. Although neither was significant in the full multinomial regression, it nonetheless showed a very clear pattern that matches the ordinal

nature of the [dependent variable](#). Gender, employment, intention to migrate and religious beliefs also appear to explain trust in Algeria’s armed forces, although to a lesser degree.

Table 6: Overview of Results

Variable	Bivariate	Multi. Log.	Binary Log.
Demographics			
Income Perception	Positive***	x	Positive**
Education	x	x	Negative*
Gender (1 = female)	Positive*	Positive	Positive*
Employment	Positive*	x	Positive*
Work for Army/Police	Positive*	x	x
Cultural Factors			
General Trust	x	x	Negative*
Political Interest	Positive***	x	Positive**
Authoritarian Orientation	Positive***	x	x
Views on Democracy	Positive***	Positive	Positive***
Traditional View Gender	x	Positive	x

Variable	Bivariate	Multi. Log.	Binary Log.
Cultural Factors (cont)			
Religious Beliefs	Negative**	x	Negative*
Xenophobia	Positive*	x	x
Institutional Factors			
Competence	Positive***	Positive	Positive**
Benevolence	Positive**	x	x
Anger at Government	Negative***	Negative	x
Other Factors			
Personal Security	Positive***	Positive	Positive***
Corruption	Negative***	Mixed	x
Intention to Emigrate	Negative***	x	Negative*

* = p<0.05, ** = p<0.01, *** = p<0.001

In general, these findings find rather limited support for the applicability of the existing theories to the case of the Algerian armed forces, suggesting that the existing theories will have to be developed further in non-European and non-North American contexts. For instance, when it comes to the demographic variables, only income and gender appear to have a significant effect. This was to be expected, as Dejun Tony Kong (2014) found the same result for political trust in Algeria. More surprising, and worth a more detailed analysis, are the results for the cultural variables.

Most notably, generalised trust does not appear to be related to trust in Algeria’s armed forces. While the binary logistic regression does show a slight [negative correlation](#), this is not only minimal, but also in the opposite direction from the one suggested by the theory. It shows that while the traditional theory of institutional trust may work very well in European and North American contexts, the same may not apply to a country like Algeria. Other, less traditional cultural factors, developed within the various contexts of the Global South, appear more successful at explaining trust in Algeria’s armed forces. While authoritarian beliefs are not relevant when controlling for spurious relationships, political interest and religious beliefs do appear to have an influence, thus suggesting that the cultural theory of institutional trust cannot be wholly disregarded in the Algerian context, but that a more context-specific theory needs to be developed.

It is the variable for pro-democratic views that truly challenges existing knowledge, however. Algerians who express pro-democratic views are more likely to trust the Algerian armed forces, despite those armed forces making up a significant part of the regime that blocks any transition towards genuine democracy. I performed several further analyses to test the robustness of the result, which did not change the outcome. Dropping the fourth variable of the scale (asking whether Algerians are ready for democracy) due to its slightly lower congruence within the scale did not alter the results at all, and when correlated with political trust in general rather than trust in the armed forces, the effect remained nearly identical, changing the [Spearman's rho](#) correlation only from 0.137 to 0.138. The effect thus appears to be very robust, and an explanation will have to be found.

Tessler & Miller-Gonzalez argue that youths in Algeria have much less faith in democracy than their Tunisian neighbours (2015, p39), but this cannot explain the observed pattern, since it already controls for demographic factors. Equally, arguments are often made that Algerians are scared of democracy due to the civil war and more recently the Arab Spring, making them afraid of major change. But even if that is the case, it would only mean that Algerians would show lower levels of support for democracy, whereas in reality more than half of the respondents were relatively supportive of democracy (with a mean value of 2.67 on a 4-point scale). Nor would it explain the fact that pro-democratic Algerians still express greater trust in Algeria's armed forces than Algerians who do not believe that democracy is right for the country.

More credible explanations may thus be found in a combination of a different conception of what "democracy" means and, despite recent developments, the continued popularity of the authoritarian but democratically largely unchallenged regime. First of all, Algerians have for a long time underestimated the role of the armed forces in decision-making, as has been discussed at length in chapter 2. This situation may still persist, where many Algerians might not think that the army is acting in any way against democracy. In fact, it would not be difficult to argue that the army might be there to protect the democracy that Algeria currently has, since they act to preserve the system and, as chapter 2 explored, they are the antithesis to the radical islamists, an argument that many Algerians may be susceptible to. The very fact that the commander of the ANP *tried* to be the saviour of the people against Bouteflika in the recent crisis suggests that the army must judge there to be some grounds for that attempt to be

believed, just like there would be no reason for *le pouvoir* to keep up a pretence of democracy if nobody believed it. The average European or American observer, including myself, may not judge Algeria's current political system to be democratic, but since it involves regular elections that cannot usually be considered anything other than (technically) free and fair (Aghrout & Zoubir, 2016, p150-152), even if highly uncompetitive, many Algerians may disagree and may see their system as relatively democratic, especially when compared to other countries in the region.

Secondly, despite recent protests, the continued support for the status quo should not be underestimated. Although Algerian elections suffer from extremely low turn-outs and constant boycotts, the regime-parties continuously perform well, and not due to major voter fraud, since many of Algeria's elections have been rated positively by international observers (Ibid). The regime does not always have to cheat, because its main opponents tend to boycott elections, or have become so disillusioned with the general system that they believe voting is worthless (Ibid). Those individuals may then have become the very people who do not express particularly strong pro-democratic views, thus creating the observed correlation. However, further research on Algeria in particular will be required to find out the cause of this counter-intuitive finding.

Stronger and less surprising results were found for institutional factors of institutional trust, which do appear to have a strong, significant effect on trust in Algeria's armed forces, despite having been developed within a European and North-American context. While perceived government benevolence plays a weak role at best, perceived government competence appears to play a rather important role in explaining trust in the ANP. The same applies to anger at the government, although this relationship is weaker and appears to mostly affect whether people have great or medium trust in the ANP, rather than creating a significant difference between no trust and great trust. This lays bare the limitations of simplifying the variables into dichotomisations. However, while the results may point to particularly strong relationships between the variables, it remains very difficult to say whether the main thesis of the institutional theory, that an institution's performance determines trust in that institution, is actually true. The potential tautology in the argument remains of concern, and only research on actual performance-indicators can lift the veil on that complication.

