

Choosing the Right Candidate:  
How the Evolved Mind Votes  
in Modern Elections



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PhD Dissertation

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in Modern Elections

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# Acknowledgements

Having just arrived from a research stay in Seattle almost four years ago, I struggled with the topic of my master thesis. To help, my advisor introduced me to “the Uncle Test” and asked: “What would you like to tell your uncle that you are doing”? Somehow the combination of this unexpected question, a growing coffee addiction and a serious jet-lag made me decide to answer: *Why winning and losing candidates can be recognized from their mere faces*. I had no idea that this decision would put me on a path where I would stay much longer than the six months reserved for writing my master thesis. Fortunately, investigating voters’ preferences for political candidates turned out to be a mostly joyful (but sometimes tough) process during which many kind people spent their sparse time on me and my project. I am happy to get this opportunity to express my gratitude to the persons whose help and comments improved my project significantly in different ways.

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Lasse Laustsen

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# Preface

This summary report combines and integrates the different elements of my PhD dissertation, “Choosing the Right Candidate: How the Evolved Mind Votes in Modern Elections,” conducted at the Department of Political Science and Government, Aarhus University. The dissertation consists of this summary report and six articles or papers, which were published in or prepared for international peer-reviewed journals. The aim of this summary report is to provide a common framework for the different papers and to reflect on the findings as a whole, whereas the different papers have more specific focus points. Therefore, specific details with regard to the theory, methods and measurements are to be found in the separate articles and papers. The articles and papers in the dissertation are as follows:

- Paper A: “Decomposing the Relationship Between Candidates’ Facial Appearance and Electoral Success,” *Political Behavior*. 1-15 (online available from DOI 10.1007/s11109-013-9253-1).
- Paper B: “Winning Faces Vary By Ideology: How Non-Verbal Source Cues Influence Election and Communication Success in Politics” (co-authored with Michael Bang Petersen), resubmitted for *Political Communication* upon receiving “revise and resubmit” status.
- Paper C: “Choosing the Right Candidate: How Context and Political Ideology Affect Voters’ Candidate Personality Preferences,” working paper prepared for submission.
- Paper D: “Voting for Dominance: Republican Voters Prefer Political Candidates with Lower-Pitched Voices” (co-authored with Michael Bang Petersen and Casey A. Klofstad), manuscript under review.
- Paper E: “Does a Competent Leader Make a Good Friend? Evidence for a Distinct Psychology of Adaptive Followership” (co-authored with Michael Bang Petersen), manuscript under review.
- Paper F: “Facial Dominance Predicts the Positions and Success of Politicians” (co-authored with Michael Bang Petersen and Israel Waisman-Manor), working paper prepared for submission.



# Chapter 1: Introduction

Understanding electoral and political behavior constitutes a core puzzle in political science. Hence, electoral behavior has been the subject of some of the most groundbreaking investigations of public opinion formation, and these studies have consequently set the methodological standards for succeeding analyses of mass political attitude formation (Lazarsfeld, Berelson, and Gaudet, 1944; Berelson, Lazarsfeld, and McPhee, 1954; Campbell et al., 1960). For obvious reasons, political candidates occupy a significant role in these classic models of electoral behavior, and this tendency has continued in more recent work in the discipline (Popkin, 1994; Lenz, 2012; Lau and Redlawsk, 2006; Lodge and Taber, 2013). However, it remains unclear exactly how and why voters are attracted to certain political candidates and not to others. In this dissertation, I target these exact questions and provide new insights on the fundamental role played by political candidates in electoral contests and public opinion formation.

Basic conceptions of democracy hold that voters are sound and reasonable individuals and that they choose between two or more elites (parties or candidates) based on (at least partly) conscious and deliberate processes (Dahl, 1991; Habermas, 2012). However, concerns about the quality of the average citizen's political behavior and the processes guiding this behavior are as old as the discipline itself (Berelson, 1954; Berelson, 1952; Schumpeter, 1942). Recent work adds to this concern about democracy's basic well-being, showing how, for instance, shark attacks, performances of local sport teams, and placement of polling stations—all factors that ought to be irrelevant—affect election results (Achen and Bartels, 2004; Healy, Malhotra, and Mo, 2010; Rutchick, 2010). Candidates' facial appearances constitute another such seemingly irrelevant factor for democratic outcomes. Nevertheless, a growing literature shows that candidates' faces relate significantly to electoral success (Todorov et al., 2005; Berggren et al., 2010; Lawson et al., 2010). For instance, in a study by Todorov et al. (2005), subjects completely unfamiliar with American senatorial or gubernatorial candidates were shown photo pairs of competing candidates. Based entirely on perceptions from the photos, subjects were then asked to indicate which candidate from each pair they perceived as the more competent. This yielded the fascinating (or frustrating) result that subjects' choices of competent-looking candidates actually predicted real-world electoral outcomes significantly better than chance.

Based on this result, the authors conclude that their findings “have challenging implications for the rationality of voting preferences, adding to other findings that consequential decisions can be more ‘shallow’ than we would like to believe” (Todorov et al., 2005: p. 1625).

The study by Todorov and colleagues subsequently spurred a range of supporting replication studies across different electoral systems, countries and political cultures (e.g. Rosar et al., 2008; Banducci et al., 2008; Buckley, Collins, and Reidy, 2007; Antonakis, and Dalgas, 2009; Berggren et al., 2010; Laustsen, 2013; Sussman, Petkova, and Todorov, 2013). Recently, new research has expanded the study of politicians’ physical features and demonstrated that candidates’ voice pitches also relate to electoral success, with voters in general being attracted to lower-pitched candidate voices. Altogether, these studies suggest that candidates’ physical features play a significant and robust role in electoral outcomes. But do they necessarily tell a story about an ignorant electorate?

## 1.1. Political candidates and the evolutionary psychology of followership

With this dissertation, I seek to explore and shed light on the reasons for these apparently senseless relationships between candidates’ physical features and electoral success. Specifically, I intend to illuminate the psychological processes that guide and regulate voters’ preferences for political candidates. I approach this question based on novel theoretical developments and trends in evolutionary psychology and leadership psychology, which suggest that humans have evolved special psychological designs to navigate social hierarchies. Together, these mechanisms constitute a psychological system of followership that regulates leadership and followership decisions within social hierarchies (Van Vugt, 2006; Van Vugt, Hogan, and Kaiser, 2008; Van Vugt, and Ahuja, 2010; Gillet, Cartwright, and Van Vugt, 2011; Spisak, Nicholson, and Van Vugt, 2011; Spisak, Dekker et al., 2012; Price and Van Vugt, 2013; Sidanius and Kurzban, 2013). Importantly, this psychological system of followership is also present in modern humans, regulating followers’ leader preferences and affecting career paths among military leaders and even leadership performances in modern businesses (van Vugt and Spisak, 2008; Loehr and O’Hara, 2013; Rule and Ambady, 2008; Rule and Ambady, 2011a; Rule and Ambady, 2011b).

Building on this overall theoretical idea—that leader preferences and followership decisions are informed by a psychological system shaped by natu-

ral selection—I ask: Given the broad and exhaustive empirical support across many related fields of leadership research, is it not likely that decisions about political leadership are also affected by this psychological system of followership? I think it is. This dissertation thus integrates evolutionary psychological insights on leadership and followership psychology into the fields of political and electoral behavior in order to address the apparent irrationality of voters' electoral behavior with respect to preferences for candidates' physical features. In particular, I set out to answer the following research question:

*Can insights from evolutionary psychology help explain why voters are affected by candidates' physical traits, such as faces and voice pitches? And if so, how does an evolved psychological system of followership then affect electoral behavior in modern democratic elections?*

To provide a thorough and satisfactory answer to this research question, I use evolutionary leadership insights to generate a package of novel hypotheses about voters' candidate preferences. Across a number of studies conducted in Denmark and the United States, these hypotheses are supported, providing a set of findings in favor of the dissertation's claim that *an evolved psychological system of adaptive followership influences voters' preferences for political candidates*.

## 1.2. An empirical and a normative puzzle

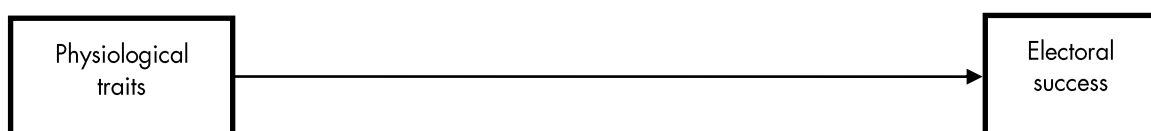
The research question is grounded in an empirical as well as in a normative puzzle. Empirically, it remains unresolved what the existing results about candidates' facial appearances in particular actually reflect. On the one hand, and in line with the interpretation given by Todorov and his co-authors, the results could tell the story of a “muddle-headed,” uninterested and ill-informed citizenry that will grab any information available—valid or invalid—to guide their electoral behavior, grounded in even the shallowest processes (Todorov et al., 2005; Ballew and Todorov, 2007; Olivola and Todorov, 2010a). On the other hand, faces-based trait inferences could potentially also be correlated with meaningful competence-related candidate traits, or preferences for candidate faces could differ as systematic responses to perceptions and prioritizations of the different problems facing one's society at a given time. If so, one could argue that the relationship between candidate appearance and electoral success might not be so bad after all. A handful of studies do investigate the diagnostic value in candidate faces with respect to party affiliation, but fail to reach any uniform agreement regarding its accu-

racy (Olivola and Todorov, 2010b; Olivola et al., 2012; Roberts et al., 2011; Rule and Ambady, 2010; Carpinella and Johnson, 2013; Samochowiec et al., 2010). This leaves important questions in the existing literature unanswered, which this dissertation seeks to address.

Normatively, the relationship between candidates' appearances and electoral success relates to classic debates about the quality of public opinion: Do citizens possess genuine political attitudes and preferences grounded in deliberate and well thought-through considerations? Or do they instead hold unstable "non-attitudes" that change radically over even very limited time spans (e.g. Converse, 1962; Sniderman, Brody, and Tetlock, 1991; Popkin, 1994; Lupia, McCubbins, and Popkin, 2000)? Across six independent papers and numerous empirical analyses of experimental data as well as real world election results, this dissertation targets these broader questions through the lens of candidates' physical traits. That is, by answering what potentially explains the relationship between candidates' faces and electoral outcomes, this dissertation contributes narrowly to the literature on candidate appearance *and* more broadly to the general debate in public opinion research about whether or not basic human behavior can meaningfully be captured by Rational Choice models.

In sum, recent studies finding a significant relationship between candidates' physical traits and their electoral success have added to the longstanding debate on the quality of public opinion. In principle, a deliberate decision-making process should not be influenced by seemingly irrelevant factors such as candidates' appearances. Hence, this dissertation asks if recent insights in evolutionary psychology can explain this element of irrationality and clarify why voters' electoral behavior is at least partially guided by candidates' physical traits. The fundamental causal model for this key relationship and the corresponding research question is illustrated in Figure 1.1:

Figure 1.1: Basic causal model for the dissertation's research question



This figure illustrates the core research question of the dissertation and the seemingly irrational tendency for voters to be influenced by candidates' physical traits when deciding whom to vote for. The model illustrates this relationship on the level of the candidate.

### 1.3. Making the seemingly irrelevant relevant – bridging preferences for candidates’ physical traits and personalities

In classic as well as in recent models of electoral behavior, candidates play leading roles. For instance, although Campbell and co-authors in *The American Voter* heavily emphasize the long-term role of parties and party affiliations, they still investigate and underline the importance of candidates’ personal qualities: “In 1956 Eisenhower was honored not so much for his performance as president as for the quality of his person” (Campbell et al., 1960: p. 56). More than thirty years later in *The Reasoning Voter*, Popkin reiterates the importance of candidates’ personal characteristics for voters’ decision making: “Given only a short period of time, voters inevitably use what they know about a candidate’s personal character to judge the politicians” (Popkin, 1994). Finally, in his recent book *Follow the Leader*, Lenz sets out on a similar journey, seeking to answer whether citizens “judge [politicians] on performance-related characteristics? Or do they merely follow politicians?” (Lenz, 2012: p. 2).

What these three studies and several other major contributions in the field of public opinion research have in common is the exploration of the electoral role played by candidates’ personal characteristics. Indeed, a whole series of studies show how voters’ perceptions of candidates on traits such as competence and trustworthiness relate to electoral choices (e.g. Funk, 1996; Kinder, 1986; Goren, 2002; Clark, 2004; Bishin et al., 2006). Accordingly, a significant number of scholars seem to agree that “candidates’ attributes are by no means irrelevant” (Hayes, 2009: p. 252), and that perhaps voters’ reliance on these personal characteristics can even make sense and constitute a useful tool in the decision-making process (e.g., Winter, 2013; Hayes, 2010; Goren, 2007; Lau, and Redlawsk, 2001; Lenz, 2012).

In this dissertation, I go one step further and argue that even the seemingly absurd relationships between candidates’ *physical* traits and their electoral success may actually make good sense. Building on the long-standing tradition in psychology of investigating the relationship between physiology (i.a. faces and voices) and personality dispositions (Carré and McCormick, 2008; Carré, McCormick, and Mondloch, 2009; Sell et al., 2009a; see Todorov, Said, and Verosky, 2011 for review chapter), I suggest that voters might use candidates’ physical features to infer personal qualities and candidate-relevant personality characteristics. Supporting this idea, this dissertation demonstrates in a series of studies that voters’ ideological predispositions

and contextual circumstances affect preferences for candidate personalities, faces and voices, following identical patterns. This parallelism suggests that voters—when being affected by candidates' physical traits and features—draw on the same psychological machinery as when they are influenced by their perceptions of candidates' personalities.

Moreover, as stated above, I propose that this psychological machinery was shaped by evolutionary pressures and that it is specifically designed to regulate followership behavior and preferences for leaders. Importantly, this psychological system of followership also regulates preferences for modern political candidates. In other words, just like animal and human physiology is shaped by selection pressures causing certain adaptations, human psychology is molded by numerous adaptive problems that have faced our species over evolutionary history (Barkow, Cosmides, and Tooby, 1992; Buss, 2005). Adaptive problems related to group living in general, and to navigating and managing social hierarchies in particular, have most likely been of significant importance for shaping human social psychology (Cosmides and Tooby, 1992; Tooby and Cosmides, 1992; Sidanius and Kurzban, 2013). One such specific problem concerns assignment of decision-making authority to an individual in a group in order to solve and coordinate collective action problems. Drawing on trends in leadership psychology, I echo the idea that this adaptive problem has caused humans to evolve a psychological system of followership—a compilation of psychological mechanisms regulating followership decisions and leader preferences.

Building on this, this dissertation is initially able to replicate existing results in line with the interpretation that significant relationships between factors such as candidates' faces and election results are signs of confused and ignorant voters. However, the dissertation goes one step further and provides novel findings that give rise to a new and original interpretation of existing results: Physical features could constitute cues to different types of candidate competence, and voters might rely on these cues to match their candidate preferences with contextual conditions and fundamental perceptions of the social world in adaptive and meaningful ways.

Following this line of reasoning, what at first sight seem irrational could instead express *real* political priorities and tastes that are grounded in rapid, affection-based and unconscious processes. In this respect, this dissertation produces a coherent set of findings that bridges recent studies on the electoral effect of candidates' faces and voices with the more traditional literature on voters' candidate personality preferences. Importantly, this gives rise to reinterpretations of existing results about candidate physiology – which at first sight point in the direction of an irrational and ignorant electorate – sug-



gesting that voters could be making use of candidate physiology in evolutionarily rational ways.

## 1.4. Content and structure of the dissertation

The rest of this summary report proceeds as follows. Chapter 2 positions the dissertation's candidate-centered perspective more squarely in the fields of electoral research and public opinion formation. The chapter then reviews and summarizes key findings about candidate personality, candidates' physical features, and how these factors influence electoral behavior. Chapter 3 presents the dissertation's theory of a problem-sensitive psychological system of adaptive followership and generates five predictions that more thoroughly describe how such a system can be expected to regulate modern candidate preferences. Chapter 4 introduces the different research designs applied in the dissertation's six papers and explains how the methods employed complement each other when testing the theoretical model. Chapter 5 provides an overview of the dissertation's empirical findings. Finally, Chapter 6 concludes and discusses the implications of the results in relation to electoral and behavioral research on political candidates.