When it comes to the other factors, perhaps the most surprising finding is that anger at islamists has no influence on trust in the armed forces at all. This comes despite nearly a decade of civil war that pitted islamists against the armed forces, suggesting that the divisions of that decade may have faded away to a rather large extent. Unfortunately, earlier versions of the Arab Barometer did not ask the same question so it cannot be tested whether this effect was equally absent a decade ago, but either way it is a noteworthy finding that there does not appear to be an observably strong divide anymore between the two sides. Anger at the one does not appear to lead to trust in the other. This does, however, make a relatively large amount of sense, because even during Algeria's dark decade, as chapter 2 has explored, individuals opposed to islamists did not necessarily support the armed forces because they liked the armed forces, but perhaps more because it was the less-worrying alternative.

Ethnicity was also found to have no effect on trust in the armed forces, which perhaps does not come as a major surprise despite the earlier formulated hypothesis, because as has been explored, the divisions between Berbers and Arabs are relatively limited and armed force is not involved. Perception of corruption also does not appear to have a very strong effect on trust in the armed forces when controlling for other factors, which may be due to the fact that the armed forces are not necessarily blamed for that problem, with especially the DRS often portraying itself as a force against corruption. The negative relationship between an intention to emigrate and trust in the armed forces is as hypothesised, and although relatively weak remains robust even when controlling for other factors.

However, it is the final variable that, rather unexpectedly, turns out to have the strongest effect on trust in the armed forces: Algerians appear to attach a great amount of importance to their sense of security, and their trust in the armed forces appears to be very strongly correlated with this sense of safety. With a Spearman's Rho of 0.333 and very robust when other factors are controlled for, this variable has an astonishingly strong effect on trust in the armed forces despite featuring almost never in existing literature, let alone in existing theories. Whether this observed effect is unique to Algeria or not is thus for future research to assess, but some of the reasons for this effect certainly may be found in Algeria's history. Having lived through times of great insecurity, it would not come as a major surprise that Algerians let their trust in the armed forces depend on the extent to which they feel safe. Potentially, this may even be considered a more direct performance variable within the institutional theory, since the armed forces have as their task to ensure security. Individuals

who believe the armed forces have done so successfully may then be inclined to instil greater trust in the institution, thus potentially providing very strong support for the institutional theory of institutional trust without suffering from the aforementioned tautology. With research into trust in the armed forces still in its early stages, this particular finding can be of great value for future research on trust in the armed forces and thus for institutional trust theory more broadly.

Keeping this in mind, the next and final step for this thesis is to create a final model that can explain trust in Algeria's armed forces, so as to provide a model that can be applied in other contexts with the aim to discover the extent to which the same may apply elsewhere. This will be done through step-wise deletion in a binary logistic regression. Although, as mentioned in chapter 5, this particular method was chosen because it is the only way to objectively include or exclude variables, it should be noted, once again, that the binary logistic regressions limits the findings to some extent and can thus be no more than an approximation of a model explaining trust in Algeria's armed forces.

Table 7: Explaining Trust in Algeria's Armed Forces^a

N	1027
Missing	173
Pseudo-R²	.197 (C&S) / .289 (Nagelk.)

Variable	B	S.E.	Odds	Sign.
Demographics				
Income Perception*	0.46	0.18	1.59	.010
Secondary (educ.)*	-0.50	0.21	0.61	.017
Tertiary (educ.)	-0.42	0.25	0.66	.087
Gender (1 = female)*	0.41	0.19	1.51	.027
Employment*	0.43	0.19	1.54	.024
Cultural Factors				
General Trust*	-0.49	0.21	0.61	.021
Political Interest**	0.60	0.23	1.81	.008
Views on Democracy***	0.49	0.12	1.63	.000

Variable	B	S.E.	Odds	Sign.
Cultural Factors (cont)				
Somewhat religious	-0.13	0.28	0.88	.648
Religious*	-0.72	0.30	0.49	.018
Institutional Factors				
Competence***	0.80	0.18	2.23	.000
Benevolence*	-0.57	0.28	0.56	.040
Anger at Government*	-0.38	0.19	0.68	.041
Other Factors				
Personal Security***	1.01	0.18	2.75	.000
Intention to Emigrate**	-0.61	0.21	0.54	.004

* = p<0.05, ** = p<0.01, *** = p<0.001

a. The model includes control variables for age, marital status, area of residence and working for the army.

Starting from the binary logistic regression visualised in Table 5, the variable with the highest p-value was deleted at each step, until only variables at p<0.05 remained. Control variables were not deleted. The following items, in step-wise order, were removed in this way: group

membership ($p=.907$), ethnicity (.786), anger at islamists (.740), perception of corruption (.494), authoritarian orientation (.344), traditional views on gender (.343) and xenophobia (.294). The results can be found in Table 7.

Having deleted several variables, the number of missing values was reduced. Most of the correlations nevertheless remain only barely significant, with just three variables significant within a 99.9% [confidence interval](#). Although the pseudo [R-square](#) should be looked at with great caution, the Nagelkerke value of 0.289 suggests that the model is able explain just over a quarter of the observed variation in the dependent variable. While most effects remain the same as before, generalised trust becomes statistically significant within a 95% confidence interval, although still in the opposite direction from the one hypothesised. It should be noted, once again, that variables such as generalised trust and political interest were not significant in the multinomial logistic regression.

8. Conclusion

Although there is an extensive body of literature about institutional trust, this theoretical tradition has focused largely on the European and North American context, with relatively little attention for the various contexts of the Global South. Algeria in particular is greatly under researched due to the practical restrictions discussed before, which means that academic knowledge about this rather unique country is very limited. This study has aimed to fill this gap in existing knowledge by studying trust in Algeria's very powerful armed forces, using the easily available and very informative dataset by the Arab Barometer, which has been able to remove many of the practical obstacles to researching Algerian society. The large number of rejected hypotheses, including contradictory findings, shows the extent to which academic knowledge about Algeria is lacking, and how much can still be learned about institutional trust more generally in non-democratic countries of the Global South.