## Chapter 2: Existing research about candidates' role in electoral behavior

The purpose of this chapter is to present and summarize existing knowledge about the influence of candidates on electoral behavior and to situate the dissertation more squarely within that knowledge. Electoral research overall has come a long and impressive way in pointing out a wide range of different explanatory factors for voters' decisions on Election Day. Among the most prominent factors are social class, religious affiliation, party identification, education, evaluations of the economic situation and issue positions (Lazarsfeld, Berelson, and Gaudet, 1944; Berelson, Lazarsfeld, and McPhee, 1954; Campbell et al., 1960; Stubager, 2008, 2009; Kinder and Kiwiet, 1979, 1981; Lewis-Beck and Paldam, 2000; Page and Brody, 1972; Borre, 1995, 2001). Another such factor relates to candidates and their personal characteristics. However, research remains sparse and inconclusive regarding *exactly how* candidates influence electoral outcomes. This was, for instance, noted in relation to the 2005 Danish national election: "Leaders make a difference. They just don't do it by themselves and it is hard to tell exactly in which ways this happens" (Andersen and Borre, 2007: 305 (my translation)).

This dissertation addresses this gap in current electoral research and presents a theoretical model that explains how voters are affected by candidates and their characteristics. More specifically, this model draws on and integrates extant findings about candidates' personalities and physical features. On the most basic level, the dissertation demonstrates that voters' electoral decisions are affected by candidates because voters infer candidate qualities from candidates' personalities and physical traits. Subsequently, voters rely on these candidate quality perceptions when matching their candidate preferences to their prioritization of different problems facing society.

First, this chapter reviews important relevant contributions in American and Danish electoral research and highlights the explanatory power ascribed to candidates more concretely.<sup>1</sup> Next, the chapter turns to two con-

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<sup>1</sup> Extant research mostly focuses on high-visibility candidates—such as US presidential candidates or Danish party leaders. Throughout the chapter I apply the terms used in the reviewed studies, but my more general aim with this dissertation is to provide and test a theory about voters' candidate preferences that applies to major as well as to minor candidates (see also the introductory section of Chapter 3).

crete literatures that suggest that candidates may influence voters' electoral decisions through their personalities and physical traits, respectively. However, as the reviews of these literatures will clarify, it still remains unresolved *exactly how the causal mechanism that connects candidates to voters' electoral decisions works*. By illuminating this shortage in extant electoral research, this chapter stresses the necessity and importance of this dissertation's theoretical model and the corresponding empirical findings.

## 2.1. Candidates in American and Danish electoral research

Political elections are essentially choices between alternative representatives, and most often these choices involve choosing between different *individual candidates*. However, electoral institutions vary markedly, from first-past-the-post systems like the American, with usually only two candidates from two parties, to proportional representative systems like the Danish, with a multitude of candidates from a handful of different parties. Consequently, one might expect that candidate factors vary in importance across such different institutional settings. Below, I take the US and Danish systems as illustrative cases of first-past-the-post and proportional electoral systems, respectively, and briefly discuss how explanatory factors related specifically to candidates have been analyzed for each country separately. Interestingly, candidate factors are found to be important in both countries.

### 2.1.1. Candidates in American electoral research

The first large-scale studies of public opinion formation and arguably the most developed models of electoral behavior are found in American electoral research. It thus constitutes the most obvious point of departure for summarizing candidate-centered explanations of voting behavior.

In general, classic American studies of electoral behavior see candidates as an intermediate factor of electoral outcomes that, nonetheless, still hold some explanatory importance. In their seminal studies *The People's Choice* and *Voting*, Lazarsfeld and co-authors conclude that "for many voters political preferences may better be considered analogous to cultural tastes" rooted in belongings to different social classes and religious affiliations (Berelson, Lazarsfeld, and McPhee, 1954: p. 311; Lazarsfeld, Berelson, and Gaudet, 1944; Bartels, 2008). In these early analyses of electoral behavior only minor importance is ascribed to candidate factors, and this importance is mostly related to voters' perceptions of candidates' issue positions.

Later, in *The American Voter*, Campbell and colleagues introduced the extremely influential and viable distinction between long-term and short-term factors affecting electoral outcomes. In the long run, the authors heavily emphasize the importance of party identification, which is assumed to guide and color political preference in general (Campbell et al., 1960). Yet in the shorter run, the authors conclude that “attitudes towards the objects of politics, varying through time, can explain short-term fluctuations in partisan division of the vote” (Campbell et al., 1960: p. 65). One such important factor is voters’ evaluations and perceptions of political candidates, suggested by the rise in support for the Republican party from 1948 to 1952 due to “the popular image of the Republican candidate ... [which] was much more favorable to the Republicans in 1952 than it was four years before” (Campbell et al., 1960: p. 66). In short, according to Campbell and his co-authors, candidate factors can play significant and important roles for electoral results—especially when comparing successive elections.

Finally, more recent work by Popkin also ascribes significant influence to candidates and concludes that “Voters use evaluations of personal character as a substitute for information about past demonstrations of political character” (Popkin, 1994: p. 213). Lenz further stresses that candidates can significantly influence public opinion, concluding that “politicians lead and the public follows” (Lenz, 2012: p. 212). In sum, prominent contributions in American electoral research support the claim that candidates and their personal characteristics can significantly influence voters’ electoral behavior.

### 2.1.2. Candidates in Danish electoral research

Danish electoral research has traditionally followed the framework of the *The American Voter*. Based on a highly party-centered approach, Danish scholars have emphasized how social classes and socialization affect patterns in voters’ party affiliations, which subsequently color and shape voters’ attitudes and behaviors (Andersen and Borre, 2003; Andersen et al., 2007; Stubager, Hansen, and Andersen, 2013; Stubager, 2008, 2009; Andersen, 2007). Recently, Danish electoral researchers have also started to pay attention to the potential role played by candidates. This change is perhaps best illustrated with quotes from the National Danish Election Study in relation to recent and successive elections. After the 2001 election, scholars still concluded heavily in favor of party-centered explanations, ascribing almost no importance to candidates and party leaders: “In Denmark too, sympathy with a party is far more important than sympathy with the party’s leader” (Andersen and Borre, 2003: 363-364 (my translation)). Four years later, a less dismissive conclusion

with respect to the potential role of candidates and party leaders was expressed: “Leaders make a difference. They just don’t do it by themselves and it is hard to tell exactly in which ways this happens” (Andersen and Borre, 2007: 305 (my translation)). Completing the transformation, the most recent Danish Election Study from 2013 concluded that party leaders exerted a significant effect on the outcome of the 2011 election “even when tested under the hardest possible conditions” (Hansen and Andersen, 2013: 204 (my translation)). Finally, in a very similar institutional setting, Norwegian electoral research also concludes that party leaders can significantly affect electoral results (Jenssen and Aalberg, 2006).

Altogether, these findings underline that current research in proportional representative electoral systems also finds that candidates play a significant role in electoral outcomes. However, both the Danish and the American studies remain remarkably silent about the mechanism through which the role of candidates on electoral decisions unfolds. It is this exact deficiency in existing electoral research that this dissertation addresses.

### 2.1.3. Political candidates across time

The two previous sections have summarized important results regarding candidate-centered explanations in extant electoral research in the United States and Denmark, respectively. As the last step in this brief summary of relevant findings, this section presents findings from the few studies that have investigated whether the electoral role of candidates has changed over time.

Based on conventional wisdom and media scholars’ gut feelings, one could expect that televised and online coverage of personalized campaign activities has caused a growth in the electoral role of candidate-centered factors (cf. for instance Popkin, 1994: p. 217). Yet recent American and European studies find hardly any evidence consistent with this expectation. Instead, Hayes concludes that “voters are no more likely today to mention candidate personality as a reason for their vote choice than they were in the 1950s and 1960s,” and “while [candidate] personality affects voting behavior, its influence on candidate choice is not significantly larger than it was a half-century ago” (Hayes, 2009: p. 231). Likewise, based on a comparative study of nine European countries Karvonen concludes that hardly any increase in the electoral role played by candidates have taken place over time (Karvonen, 2010: p. 63). Thus, the major conclusion across Hayes’ and Karvonen’s studies seems to be that *candidates now as well as in the past*

*have played and continue to play a significant role for voters' electoral behavior.*

This conclusion is important to the dissertation in two ways. First, it indicates that despite the fact that early studies of American electoral behavior did not pay widespread attention to candidate factors, candidates did in fact significantly affect election results. Second, due to the evolutionary psychological approach of this dissertation and the claim that voters' candidate preferences are regulated by an evolved psychological system of followership, one key premise is to establish that candidate-centered factors do not only exert temporary effects on voters' electoral behavior. Instead they should—in line with Hayes' finding—be characterized by great cross-time stability, indicating that voters have always been influenced by factors distinctly related to candidates (as followers more generally in the times before modern democratic elections were influenced by personal characteristics of prospective leaders).

#### 2.1.4. Summary: Candidates in the United States, in Denmark and across time

Candidates have been found to significantly influence electoral outcomes in very different institutional settings and across time. That is, over the last 60 years of US electoral history, candidates have been demonstrated to play a vital and stable role for democratic outcomes, and even in an extremely party-centered electoral system such as the Danish, candidates are emphasized as an important cause of vote choice. On the other hand, however, these studies do not investigate or highlight *how and why* voters' electoral behavior and decisions are affected by candidate factors.

Scholars have argued that candidates' personalities and physical traits, respectively, could constitute two such ways through which candidates influence vote choices. The next section therefore reviews important findings from these two more specific literatures. However, once again this leads to the same fundamental conclusion that *the psychological and causal mechanisms through which candidates influence citizens' voting behavior remain blurred and unclear.*

## 2.2. Candidates' characters and personalities

One potential candidate attribute that voters might take into consideration when deciding whom to vote for is personality. In the words of Popkin, we can imagine that voters are “projecting from a personal assessment of a

candidate to...what kind of president he will be in the future" (Popkin, 1994: 74). Along this line of reasoning, several studies find that a candidate's perceived character can be good or bad and that voters tend to prefer the candidates that they perceive as having better character traits (e.g., Campbell et al., 1960; Miller and Miller, 1976; Markus, 1982; Andersen and Borre, 2007; Hayes, 2009). This very general conclusion has subsequently been deepened and clarified, with studies demonstrating that voters' perceptions of candidates' competence and integrity are of particular importance for electoral behavior and candidate success (e.g., Funk, 1996, 1997; McCurley and Mondak, 1995; Stewart and Clarke, 1992; Popkin, 1994; Clarke et al., 2004). In other words, the more voters tend to perceive a candidate as competent based on his personal character, the more likely they are to vote for him. Still, this explanation is somehow unsatisfactory, as it remains unclear what exactly characterizes a competent candidate.

Recently, scholars have suggested that candidates' personalities could be measured using a more fine-grained approach to personality than one in which evaluations on several dimensions are summed together to form one all-embracing dimension of candidate quality. This way, different character or personality traits might be found to exert different effects on candidate preferences across candidates, election years and contexts (Funk, 1999). Related to the idea of such a multidimensional approach to candidate personality, Caprara and colleagues build on the Big Five personality framework and find that candidates from right-wing parties (just like voters) are more extroverted and conscientious than their left-wing counterparts (Caprara et al., 2003; Caprara and Zimbardo, 2004). In more direct relation to vote choice, Hayes demonstrates how candidates from the Republican and Democratic parties own (or are associated with) different personality traits (Hayes, 2005), and building on this result, Goren finds that such trait ownerships interact with partisan biases in evaluations of in-group and out-group candidates (Goren, 2007). Finally, a few studies show how contexts related to terrorist threat and conflict alter preferences for candidate characteristics and provision of leadership (Merolla, Ramos and Zechmeister, 2007; Merolla and Zechmeister, 2009; Holman, Merolla and Zechmeister, 2011). Altogether, these studies suggest that candidate personality, and especially an approach that takes several personality dimensions into account, might prove useful for illuminating how candidates can attract or repel voters through their personal characteristics and subsequently influence election results.

Below, Table 2.1 summarizes existing studies and groups them with respect to one of the three main conclusions emphasized above: 1) candidate character plays a role in general; 2) candidate competence is particularly



important; 3) different personality traits are important for different candidates and under different contexts.

Table 2.1: Summary of studies about the electoral role of candidate personality

Candidate character in general	Candidate competence in particular	Different personality traits for different candidates and different contexts
Campbell et al., 1960; Stokes, 1966; Markus and Converse, 1979; Kenney and Rice, 1988; Brown et al., 1988; Klein, 1991; 1996; Miller and Shanks, 1996; Goren, 2002; Bishin, Stevens and Wilson, 2006; Jenssen and Aalberg, 2006; Andersen and Borre, 2007; Hayes, 2009; Karvonen, 2010; Clarke et al., 2013; Hansen and Andersen, 2013.	Miller and Miller, 1976; Page and Jones, 1979; Kinder et al., 1980; Markus, 1982; Miller, Wattenberg, and Malanchuk, 1986; Miller, 1990; Shanks and Miller, 1990; Bean and Mughan, 1989; Stewart and Clarke, 1992; Bean, 1993; Popkin, 1994; Mondak, 1995; McCurley and Mondak, 1995; Funk, 1996, 1997; Clarke et al., 2004.	Huddy and Terkildsen, 1993; Caprara, Barbaranelli and Zimbardo, 2002; Caprara et al., 2003; Caprara and Zimbardo, 2004; Funk, 1999; Hayes, 2005, 2010, 2011, Goren, 2007; Merolla, Ramos and Zechmeister, 2007; Merolla and Zechmeister, 2009; Holman, Merolla and Zechmeister, 2011

Note: Studies grouped with respect to main conclusions.

In short, candidates' personal characteristics may explain how candidates affect voters' electoral behavior, with voters' perceptions of candidate competence being particularly important. However, these studies still do not address which more specific character traits comprise a competent candidate. Recent findings imply that candidate personality evaluations could fill this gap in the current literature and provide a more detailed explanation about *how* and *why* candidates and their personal characteristics influence voters' electoral decisions.

In the next chapter, the theoretical model of this dissertation builds on and continues this reasoning. It also integrates findings about candidates' personalities with findings about candidates' physical features into one coherent framework. Next, key insights about these physical features are summarized.

## 2.3. Candidates' physical features

The face constitutes a key feature guiding first impressions about other individuals' personalities (Oosterhof & Todorov, 2008; Sell, Tooby and Cosmides, 2009; Vernon et al., 2014; for review chapter see Todorov, Said and Verosky, 2009). Interestingly, candidates' facial appearances have also repeatedly proven to be important for their electoral fortunes. A handful of studies in the 1980's and early 1990's established that candidates' visual appearance can significantly influence voters' candidate choices (e.g., Rosenberg et al., 1986;

Masters et al., 1986; Sigelman, Sigelman and Fowler, 1987; Riggie et al., 1992). Fifteen years later this literature experienced a revival, with a range of studies demonstrating that trait inferences from candidate faces significantly predict candidates' electoral success and vote shares (e.g., Todorov et al., 2005; Rosar et al., 2008; Berggren et al., 2010). As a whole, these studies provide rather robust and convincing evidence for the electoral role played by candidates' facial appearance as it replicates across different countries, political cultures and institutional settings. In addition and in parallel to findings about candidate character and personality, this literature finds that face-based inferences of *particularly candidate competence* are strongly correlated with candidates' electoral success (for review articles see Hall, Goren, Chaiken, and Todorov, 2009; Olivola and Todorov, 2010a).

However, parallel to the findings regarding candidate character traits and personality, we still know surprisingly little about *which* specific facial characteristics increase and decrease electoral success (Lawson et al. 2010; Verhulst, Lodge, and Lavine, 2010; Riggio and Riggio, 2010).<sup>2</sup> A recent set of studies addresses this shortcoming in the literature. Through experimental set-ups, it has been demonstrated that contextual group-level differences related to “war and conflict” versus “peace and cooperation” affect preferences for candidate faces, such that more dominant and masculine faces are preferred in times of war and conflict (e.g., Little et al., 2007; Spisak et al., 2012a). This result could suggest that several candidate types—in terms of faces and personalities—might be perceived as competent and electable and that such evaluations depend heavily on the context and the corresponding problems requiring leadership.

Table 2.2 below summarizes existing studies and groups these with respect to the three main conclusions of the literature highlighted above: 1) candidates' visual appearance plays a role in general; 2) competence perceptions are of particular importance; 3) different faces might be preferred depending on the context.<sup>3</sup>

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<sup>2</sup> However, see Olivola and Todorov (2010a) for a study employing a data-driven computer face model to reveal some of the facial characteristics related to facial competence.