Despite the methodological complications caused by the particular formulation of the question on institutional trust, this study has been able to shed some light on these issues by creating a model to explain trust in Algeria's armed forces, displayed in Table 7. As has been shown, existing theories based largely on the experiences of European and North American contexts cannot fully explain trust in the armed forces in a country such as Algeria. The most basic variables that have been shown to be relevant in traditional institutional trust theory either did not play a role in the Algerian context at all, or were not as strongly associated as would have been expected. The fact that variables such as generalised trust, group membership and perceived government benevolence did not prove significant shows that better explanatory variables tuned to the particular context of a country and an institution are necessary. As a result, variables identified as relevant in other authoritarian countries proved to be more successful, although there too the results were relatively mixed, perhaps because no solid theory has been developed yet in the context of the Global South, which itself is incredibly diverse and thus could not be summarised within a single framework.

This is evidenced in the case of Algeria by two surprising findings that do not align with findings from other parts of the world, namely a positive relationship between pro-democratic views and trust in the non-democratic armed forces, and a surprisingly strong relationship

between personal safety and trust in the armed forces. The former finding shows that Algeria may have a uniqueness to it that needs to be explored further, and the latter finding suggests that more research may have to be done on trust in other post-conflict authoritarian states in order to gauge the extent to which personal safety and security may play a role in a particular group of countries more generally. At the same time, the finding that security concerns are by far the strongest explanatory factor for trust in Algeria's armed forces, a finding that had not yet been identified in other literature, is poignant knowledge both for future studies on trust in authoritarian countries and for Algeria in particular, where the historical and political context may have made security concerns more important than elsewhere. Additionally, if corroborated elsewhere, it may in fact provide some very strong evidence for the institutional theory of institutional trust, without suffering from a tautology.

While the findings of this study are thus not limited just to the Algerian context, there nevertheless remains much to be researched within the country itself. Trust in the armed forces remains high, but has also been rather volatile over the past decade, as the Arab Barometer's earlier waves suggest. While this study has been able to assess what factors may influence that level of trust, further research will have to explore what this means for the continuation of the status quo. After all, although Algeria's triangle of power has proven to be very durable, it has faced numerous crises over the past few decades that could have changed this status quo. It might, in fact, be facing such a crisis right now, and although it has made it through each of the previous ones, it still remains of great interest to study the extent to which *le pouvoir* can do this again, and perhaps most importantly, at what cost. If trust in the armed forces truly is a good measure for the army's legitimacy, then it may also say much about the way Algerians think about political power in their country. And that is an issue that, once again, appears to have become relevant.

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Appendix A: Introduction to Relevant Statistics

In this thesis, three statistical tests are used to determine what factors may be correlated with trust in Algeria's armed forces: a bivariate correlation using the Spearman's Rho, a multinomial logistic regression and a binary logistic regression. In this Appendix, I will briefly explain the basic concept of each particular method. The terms and concepts used in the explanation feature in the glossary of terms in Appendix B.

Bivariate Correlation

A bivariate correlation using the Spearman's Rho should not usually be done in social sciences quantitative research because it fails to use [control variables](#), meaning that the results are oversimplified. It can be useful in the research process itself for the initial identification of relevant variables, but on its own it cannot identify relevant relationships. However, because this thesis was already using two different statistical tests, doing a bivariate correlation could be used as additional information to be used when interpreting the results of the two other tests.

Nevertheless, the oversimplified nature of a bivariate correlation also makes it easier to understand: it is, as the name says, a correlation between only two variables. For instance, if we know the number of ice creams sold on any particular day as well as the number of people who drown on each particular day (in a given location), we could then assess the relationship between these two variables through a bivariate correlation and likely find that ice cream sales are correlated with the number of people drowning, since the one tends to occur more frequently on the same days as the other. This example also displays why control variables are necessary.

In this particular thesis, the Spearman's Rho is used to estimate this relationship due to its use for an [ordinal dependent variable](#). Table 3 shows the results of this test. As an example, Personal Security has a Spearman's Rho of 0.333 and a [p-value](#) of 0.000. The fact that the Spearman's Rho is positive means that there is a positive correlation between the variable personal security and the dependent variable trust in the armed forces, in that individuals who

feel that their personal security is ensured are more likely to also trust the armed forces. The fact that the Rho value is 0.333, a relatively high value compared to all the other factors, means that this relationship is relatively strong, and the p-value of 0.000 means that the chance of this relationship being generalisable to the whole population is 99.9%. On the other hand, ethnicity/berber has a Rho value of -.035 and a p-value of 0.232. The negative Rho value means that there is a [negative relationship](#), which due to the coding of amazight-speaking = 1 and not amazight-speaking = 0 means that Berbers in the sample are on average less trusting of the Algerian armed forces (because higher values in the one variable are correlated with lower values in the other variable). However, since the p-value is 0.232, there is a 23.2% chance that this is caused by chance and is only the case for the sample, and not for the general population. As a result, the [null hypothesis](#) for that variable cannot be rejected.

Binary Logistic Regression

A binary logistic regression is more complicated and makes use of [odds ratios](#) and their logarithm. At its essence, a binary logistic regression assesses to what extent a particular variable can improve the accuracy of the estimated results by comparing the actual answers respondents have given to the answers that may be expected if a certain independent variable is correlated with the dependent variable. By using the logarithm of the odds ratio, this can be done in a standardised way so that eventually it can be estimated what the p-value and the strength of the association is. The slope of the relationship, which can be considered the strength, is displayed through the [Beta value](#) (marked as B in table 4), which indicates how much the dependent variable will go up if the independent variable goes up by 1. However, since this is not a standardised value (a 2-category variable will likely have a higher Beta than a [continuous](#) variable with many options), the Beta cannot be interpreted on its own. For this, the standard error (S.E. in the table) is used, which is the standard deviation of the sampling distribution and used to standardise the Beta value. Taken together, these create the more relevant p-value. For the purposes of interpretation of this thesis, the only part that is relevant about the Beta value is whether it is positive or negative, indicating respectively a positive or a negative relationship.

Finally, the odds ratio is a more standardised value that can indicate the strength of a relationship in a logistic regression. However, since most of the values have a rather comparable standard error (this is caused largely by the fact that the [continuous](#) variables are

mostly still limited to values between 1 and 4), the odds ratio mostly just provides more simply interpreted information than the standard error and Beta taken together.