<sup>3</sup> In this short review I have deliberately left out findings about candidate-voter facial similarity (Bailenson et al., 2006; 2008), candidates' babyfacedness (see e.g., Poutvaara, Jordahl, and Berggren, 2009; Nixon and Pollom, 2006) recognition of candidates' party affiliation from their faces (see e.g., Olivola and Todorov, 2010b; Rule and Ambady, 2010a) as well as other results that I find to be somehow peripheral to my main point or/and to the main conclusions in the literature.

Table 2.2: Summary of studies about the relationship between candidate appearance and electoral success

Candidate appearance (and attractiveness) in general	Competence inferences in particular	Different facial traits for different contexts
Rosenberg et al., 1986; Sigelman et al., 1986; Masters et al., 1986; Rosenberg and McCafferty, 1987; Sigelman, Sigelman & Fowler, 1987; Masters and Sullivan, 1989; Rosenberg, Kahn, and Tran, 1991; Riggie et al., 1992; Budesheim and DePaola, 1994; Lau and Redlawsk, 2001; Barrett and Barrington, 2005; Buckley, Collins and Reidy, 2007; Banducci et al., 2008; Rosar, Klein and Beckers, 2008; Castelli et al., 2009; Berggren et al., 2010; King and Leigh, 2009; Lawson et al., 2010; Verhulst, Lodge and Lavine, 2010; Brusattin, 2011; Hart, Ottati and Krumdick, 2011; Johns and Shephard, 2011; Mattes and Milazzo, 2013; White, Kenrick and Neuberg, 2013.	Todorov et al., 2005; Ballew and Todorov, 2007; Chiao, Bowman and Gill, 2008; Antonakis and Dalgas, 2009; Atkinson, Enos and Hill, 2009; Hall et al., 2009; Armstrong et al., 2010; Mattes et al., 2010; Lenz and Lawson, 2010; Olivola and Todorov, 2010a; Rule and Ambady, 2010b; Spezio et al., 2012; Laustsen, 2013; Sussman, Petkovan and Todorov, 2013.	Little et al., 2007; Hall et al., 2009; Little et al., 2012; Little and Roberts, 2012; Spisak, 2012; Spisak et al., 2012a, 2012b; Re et al., 2013; White, Kenrick and Neuberg, 2013.

Note: Studies grouped with respect to main conclusions.

As a supplement to the findings on candidates' faces, a small number of studies investigate another physical feature of candidates, namely voice pitches. These studies show that voters in general prefer candidates with lower-pitched voices (Klofstad, Anderson, and Peters, 2012; Tigue et al., 2012). Among other traits, low-pitched voices are associated with competence, suggesting that the findings regarding personalities, faces and voices might all parallel one another (Section 3.6. in Chapter 3 elaborates extensively on this idea).

In sum, faces are known to constitute an important source for first impressions of other individuals' personalities. Candidates' facial and vocal appearances are found to influence their electoral success, with face-based inferences of competence being of particular importance. Importantly, these findings by and large parallel prominent conclusions regarding the relationship between candidates' character and electoral success.

## 2.4. Summary: Patterns of candidate preferences

Electoral research has pointed out a wide range of different explanatory factors for voting behavior. One such factor relates to the candidates, but research remains unresolved regarding *how* and *why* candidates more specif-

ically exert this influence on individual voters' decisions. Robust findings show how both evaluations of candidates' character traits and their physical features relate to success on Election Day, and perceptions of candidate competence have been demonstrated to be particularly influential for voters' decisions. Still, despite these results, the overall puzzle of the relationship between candidates, their character traits and their physical features, on the one hand, and voters' decisions, on the other hand, remains: *What are the specific psychological mechanisms that cause voters to prefer certain candidates and faces (and voices) over others?* Next, Chapter 3 presents the dissertation's theoretical model, which seeks to address this exact puzzle.

## Chapter 3: Theoretical model – a problem-sensitive psychological system of followership

In this chapter, the theoretical model of the dissertation—the theory of a problem-sensitive psychological system of followership—is presented. Whereas the extant literature about political candidates and their personal characteristics focuses on main candidates—such as candidates for the American Presidency or party leaders in Denmark—this theoretical model aims to explain voters' candidate preferences for both main and minor candidates. To succeed in this, the chapter takes its point of departure in insights from evolutionary psychology and leadership psychology, from which it generates a set of five predictions.

### 3.1. Leaders from an evolutionary perspective

Hierarchy is a universal feature of human societies (Brown, 1991; Boehm, 2000; Pinker, 2003) and evidence suggests that the collective has played an important role in determining who emerged on top of this hierarchy over human evolutionary history. Neither among closely-related non-human primates such as the chimpanzee nor in human foraging societies are top positions in the hierarchy reached or sustained on the basis of brute force alone. Rather archeological records show that ancestral humans lived in very egalitarian bands most likely built on a zero-tolerance of exploitative behaviors. Therefore, an individual's success in seeking leadership positions has depended more on skills such as attracting support and endorsements from fellow group members than on self-seeking bullying behaviors and strategies of social dominance and oppression against other individuals. In other words, prospective leaders have needed to cater to fellow group members to avoid rejections from the collective. In fact, evidence from anthropology and primatology suggests that reliance on mobilizing and gaining support from followers is a central element across cultures and species (Boehm, 2000; de Waal, 1996).

This engagement of the collective in leadership reflects that leaders have most likely been important over human evolutionary history for the successful navigation of problems related to group living (e.g. Van Vugt, 2006;

Van Vugt, Hogan, and Kaiser, 2008; Van Vugt & Ahuja, 2010; Price and Van Vugt, 2013). Many significant social problems such as public goods provisioning, norm enforcement and war require highly coordinated collective behavior, which is facilitated by the existence of leaders. Empirical studies of both human and non-human primates have shown how leaders potentially solve coordination problems by acting as focal points, enforcing and overseeing divisions of labor, and helping groups avoid social traps by acting as first movers (de Waal, 1996; Van Vugt & Ahuja, 2010; Spisak, et al., 2012a).

By implication, it is likely that humans have evolved a sophisticated psychology of followership, i.e., a collection of psychological mechanisms motivating support for leaders who would have been efficient in ancestral environments (Van Vugt, 2006; Van Vugt, Hogan, and Kaiser, 2008; Van Vugt and Ahuja, 2010; Gillet, Cartwright, and Van Vugt, 2011; Spisak, Nicholson, and Van Vugt, 2011; Spisak, et al., 2012a; Price and Van Vugt, 2013). This psychology, I propose, is engaged by modern democratic elections and influences the way contemporary citizens develop preferences for political candidates. In other words, I suggest that political elections where voters choose sides between different political candidates can be interpreted and analyzed as modern instantiations of a more general phenomenon: collective influence over leadership.

### 3.2. Problem-specific leadership competence

Based on the obvious importance of leaders for group living, I propose that an adaptive followership psychology should respond to cues in would-be leaders that over evolutionary time have correlated with actual abilities for solving problems facing the collective. Importantly, research finds that in humans, followership decisions are contingent upon context and, as a consequence, decision-making authority is granted to different individuals depending on the type of problem facing one's group at a given time (Hoebel, 1954; Boehm, 2000; Van Vugt, 2006; Van Vugt, Hogan, and Kaiser, 2008; Van Vugt & Ahuja, 2010; Little and Roberts, 2012). Furthermore such distributed leadership seems to be shared with other social species (see e.g., Lamprecht, 1992; Reinhardt, 1983; Dunbar, 1983; Leca et al, 2003). Based on this, we should expect that an adaptive psychological system of followership will attend to cues of *contextually relevant* leadership competence. However, before concrete hypotheses of preferences for such cues and traits in leaders can be phrased, one needs to know which problems of group living have faced humans across evolutionary history, molding the evolved followership psychology.

Of course, a myriad of very specific problems have existed. Yet at a more general level, there is widespread agreement that two major supra-problems are of particular importance: Within-group cooperation and between-group conflict (Spisak et al., 2012a, 2012b; Little and Roberts, 2012). Within-group cooperation generally refers to problems within one's own group that can be solved through facilitation of collective action, and between-group conflict refers to problems with an external dimension, characterized by conflict between one's own group and an (enemy) out-group. For any individual, successful within-group cooperation has been exceptionally important in order to buffer against failed foraging (Kaplan and Gurven, 2005; Cosmides and Tooby, 1992), acquire food in times of injury and sickness (Sugiyama, 2003) and produce collective goods such as shelter. Similarly, for any individual, success in between-group conflict over territory and mates has conferred significant fitness advantages (Bowles, 2009; Lopez, McDermott and Petersen, 2011; Wrangham and Peterson, 1997). As an illustrative case of the distinction between within-group and between-group problems and their consequences for leader preferences, Native American tribes have been shown to discriminate between war chiefs and peace chiefs since leaders with different skill sets are required in times of war than in times of peace (Hoebel, 1954). From a followership perspective, this is important because different leader traits have most likely been important in order to deal effectively with within-group cooperation and between-group conflict problems, respectively.