Multinomial Logistic Regression

The multinomial logistic regression is the most complex model, and so I will try to go through the interpretation of the results (both in Table 4 and in Appendix C) without going too into depth of the actual way it works. In the most basic sense, then, a multinomial logistic regression is multiple binary logistic regressions (the number of [categories](#) minus 1, in this case 3) combined into a single one, with each category in practice turned into [dummy](#) variables but with the outcome weighted into a single model. Crucially, this means that the model treats the four categories of the [dependent variable](#) as completely independent of each other, as it would with any nominal [categorical](#) variable: it sees no difference between asking respondents about their favourite flavour of ice cream and the extent to which they trust the armed forces.

As a result, the model will indicate whether a certain group of people is more likely to be in one particular category of trust in the armed forces compared to another, but it will not recognise any patterns such as whether that group tends to have higher levels of trust. In the way the test was done here, the 4th category (great trust) was chosen as the reference category, which means that the parameter estimates shown in Appendix C will indicate whether certain groups are more likely to be in any of the first three categories compared to the fourth category of great trust.

For instance, in the second line of the first category (in green) in Appendix C, it is shown that Views on Democracy has a [Beta](#) value of -0.365. This means that individuals who tend to believe that democracy is a good system are less likely to have no trust at all in the armed forces than they are to have great trust. However, this effect is non-significant ($p=0.075$). Scrolling down to the second category of limited trust (in red), the Beta value for views on democracy is -0.777, a far higher value that is also statistically significant on the $p<0.001$ level. Therefore, individuals who tend to believe that democracy is a good system are significantly less likely to have limited trust in the armed forces compared to having great trust. Since the third category, medium trust, also shows a negative value (although non-

significant with $p=0.170$), it can be concluded that individuals who display more positive views of democracy are significantly more likely to express great trust in the armed forces.

While the [continuous](#) independent variables are still somewhat straightforward, however, the [categorical](#) independent variables are even more complicated, since then we have to deal with two reference categories: one for the last category of the dependent variable, and one for the last category of the independent variable. Taking as an example the variable for security, for the first category of the dependent variable (in green) it is shown that security=1 has a Beta value of 1.988, highly significant with a p-value of 0.000. This means that individuals who believe that their security is not at all ensured are far more likely to express no trust at all in the armed forces than they would be to express great trust, compared to individuals who believe their security is fully ensured. Security=2 rather neatly has a lower but still significant Beta value, meaning that individuals who believe their security is somewhat ensured are also more likely to express no trust instead of great trust (compared to individuals who answered 4 = fully ensured), but less so than their least secure counterparts. Security = 3, finally, also shows a positive value, which means that they too are more likely to express no trust at all, but this value is not significant. In other words, there is not a large enough difference between individuals who believe their security is ensured and those who believe it is fully ensured to have a significant result. However, since we know that the categories are not ice cream flavours but levels of an ordinal variable, we can state with quite some certainty that there is a relatively linear pattern visible, where individuals who feel their security is more ensured will express higher levels of trust in the armed forces.

The same, linear pattern is visible for the second category of trust (in red), but in the third category (blue) the relationship appears skewed: individuals who believe their security is somewhat ensured are more likely to express medium trust than great trust compared to individuals who believe their security is fully ensured, but individuals who believe their security is not ensured are not more likely to be in this category of trust. This is one of the drawbacks of a multinomial logistic regression: the linear pattern can only be found through interpretation, since sometimes specific cells have a relatively low number of cases. For instance, the dataset shows (not displayed in the table) that only 15 respondents who feel their safety is not ensured express medium trust in the army, and only 14 express great trust in the army. The difference between those two particular variables is thus tested based on only 29 respondents, which makes statistically significant results far less likely to occur.

While the variable for security still shows rather clear results, more difficult examples are perception of corruption and political interest. Table 4 shows that the variable for corruption is highly significant, but in Appendix C this cannot be seen as clearly as Table 4 suggests. The reason for this is the incredibly small number of individuals who fall into the lowest category of both variables (the dataset shows that zero people fall into the cell corruption =1, trust = 1, one individual falls into the category corruption = 1, trust =2 and six respondents are in corruption =2, trust = 1). This means that for part of it, no values can be displayed at all, and for other parts there is no chance of a significant result. In fact, there is only one single statistically significant cell, and that is that respondents who believe there is no corruption in society at all are far more likely to express medium trust in the armed forces than they are to express great trust in the armed forces, compared to their less pessimistic counterparts. Although this is certainly a statistically significant result, it is difficult to gauge how strong the effect is from a multinomial logistic regression. At the same time, however, a binary logistic regression would in this case miss the effect altogether.

The opposite applies to political interest. Although Table 4 shows that it is non-significant in the model as a whole, the more detailed results in Appendix C do show a very clear pattern. In all three categories of the dependent variable, all three categories of political interest show a positive Beta value, which means that in each case, respondents who fall into the three lower categories of the independent variable are also more likely to fall into a lower categories of the dependent variable than they are to fall into the highest category, compared to respondents who display the highest level of political interest. In fact, there seems to be a relatively linear effect, with the highest Beta values found in the lowest categories. This strongly hints at a positive correlation, since it is visible in all 9 cases (or cells) in the table, but due to the fact that not a single one of these values is *individually* statistically significant, the effect is also non-significant in the overall model, since the multinomial logistic regression does not consider this pattern in any way relevant because it treats the two ordinal variables as nominal. This is why, both in the analysis and in the results, the findings of Table 4 are considered against the findings in Appendix C so as to put the values into their context.

Appendix B: Glossary of Terms

Beta (B)

Marked with the letter B in the tables of results, the Beta value marks the slope of the (linear) correlation. Higher values indicate a steeper slope, where negative values indicate a negative correlation and positive values indicate a positive correlation.

Bivariate

Involving exactly two variables, generally referring to the relationship or correlation between the two relevant variables.

Categorical Variable

Categorical variables are discrete variables with a fixed number of options that can be considered categories, unlike a continuous variable where a large or unlimited number of options is available. Categorical variables can be nominal (see below) or ordinal (see below).

Categories

When it concerns a categorical variable (either nominal or ordinal), the categories of the variable are the possible answers respondents can give to the question posed.