### 3.2.1. A hierarchy of social perceptions of other individuals

The idea of contingent leadership competence and followers' corresponding context-sensitive leader preferences has also been stressed in existing work on leadership and followership psychology. In their "Biosocial contingency model of leadership," Spisak and co-authors theorize a hierarchy between different types of social perceptions (Spisak et al., 2012a, 2012b). In brief, the authors suggest that encounters with other individuals follow an order of importance in which it is first judged whether another individual is friend or foe (member of one's in-group versus member of an out-group). Second, the followership psychology is activated and evaluates other individuals with respect to their general leadership traits in order to discard fellow group members who simply do not hold any leadership potential. Third, remaining potential leaders are evaluated in direct relation to the present context, and the individual whose features match the situation will be selected (for illustrative figure see Spisak, et al. 2012a: p. 2).

### 3.2.2. The core leader traits: warmth and dominance

In relation to recognition of context-specific leadership competence, adaptationist accounts would predict that the followership psychology will cause one to scrutinize the group of potential leaders, and subsequently be attracted to those individuals who best match the prototype leader for a given context (Spisak et al., 2012a: p.1). This of course raises the question, what are relevant leadership traits and characteristics for within-group cooperation and between-group conflict problems, respectively? Based on the above, we should expect that followers under problem contexts of within-group cooperation should value the leader trait of cooperativeness most heavily, whereas followers under problem contexts of between-group conflict should prioritize the trait of leader dominance for protecting the group against outside threats.

In support of this general expectation, results from behavioral economics demonstrate how perceptions of other players' personality dispositions exert significant influence on behaviors. For instance, in cooperation-oriented economic games, personality dispositions such as trustworthiness and agreeableness are shown to facilitate cooperation (Stirrat & Perrett, 2010). These same dispositions, however, might also make individuals fall prey to exploitative leaders in more conflict-oriented situations. In contrast, dominant individuals are better able to resist being exploited in negotiations (Brandstätter & Koenigstein, 2001) but, at the same time, people are often less willing to cooperate and share with such dominant individuals (Stirrat & Perrett, 2010, 2012, Tognetti et al., 2013). In sum, these results suggest that followers infer leader traits related to cooperativeness and dominance from basic personality dispositions in others.

In concrete relation to followership decisions these results about personality dispositions and behaviors suggest that while a dominant and aggressive personality might comprise a good leader for protecting the group against outside threats (De Waal 1996), the same dominant and aggressive personality might under different circumstances cause outright damage to cooperation within the group and potentially even impede collective and individual welfare through nepotism and exploitative behaviors (Boehm 2000; Alford and Hibbing 2004; Smith et al. 2007). Conversely, a benign, non-dominant and warm personality might constitute a good leader and facilitate cooperation within the group when no outside threat is present. But under more conflict-ridden contexts—requiring provision of rapid, aggressive leadership—such an individual would potentially represent a disaster for the group in its survival against an attacking enemy. In sum, followers face a



trade-off between who to follow in accordance to the type of problem facing their group and in order to minimize potential exploitation from an aggressive and dominant despot. Moreover, this trade-off relates to prioritizing between leader traits of cooperativeness and warmth, on the one hand, and dominance, on the other hand, which in for instance economic games are found to be inferred from other individuals' personality dispositions.

Furthermore, social psychological research demonstrates how such basic personality dispositions are reliably captured by two dimensions: warmth and dominance (Oosterhof & Todorov, 2008; Vernon et al., 2014; Wiggins, 1979; Wiggins, Phillips, and Trapnell, 1989; Fiske, Cuddy and Glick, 2007; Fiske et al., 2002; Said, Sebe and Todorov, 2009).<sup>4</sup> The warmth dimension is typically linked to attributes such as trustworthiness, friendliness, helpfulness and sincerity, while the dominance dimension relates to aggressiveness, confidence, skill, efficacy and strength. Furthermore, warmth and dominance judgments are found to be recognized even in spontaneous judgments of others based solely on their facial features (Oosterhof & Todorov, 2008; Riggio and Riggio, 2010; Todorov et al., 2008; Vernon et al., 2014). Together, these findings suggest that when followers seek out the most cooperative or dominant leader to deal with problem contexts of within-group coordination or between-group conflict, respectively, they might base such judgments on impressions of the core personality dispositions of warmth and dominance from physical features such as faces.

### 3.2.3. Summary – basic theoretical model

Building on cross-disciplinary insights on contextual differences in leader preferences, I theorize that an adaptive followership psychology should be contextually sensitive and produce leader preferences that constitute systematic responses to specific problems facing society. When making decisions about whom to follow, an individual will act according to this followership psychology which regulates leader preferences depending on the context and the consequent priority ascribed to different problems facing the follower's group. In direct relation to modern democratic elections, this translates to the individual voter consulting his followership psychology when deciding which candidate will receive his vote. The followership psychology regulates candidate preferences in accordance with the voter's priorities of the problems facing society. Cross-disciplinary insights suggest that discriminating between *within-group cooperation* and *between-group conflict*

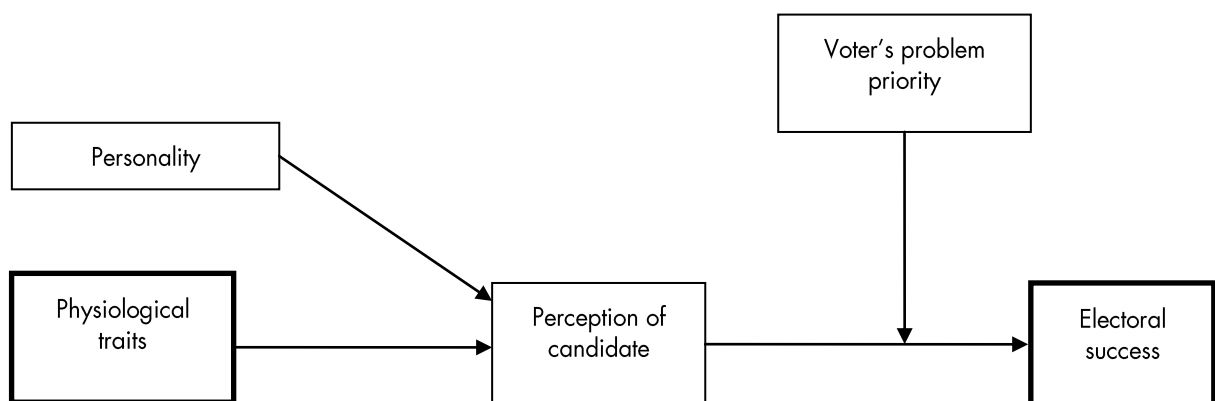
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<sup>4</sup> These personality dimensions are sometimes also referred to as valence and competence, respectively (see Fiske, Cuddy and Glick, 2007; Oosterhof & Todorov, 2008).

problems constitute a relevant distinction with respect to different types of problems. Next, the voter's followership psychology takes in cues from basic personality dispositions and physical features—such as faces—and evaluates prospective leaders in relation to the core leader traits of cooperativeness and dominance. Specifically, personality evaluations along the basic personality dimensions of warmth and dominance are used to match the candidate choice to within-group cooperation problems and between-group conflict problems, respectively.

Figure 3.1 illustrates this process. At the level of the voter, Figure 3.1 shows how the proposed psychological system of followership, in correspondence with problem priorities, regulates voters' candidate preferences. Likewise, at the level of the candidate, Figure 3.1 displays how candidates' physiological traits and personality influence perceptions about the candidate which subsequently affects the candidate's electoral success depending on the problem context.

Figure 3.1: The evolved psychological system of adaptive followership



This figure illustrates how candidates' physical traits are expected to influence how they are perceived with respect to leadership competence. Furthermore, this perception affects candidates' electoral success, depending on voters' problem priorities with respect to (inter-group) conflict and (intra-group) cooperation scenarios.