Chi-Square (χ^2)

The Chi-Square is a value calculated in order to test whether the null hypothesis is true or not by comparing the expected distribution in the cells to the observed distribution, where a cell refers to the number of respondents who fall into any particular categories. For instance, when assessing the relationship between trust in the armed forces and gender, there are 8 cells, and the expected distribution is that an equal number of men and women (relative to their size in the sample) display “great trust”, “medium trust”, “limited trust” and “no trust at all” in the armed forces. If each category has an equal number of men and women who have given that answer (again, relative to their size in the sample), the Chi-Square will be 0. The greater the difference between the expected distribution and the observed (actual) distribution, the greater the Chi-Square value. In order to assess the relative value of the Chi-Square, however, the degrees of freedom (see below) needs to be taken into account. These can be combined through a calculation to estimate the Confidence Interval (see below). While this method by far predates the age of computers, these days statistical software takes care of the calculations. For this thesis, SPSS was used.

Confidence Interval (CI)

The Confidence Interval is displayed as a percentage and refers to the extent to which a perceived result can be caused by chance rather than the perceived effect. It is thus the chance that the null hypothesis is rejected not because the relevant factor truly influences the dependent variable, but because it appears to do so only in the particular sample. For instance, if 5 men but only 3 women display great trust in the armed forces, that does not mean that the relationship is statistically significant: if you ask a question to only 8 people, it is very likely that you will not have a perfect 50/50 split. The Confidence Interval, in this case, is the two Chi-Square values between which the perceived difference in the parameter values are not considered statistically significant, since some variation in the parameters is to be expected even if the null hypothesis is true. In this thesis, the usual 95% Confidence Interval is used, which corresponds to a p-value of less than 0.05.

Continuous Variable

A continuous variable is an interval variable that can take a large or unlimited number of variables that follow in a clear (numerical) order. It is the opposite of a categorical variable.

Control Variable

A control variable is a variable used to assess whether observed variations may or may not be caused by spurious factors. A common example is that a researcher may find that when ice cream sales go up, so do the number of drownings. The observed relationship between drownings and ice cream sales is spurious, however, because both are actually independent (one would assume) and are both caused by the same common cause: higher temperatures and/or sunny weather. Control variables are thus used to make sure that an observed relationship is not being caused by a different factor.

Cronbach's Alpha

The Cronbach's Alpha is a measure used to test the extent to which different variables measure the same concept. In this thesis, it is used to indicate whether it is possible to combine multiple variables that are meant to be part of a scale based on the extent to which respondents are consistent in their answers. It is generally desirable for the Cronbach's Alpha to be higher than 0.7 when combining variables into one (Pallant, 2005, p90).

Degrees of Freedom

The number of possible measurements for any particular variable, in this case used to interpret the Chi-Square values in the logistic regressions. The Chi-Square becomes higher

when the number of categories is higher, which also applies to the degrees of freedom. Together, they can provide a more standardised value from which the p-value can be inferred.

Dependent Variable

The dependent variable is the variable of interest, against which the independent variables are tested for any kind of correlation. In this thesis, trust in the armed forces is the dependent variable.

Dichotomous Variable

A dichotomous variable (also known as a binary variable) is a variable with exactly two categories, such as the traditional variable for gender (male/female) but also any variable with a yes or no answer.

Dummy Variable

A dummy variable is a concept used in binary logistic regressions and refers to a situation in which a categorical variable with more than two categories that cannot be dichotomised is included in the binary logistic regression by creating multiple variables that fit the binary requirement of the regression. This is done by creating a separate variable for each category of a variable, with the resulting variables called dummy variables. For instance, the 3-category variable education can have dummy variables for primary education (0=not in this category, 1=in this category) and secondary education. There are always a number of dummy variables equal to the original number of categories minus 1, where the final category becomes the reference category: if individuals with primary and secondary education are more likely to trust the armed forces, then it can be interpreted from the data that individuals with tertiary education are less likely to trust the armed forces than their counterparts. Creating a dummy variable for every original category would nullify their effect.

Independent Variable

The independent variables are the variables that are hypothesised to have an effect on the dependent variable. While there is only one dependent variable, there are many independent variables.

Inter-Item Correlation

As the word says, in the context of this thesis this is the correlation between each variable (part of a scale) that is about to be combined into a single variable. The average inter-item correlation can give a general indication as to whether the scale is reliable, and the specific

inter-item correlations can show which specific variables may or may not fit perfectly within the scale.

Likert Scale

A Likert scale is a type of ordinal variable that asks respondents to report the extent to which they agree or disagree with a certain statement. Likert scales can have different numbers of categories; for instance a 3-point Likert scale asks respondents whether they agree, disagree or neither, whereas a 4-point Likert scale asks respondents whether they strongly agree, agree, disagree or strongly disagree.

Linear Relationship

A linear relationship between variables is one in which an increase in the one leads to either an increase or a decrease in the other. This applies to continuous and ordinal variables, and stands opposed to for instance U-shape relationships, where the interaction between the variables is more complex.

Logistic Regression

A logistic regression is a statistical model that uses the logarithm of the odds to calculate the likelihood of a relationship existing between a dependent variable and any number of independent variables. The standard logistic regression is the binary one, but the more complex ordinal and multinomial logistic regressions also feature in this thesis.

Negative Correlation

A negative correlation or relationship occurs when an increase in the independent variable is correlated with a decrease in the dependent variable. While this takes the form of a linear relationship for ordinal and continuous variables, the binary logistic regression will also display negative (or positive correlations) for categorical variables. While stating that gender and trust in the armed forces are negatively correlated makes no sense on its own, this may nonetheless be the result displayed in the results table if for instance female = 1 and male = 2, and if women are more likely to trust the armed forces. If this is the case, it will be displayed through a negative Beta (B) value (which means a downwards slope if it were displayed in a graph).

Nominal Variable

A nominal variable is a type of categorical variable where there is no identifiable order among the categories. Examples are colours, flavours or telephone brands: when respondents

are asked to give their favourite colour, there is no identifiable order between the various answers. This stands in contrast to ordinal variables (see below).

Null Hypothesis

The null hypothesis is the assumption that two variables are independent of each other, which means that there would be no relationship between them.

Odds Ratio

The odds ratio is a more quantifiable way of stating how much more likely one group is to fall in a particular category compared to another group, where higher values (above 1) or lower values (below 1) indicate a higher chance that any particular individual from the specified group will fall in the specified category. Negative correlations have odds ratios below 1 and positive correlations have odds ratios above 1, which can be converted by the formula $1/OR$.

Ordinal Variable

An ordinal variable is a type of categorical variable where there is an identifiable order among the categories. The poignant example for this thesis is trust in the armed forces: the categories “great trust”, “medium trust”, “limited trust” and “no trust at all” can be confidently ordered as “levels of trust”. A common type of ordinal variable is the Likert scale (see above).

P-Value

The p-value is the chance that your results in your particular sample are caused by chance rather than by an actual relationship between the variables. It is thus the chance that the null hypothesis is true despite the observed variation. The logic behind this is that it is very unlikely (or in fact impossible) for every observed frequency to be identical to the expected frequency. For instance, when asking 600 men and 600 women whether they like chocolate or vanilla ice cream, it would be quite coincidental if the exact same number of men and women were to choose the same favourite flavour of ice cream. Therefore, if 401 women prefer chocolate ice cream, whereas only 400 men prefer chocolate ice cream, we cannot conclude that women like chocolate ice cream more than men (except in this particular sample)). To ease interpretation, usually various Confidence Intervals are used to display the certainty with which one can say that there is a significant relationship. The Confidence Intervals used in this thesis are 95%, 99% and 99.9%, which correspond to $p < 0.05$, $p < 0.01$ and $p < 0.001$. Even a relatively low p-value such as 0.01 thus still has a 1% chance of being

caused by chance, which is why replication with a different sample is necessary to increase the certainty of the results being representative of the population as a whole.

Positive Correlation

A positive correlation or relationship occurs when an increase in the independent variable is correlated with an increase in the dependent variable. While this takes the form of a linear relationship for ordinal and continuous variables, the binary logistic regression will also display positive (or negative correlations) for categorical variables. While stating that gender and trust in the armed forces are positively correlated makes no sense on its own, this may nonetheless be the result displayed in the results table if for instance female = 1 and male = 2, and if men are more likely to trust the armed forces. If this is the case, it will be displayed through a positive Beta (B) value (which means an upwards slope if it were displayed in a graph).

Rating Scale

A rating scale in the context of this thesis is a question in which respondents are asked to rate their answer to a certain question, thus creating an ordinal variable. The Likert scale is a kind of rating scale, but so is the dependent variable.

R-Square (R^2)

The R-Square in a logistic regression is a measure that estimates the extent to which a model (all independent variables taken together) can explain the variance in the dependent variable. The R-Square takes on a value between 0 and 1 and is mostly indicative, as an exact determination in a logistic regression is complicated. It can generally be summarised as a value that displays the goodness-of-fit of the model, with higher values indicating that the model is better able to explain the answers to the dependent variable. This thesis uses the two most common R-Square values as given by SPSS Statistics: Nagelkerke and Cox & Snell.

Spearman's Rho

Spearman's Rho is a measure to determine the correlation between two variables and is the preferred measure for ordinal variables. A higher Spearman's Rho indicates a stronger relationship between the two variables, although it is necessary to calculate the Confidence Interval to interpret the result.

Scale Reliability

The scale reliability is the extent to which a set of scale variables (variables designed to be combined to be congruent and to be combined into one) is reliable as a scale, meaning that

respondents give relatively consistent answers. This is measured primarily through the Inter-Item Correlation and the Cronbach's Alpha.

Significance

A correlation is statistically significant when it is unlikely that a correlation perceived in the sample is caused by chance alone, meaning that the null hypothesis can be rejected. The significance level is determined by the researcher, but is generally set at 95%, or $p < 0.05$, meaning that the chance that the perceived correlation is caused by chance is less than 5%. The lower the p-value, the more likely the result is to be generalisable to the population, which means the result is more significant.

Test of Parallel Lines

This test, also known as the proportional odds assumption, tests whether the coefficients of the slope remain the same across the various categories (i.e. are parallel, from which the test gets its name). If the null hypothesis is rejected (if the slopes do not remain the same and the "lines" are not parallel), an ordinal logistic regression cannot be done because one of the basic assumptions of the model would have been broken.

Type I/II Error

A type I error occurs when the null hypothesis is rejected even though it should not have been, which means that a relationship is identified when it does not truly exist. A type II error is when the null hypothesis is actually false, but it is not rejected by the data. Eliminating both errors is the primary goal, but since the true situation is not known, type I and II errors cannot ever be fully avoided. Additionally, measures to avoid a type I error (making it harder to reject the null hypothesis) will increase the likelihood of a type II error.

Appendix C: Parameter Estimates

Multinomial Logistic Regression

The full parameter estimates of the multinomial logistic regression, as given by IBM SPSS Statistics 25, are displayed below (with edits for readability).

To ease interpretation, each of the three categories is displayed with its own colour. A full explanation of how to interpret the values can be found in Appendix A under the heading [Multinomial Logistic Regression](#). The terms at the top are explained in Appendix B.

		Parameter Estimates					95% CI	
Trust ^a		B	SE	χ^2	Sig.	Odds Ratio	Lower Bound	Upper Bound
1 absolutely do not trust	Intercept	0.129	2.512	0.003	.959			
	Views on Democracy	-0.365	0.205	3.160	.075	0.694	0.465	1.038
	Traditional Views Gender	-0.453	0.232	3.823	.051	0.635	0.403	1.001
	Xenophobia	-0.378	0.239	2.503	.114	0.685	0.429	1.094
	Competence	-1.312	0.351	13.975	.000	0.269	0.135	0.536
	Age	0.015	0.015	0.988	.320	1.015	0.986	1.045
	Income Perception =1	0.102	0.583	0.031	.861	1.107	0.353	3.473
	Income Perception =2	0.091	0.451	0.041	.840	1.095	0.453	2.648
	Income Perception =3	0.001	0.415	0.000	.998	1.001	0.444	2.259
	Income Perception =4	0 ^b						
	Education = 1	-0.408	0.416	0.963	.326	0.665	0.294	1.502
	Education = 2	0.045	0.350	0.017	.897	1.046	0.527	2.076
	Education = 3	0 ^b						
	Gender = 0	1.056	0.341	9.600	.002	2.875	1.474	5.607
	Gender = 1	0 ^b						
	Employment = 0	0.433	0.319	1.838	.175	1.542	0.825	2.882
	Employment = 1	0 ^b						
	Marital Status = 0	0.012	0.435	0.001	.978	1.012	0.432	2.372
	Marital Status = 1	0 ^b						
	Area of residence = 0	0.339	0.294	1.326	.250	1.403	0.788	2.497
	Area of residence = 1	0 ^b						
	Working for army = 0	1.783	1.160	2.361	.124	5.946	0.612	57.798
	Working for army = 1	0 ^b						
	Generalised trust = 0	-0.675	0.343	3.875	.049	0.509	0.260	0.997
	Generalised trust = 1	0 ^b						