In the subsequent sections, five concrete predictions are generated. The abbreviations of these predictions are used to position each one in the context of the complete theoretical model at the end of the chapter.

### 3.3. The Context Prediction (CP)

Based on the above, we should expect that voters will attend to concrete contextual information when this is present and that this will create contextually different candidate preferences under within-group cooperation and between-group conflict problems, respectively. This is explicated in the Context Prediction (CP):

*Voters will have a stronger preference for agreeable and warm candidates under within-group cooperation than under between-group conflict. Conversely, voters will have a stronger preference for dominant candidates under between-group conflict than under within-group cooperation.*

### 3.4. The Ideology Prediction (ID)

However, political choices are not always made under conditions of clear contextual information. In such cases, individuals instead (or also) rely on prior beliefs and predispositions when forming their opinions (e.g., Petersen & Aarøe, 2013; Peffley, Hurwitz, & Sniderman, 1997; Kunda & Sherman-Williams, 1993). Therefore, I expect that basic individual differences in default perceptions of the social world will be just as important as contextual information. Specifically, I focus on one of the most fundamental of such individual differences and how this difference shapes voters' preferences for candidates: political ideology.

Differences in political ideology relate to basic, genetically heritable differences in the way individuals understand and approach the social world (Oxley et al., 2008; Jost et al., 2009; Duckitt & Sibley, 2010; Alford, Funk & Hibbing, 2005; Hatemi et al., 2007). Research has shown that conservatives view the world as more threatening and more competitive than do liberals and, in particular, that conservatives tend to fear out-groups and norm violators to a greater extent than liberals (Duckitt & Sibley, 2010; Jost et al., 2009; Hibbing, Smith, and Alford, 2013, 2014). Liberals, in contrast, view society as a safe and secure place characterized by cooperation and altruism (Duckitt & Sibley, 2010). As shown by Smith et al. (2011), these deep dispositional differences in turn influence how liberals and conservatives view the problems confronting society and, hence, the problems confronting any leader.

Research across the behavioral sciences increasingly explores and theorizes how stable individual differences and universal psychological mechanisms play together (Buss & Greiling, 1999; Hatemi & McDermott, 2011; Buss, 2009; Tooby and Cosmides, 1990). While I do suggest that a problem-

sensitive psychology of followership is universally present in all individuals, I also recognize that this psychology should, for each individual, pick up *all* relevant inputs that the individual has available about the problems confronting his group. This includes input from basic perceptual differences, such as those emerging from different ideological dispositions. Liberals, viewing society as a place for cooperation, would want a leader who is able to facilitate that cooperation and should, by implication, put a premium on cues that over human evolutionary history have disclosed competence in this problem context. Conservatives, viewing society as threatened by conflict and out-groups, would want a leader who is able to defend against threats and, hence, put a premium on cues disclosing competence in this problem context. This is explicated with the Ideology Prediction (IP):

*Liberal voters will have a stronger preference for agreeable and warm candidates than conservative voters. Conversely, conservative voters will have a stronger preference for dominant candidates than will liberal voters.*

### 3.5. Physical cues to problem specific leadership competence

An adaptive followership psychology should be selected for to respond to the cues that over evolutionary history have correlated with a leader's ability to solve problems facing the collective. A key implication of an evolved system of adaptive followership is that voters' candidate preferences should be structured by factors that would be adaptive to consider ancestrally—even if these cues are rationally irrelevant to consider in the context of modern politics (Petersen, 2012; Sell, Hone, and Pound, 2012). Over human evolutionary history physical features have, in all probability, constituted valid cues to other individuals' dispositions and expected behaviors across a range of social relations and negotiations (Sell, Tooby and Cosmides, 2009; Petersen et al., 2013; Price et al., 2011; Mulford et al., 1998; Stirrat and Perrett, 2010; Stirrat and Perrett, 2012). In this dissertation, I focus on two such physical cues that are also relevant to consider given modern types of political campaigning: Candidates' faces and voice pitches. Moreover, I investigate how candidates' faces and voices possibly serve as valid inputs to the proposed followership psychology and influence voters' candidate preferences.

If indeed the human mind is equipped with an evolved system of followership and this system is designed to distinguish between would-be leaders in times of between-group conflict and within-group cooperation, respec-

tively, we should expect recognition of corresponding leadership qualities to work on an automatic and spontaneous basis. As suggested in section 3.2.2 relevant context-specific leadership competencies could be cooperativeness and dominance. Thus, we should expect that humans spontaneously recognize and categorize these exact traits in other individuals. Section 3.2.2 already presented some support for this idea, given that spontaneous personality perceptions and purely face-based personality perceptions fall along corresponding dimensions of dominance and warmth (Fiske, Cuddy and Glick, 2007; Oosterhof & Todorov, 2008; Todorov et al., 2008). Recent studies provide further support for this proposition since physical strength (a trait closely related to dominance) and cooperativeness are found to be cross-culturally recognizable from faces (Sell et al., 2009; Tognetti et al., 2013). However, both traits were more easily and more validly predicted from male than female faces, suggesting a difference with respect to trait recognizability depending on sex of the target face. Finally, even children as young as 3 to 4 years of age show adult-like tendencies for face-based recognition of dominance and trustworthiness (a trait closely related to warmth) (Cogsdill et al., 2014). Thus, recognition and perceptions of others' dominance and warmth seem to be rooted in fundamental and basic human tendencies.

Similar findings exist for the other physical cue, namely voice pitches. Voices are found to relate to behavioral traits of dominance and warmth, with lower-pitched voices associated with dominance, muscularity and masculinity (Sell et al., 2010; Feinberg et al., 2005; Evans, Wakelin, and Hamilton, 2008; Puts, Gaulin, and Verdolini, 2006). Accordingly, and in direct support of the Context Prediction, analyses show that sensitivity to physical prowess in voices is heightened during wartime (Tigue et al., 2012). This has caused researchers to argue that tastes for low-pitched voices could reflect a preference for dispositional abilities to protect and prevail in conflict (Tigue et al., 2012).

In sum, existing research suggests that humans could have evolved to be attentive towards physiological cues of context-specific leadership competence. Facial and vocal cues of dominance and warmth in particular seem to be automatically attended to and recognized in other individuals.

### 3.5.1. Physical cues for male and female candidates

Given the human evolutionary history of hierarchies, followers' attention and recognition of leadership-relevant traits could be stronger for would-be male

than female leaders and candidates. From existing biological insights on dominance behavior, two different reasons for this possibility exist.

First, because of sex differences in parental investment, males can more easily monopolize reproduction opportunities than females. As consequence, men are more status-striving (i.e., seek a position from where monopolization can occur) than women, and in the anthropological record top positions within groups have almost exclusively been occupied by men (Van Vugt, 2006; Van Vugt & Ahuja, 2010). If leaders in an evolutionary time frame have predominantly been males, a followership psychology might be more attuned to assessing male physical characteristics in the context of leader choice.

Second, male voice pitches and faces are more often and more consistently found to relate to behavioral outcomes of dominance and to testosterone levels than the equivalent traits in females (Apicella, Feinberg, and Marlowe, 2007; Bruckert et al., 2006; Collins, 2000; Dabbs and Mallinger, 1999; Evans, Wakelin, and Hamilton, 2008; Feinberg, 2008; Penton-Voak and Chen, 2004; Mazur & Booth 1998; Puts et al., 2007; Sell et al., 2009; Sell et al., 2010; Tognetti et al., 2013). Relatedly, physical strength—a trait closely connected to dominance—is found to be one of the most sexually dimorphic traits in the human species, and the male and female frequency distributions of total muscle mass are almost non-overlapping (Lassek & Gaulin 2009). Hence, high physical strength, and thus high dominance, in a female leader (relative to other females) might be viewed as less of an asset in times of conflict than high physical strength in a male leader. In this way, physical characteristics of context-relevant leadership competence might activate a psychological system of followership to a lesser degree for female than for male leaders (although see Spisak et al., 2012a). By implication, preferential patterns for candidates' physical characteristics in modern democratic elections could likewise be more strongly pronounced in male than in female candidates.

### 3.6. The Universality Prediction (UP)

Based on the above, the key point is that humans seem to use facial and vocal cues to infer dominance and warmth in other individuals, and that this tendency is even present in the early stages of life. As a consequence, I predict that voter preferences for candidates' faces and voices will follow the patterns suggested by the Context and Ideology Predictions.