Political Interest = 1	1.104	0.721	2.347	.126	3.016	0.735	12.383
Political Interest = 2	0.483	0.739	0.427	.513	1.621	0.381	6.900
Political Interest = 3	0.092	0.796	0.013	.908	1.096	0.230	5.216
Political Interest = 4	0 ^p						
Group Membership = 0	0.331	0.466	0.506	.477	1.393	0.559	3.470
Group Membership = 1	0 ^p						
Authoritarian = 1	1.700	1.127	2.275	.131	5.477	0.601	49.896
Authoritarian = 2	1.214	1.130	1.153	.283	3.365	0.367	30.841
Authoritarian = 3	1.562	1.148	1.853	.173	4.770	0.503	45.227
Authoritarian = 4	0 ^p						
Religion = 1	-0.964	0.513	3.534	.060	0.381	0.140	1.042
Religion = 2	-0.605	0.328	3.392	.066	0.546	0.287	1.040
Religion = 3	0 ^p						
Benevolence = 1	-1.512	1.043	2.099	.147	0.221	0.029	1.705
Benevolence = 2	-1.892	1.047	3.268	.071	0.151	0.019	1.173
Benevolence = 3	-1.343	1.131	1.411	.235	0.261	0.028	2.394
Benevolence = 4	0 ^p						
Anger at Government = 1	-0.489	0.595	0.676	.411	0.613	0.191	1.967
Anger at Government = 2	-0.089	0.390	0.052	.819	0.914	0.426	1.965
Anger at Government = 3	-0.266	0.352	0.571	.450	0.767	0.385	1.527
Anger at Government = 4	0 ^p						
Security = 1	1.988	0.558	12.697	.000	7.304	2.447	21.805
Security = 2	1.135	0.468	5.876	.015	3.112	1.243	7.792
Security = 3	0.283	0.394	0.518	.472	1.328	0.614	2.872
Security = 4	0 ^p						
Ethnicity = 0	0.275	0.395	0.486	.486	1.317	0.607	2.855
Ethnicity = 1	0 ^p						
Corruption = 1	-17.385	0.000			####	####	#####
Corruption = 2	0.901	0.558	2.608	.106	2.461	0.825	7.343
Corruption = 3	0.015	0.426	0.001	.973	1.015	0.440	2.340
Corruption = 4	0 ^p						
Emigration = 0	-0.788	0.343	5.276	.022	0.455	0.232	0.891
Emigration = 1	0 ^p						
Anger at Islamists = 1	-0.062	0.451	0.019	.891	0.940	0.388	2.277
Anger at Islamists = 2	0.241	0.420	0.329	.566	1.273	0.559	2.900
Anger at Islamists = 3	0.143	0.402	0.127	.722	1.154	0.525	2.536
Anger at Islamists = 4	0 ^p						

2 limited trust	Intercept	2.230	1.806	1.526	.217		
	Views on Democracy	-0.777	0.167	21.655	.000	0.460	0.331
	Traditional Views Gender	-0.203	0.193	1.105	.293	0.816	0.559
	Xenophobia	-0.246	0.188	1.724	.189	0.782	0.541
	Competence	-0.247	0.256	0.929	.335	0.781	0.473
	Age	-0.001	0.011	0.011	.917	0.999	0.977

Income Perception =1	0.467	0.471	0.979	.322	1.594	0.633	4.017
Income Perception =2	0.505	0.347	2.119	.146	1.657	0.839	3.272
Income Perception =3	-0.007	0.320	0.000	.982	0.993	0.531	1.858
Income Perception =4	0 ^p						
Education = 1	-0.392	0.325	1.450	.229	0.676	0.357	1.279
Education = 2	0.102	0.278	0.134	.715	1.107	0.642	1.910
Education = 3	0 ^p						
Gender = 0	0.323	0.258	1.558	.212	1.381	0.832	2.291
Gender = 1	0 ^p						
Employment = 0	0.399	0.248	2.582	.108	1.491	0.916	2.426
Employment = 1	0 ^p						
Marital Status = 0	-0.430	0.329	1.712	.191	0.651	0.342	1.239
Marital Status = 1	0 ^p						
Area of residence = 0	0.103	0.226	0.210	.647	1.109	0.713	1.725
Area of residence = 1	0 ^p						
Working for army = 0	0.295	0.631	0.218	.640	1.343	0.390	4.623
Working for army = 1	0 ^p						
Generalised trust = 0	-0.207	0.272	0.583	.445	0.813	0.477	1.384
Generalised trust = 1	0 ^p						
Political Interest = 1	0.724	0.610	1.408	.235	2.062	0.624	6.813
Political Interest = 2	0.710	0.603	1.388	.239	2.034	0.624	6.628
Political Interest = 3	0.340	0.630	0.292	.589	1.405	0.409	4.832
Political Interest = 4	0 ^p						
Group Membership = 0	-0.086	0.351	0.059	.807	0.918	0.461	1.828
Group Membership = 1	0 ^p						
Authoritarian = 1	0.521	0.640	0.664	.415	1.684	0.481	5.898
Authoritarian = 2	1.019	0.626	2.648	.104	2.771	0.812	9.461
Authoritarian = 3	0.753	0.637	1.395	.237	2.123	0.609	7.399
Authoritarian = 4	0 ^p						
Religion = 1	-0.395	0.374	1.117	.291	0.673	0.323	1.402
Religion = 2	-0.568	0.249	5.210	.022	0.567	0.348	0.923
Religion = 3	0 ^p						
Benevolence = 1	-0.965	0.896	1.159	.282	0.381	0.066	2.207
Benevolence = 2	-0.748	0.882	0.719	.397	0.473	0.084	2.667
Benevolence = 3	-0.111	0.886	0.016	.901	0.895	0.158	5.084
Benevolence = 4	0 ^p						
Anger at Government = 1	-1.539	0.465	10.933	.001	0.215	0.086	0.534
Anger at Government = 2	-0.961	0.317	9.172	.002	0.383	0.205	0.712
Anger at Government = 3	-0.759	0.285	7.108	.008	0.468	0.268	0.818
Anger at Government = 4	0 ^p						
Security = 1	2.241	0.491	20.823	.000	9.406	3.592	24.633
Security = 2	1.578	0.366	18.629	.000	4.846	2.367	9.924
Security = 3	0.453	0.311	2.124	.145	1.573	0.855	2.891
Security = 4	0 ^p						
Ethnicity = 0	-0.051	0.303	0.028	.866	0.950	0.525	1.721
Ethnicity = 1	0 ^p						

Corruption = 1	0.241	1.183	0.042	.839	1.273	0.125	12.925
Corruption = 2	0.126	0.473	0.071	.790	1.134	0.449	2.864
Corruption = 3	0.211	0.281	0.568	.451	1.235	0.713	2.141
Corruption = 4	0 ^p						
Emigration = 0	-0.562	0.279	4.062	.044	0.570	0.330	0.985
Emigration = 1	0 ^p						
Anger at Islamists = 1	-0.301	0.358	0.708	.400	0.740	0.367	1.492
Anger at Islamists = 2	-0.040	0.325	0.015	.902	0.961	0.508	1.817
Anger at Islamists = 3	-0.064	0.318	0.041	.839	0.938	0.503	1.747
Anger at Islamists = 4	0 ^p						

3 medium trust	Intercept	0.971	1.260	0.594	.441			
	Views on Democracy	-0.185	0.135	1.885	.170	0.831	0.638	1.082
	Traditional Views Gender	-0.435	0.147	8.709	.003	0.647	0.485	0.864
	Xenophobia	-0.287	0.149	3.710	.054	0.750	0.560	1.005
	Competence	-0.116	0.195	0.353	.552	0.891	0.608	1.305
	Age	0.004	0.008	0.268	.604	1.004	0.988	1.021
	Income Perception =1	-0.391	0.415	0.887	.346	0.677	0.300	1.525
	Income Perception =2	-0.388	0.263	2.179	.140	0.678	0.405	1.136
	Income Perception =3	-0.265	0.217	1.493	.222	0.767	0.501	1.174
	Income Perception =4	0 ^p						
	Education = 1	0.214	0.244	0.771	.380	1.239	0.768	1.997
	Education = 2	0.133	0.221	0.361	.548	1.142	0.740	1.762
	Education = 3	0 ^p						
	Gender = 0	0.271	0.202	1.797	.180	1.311	0.882	1.948
	Gender = 1	0 ^p						
	Employment = 0	-0.065	0.187	0.119	.730	0.937	0.649	1.353
	Employment = 1	0 ^p						
	Marital Status = 0	-0.103	0.245	0.176	.674	0.902	0.558	1.458
	Marital Status = 1	0 ^p						
	Area of residence = 0	0.097	0.176	0.303	.582	1.102	0.780	1.556
	Area of residence = 1	0 ^p						
	Working for army = 0	0.167	0.432	0.149	.699	1.181	0.507	2.753
	Working for army = 1	0 ^p						
	Generalised trust = 0	0.292	0.224	1.707	.191	1.340	0.864	2.077
	Generalised trust = 1	0 ^p						
	Political Interest = 1	0.199	0.370	0.289	.591	1.220	0.591	2.517
	Political Interest = 2	0.233	0.354	0.433	.510	1.263	0.631	2.528
	Political Interest = 3	0.228	0.378	0.364	.546	1.256	0.599	2.633
	Political Interest = 4	0 ^p						
	Group Membership = 0	0.153	0.261	0.344	.557	1.165	0.699	1.942
	Group Membership = 1	0 ^p						
	Authoritarian = 1	-0.050	0.361	0.019	.890	0.951	0.468	1.931
Authoritarian = 2	-0.158	0.348	0.207	.649	0.854	0.431	1.690	
Authoritarian = 3	-0.112	0.340	0.108	.743	0.894	0.459	1.742	

Authoritarian = 4	0 ^b						
Religion = 1	-0.194	0.309	0.397	.529	0.823	0.450	1.507
Religion = 2	-0.261	0.199	1.718	.190	0.770	0.521	1.138
Religion = 3	0 ^b						
Benevolence = 1	0.119	0.545	0.048	.827	1.126	0.387	3.275
Benevolence = 2	0.356	0.526	0.458	.499	1.428	0.509	4.004
Benevolence = 3	0.388	0.501	0.600	.439	1.474	0.552	3.938
Benevolence = 4	0 ^b						
Anger at Government = 1	-1.164	0.355	10.745	.001	0.312	0.156	0.626
Anger at Government = 2	-0.270	0.264	1.051	.305	0.763	0.455	1.280
Anger at Government = 3	-0.244	0.243	1.005	.316	0.784	0.487	1.262
Anger at Government = 4	0 ^b						
Security = 1	0.711	0.497	2.048	.152	2.037	0.769	5.394
Security = 2	1.120	0.290	14.970	.000	3.066	1.738	5.409
Security = 3	0.414	0.215	3.717	.054	1.513	0.993	2.304
Security = 4	0 ^b						
Ethnicity = 0	0.084	0.258	0.106	.744	1.088	0.656	1.803
Ethnicity = 1	0 ^b						
Corruption = 1	2.041	0.514	15.752	.000	7.698	2.810	21.089
Corruption = 2	0.352	0.310	1.284	.257	1.421	0.774	2.610
Corruption = 3	0.020	0.222	0.008	.929	1.020	0.660	1.575
Corruption = 4	0 ^b						
Emigration = 0	-0.260	0.236	1.212	.271	0.771	0.486	1.225
Emigration = 1	0 ^b						
Anger at Islamists = 1	-0.260	0.284	0.836	.361	0.771	0.441	1.346
Anger at Islamists = 2	0.053	0.257	0.042	.838	1.054	0.636	1.746
Anger at Islamists = 3	-0.115	0.252	0.207	.649	0.892	0.544	1.461
Anger at Islamists = 4	0 ^b						

a. The reference category is: 4 = great trust.

b. This parameter is set to zero because it is redundant.