Importantly, I argue that the contextually and ideologically guided preferences for candidates' physical characteristics are linked to a deeper psy-

chological system of followership that is *not* designed for democratic elections per se, but for followership decisions generally. If correct, we should expect this system to operate in identical ways (1) for different cues to the same type of leadership competence, (2) across different institutional and electoral settings and (3) across different concrete domains of leadership roles (for instance political versus non-political domains). Together, these three elements comprise the Universality Prediction (UP). Below, each element is stated as a concrete hypothesis under the overall Universality Prediction.

### 3.6.1. The Cue Universality Hypothesis

Evolutionary accounts would expect similar preferential patterns for leaders—and, thus, for candidates—across all valid cues to problem specific leadership competence if these preferences are rooted in the same underlying psychological system (cf. Feinberg, 2008). In this dissertation, I focus on three different cues to candidates' competence: personalities, faces and voice pitches. The specific expectation with regard to cue universality is stated in the Cue Universality Hypothesis:

*Preferences for candidates' personalities, faces and voice pitches should follow the same general pattern.*

### 3.6.2. The Cultural Universality Hypothesis

As described above, a psychological system of adaptive followership should be very responsive to contextual differences regarding problems facing one's group. However, from an adaptationist account, there are no reasons for modern electoral institutions to impact the activation of the followership psychology and the way it regulates leader and candidate preferences. Because our followership psychology is shaped by selection pressures in our ancestral past, different modern institutional settings—such as electoral systems, party systems and political cultures—ought not to affect patterns in candidate preferences. In other words, candidate preferences are *not* due to national or institutional idiosyncrasies of certain countries, but instead they reflect universal tendencies across institutionally very different settings. This expectation is explicated by the Cultural Universality Hypothesis:

*Similar patterns of candidate preferences should be found across even the most different electoral and institutional settings.*

### 3.6.3. The Leadership-Politics Universality Hypothesis

Finally, the Leadership-Politics Universality Hypothesis relates to the dissertation's basic theoretical idea that choices of candidates in modern democratic elections are guided by a psychological system of followership which evolved to regulate leader preferences in general. Importantly, although being deeply rooted in human psychology, this system is *not* designed for democratic elections per se, but for followership decisions in general. This leads to the third and final universality hypothesis:

*Preferences for political and non-political leaders will follow the same fundamental pattern insofar as they reflect the same underlying psychological system of followership.*

### 3.7. The Distinctiveness Prediction (DP)

The Universality Prediction and its three hypotheses state that an evolved psychological system of followership should be employed for all kinds of followership decisions. However, one key insight in the evolutionary cognitive sciences is that distinct problems are most optimally solved by distinct psychological mechanisms that take the particularities of the specific problem into account (Tooby and Cosmides, 1992). Therefore, if humans are equipped with a designated psychological system of followership, such a system should *regulate only followership decisions* and *not* all sorts of social decisions in general. Building on this logic, I predict that choices of leaders versus other types of social relationships will be affected differently by key inputs to the psychological system of followership, such as problem-specific contextual information and political ideological predispositions. This proposition constitutes the Distinctiveness Prediction (DP):

*Contextual information and political ideology will relate differently to preferences for leaders than to preferences for social relationships such as friends and peers.*

### 3.8. The Policy Prediction (PP): Candidates' physical features as valid cues to policy positions

Finally, the dissertation investigates whether citizens can possibly use candidates' physical features to navigate the game of politics in a meaningful way. In other words, this part of the dissertation hypothesizes that candidates'



physical features might potentially hold real diagnostic information about candidates' policy positions and that voters can use this information when deciding whom to vote for. This idea relates directly to the puzzles raised in the introductory chapter, challenging the conventional interpretation of the relationship between candidates' faces (or voices) and electoral success as indications of an irrational public that does not deliberately and carefully decide which candidate to vote for (Todorov et al., 2005; Lenz and Lawson, 2011; Olivola and Todorov, 2010a).

In support of the idea that candidates' physical features might hold valid diagnostic information, recent studies investigated the extent to which physical correlates of dominance extend to the domain of politics and, hence, shape the political views of individuals. In particular, studies have investigated and found evidence that upper-body strength in males influences political orientations such that strong males are more likely to hold dominance-oriented positions: they are more likely to endorse war as a solution to international conflicts (Price et al., 2012; Sell et al., 2009a), to support stronger punishment of norm violators within society (Sell, Tooby and Cosmides, 2009), to be in favor of economic inequality (Price et al., 2011), and to assert their economic self-interest when forming political attitudes (Petersen et al., 2013). In direct relation to facial appearance, facial dominance is found to correlate with actual dominant behavior in social situations, with facially more masculine and dominant individuals also being more likely to act dominantly and less likely to engage in caring behavior (Carré & McCormick, 2008; Geniole et al., 2012; Law Smith et al., 2012; Loehr & O'Hara, 2013; Quist et al., 2011; Stirrat & Perrett, 2010; Trebický et al., 2013; Hehman et al., 2013). Finally, a handful of studies find that people are able to predict party affiliation and general ideology from photos of other individuals (Olivola et al., 2012; Carpinella and Johnson, 2012; Rule and Ambady, 2010a; Samochowiec, Wänke, & Fiedler 2010).

Together these results suggest that there could be valid and diagnostic information about politically relevant behavioral dispositions in the face. If true, voters might be inferring meaningful political characteristics from candidates' physical characteristics, on which their electoral behavior can subsequently rely. Based on this, the Policy Prediction (PP) reads:

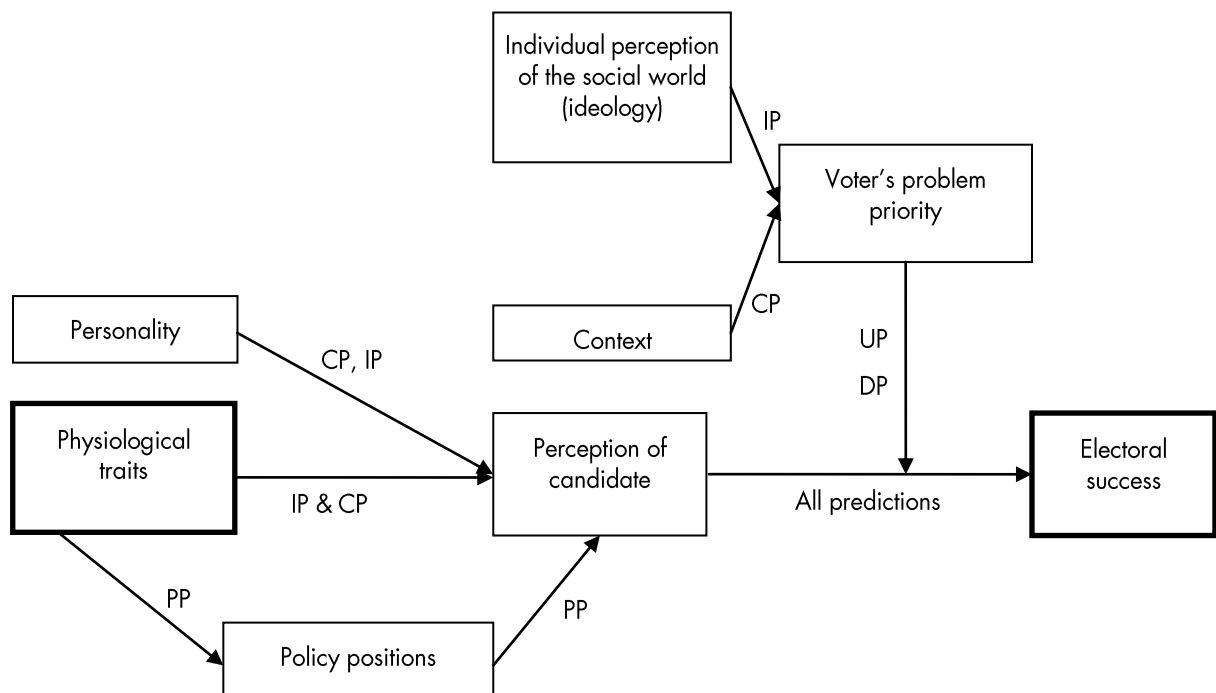
*The policy positions of political candidates are correlated with their level of facial dominance, such that more facially dominant candidates hold more restrictive, dominant, and conservative positions.*

As previously argued in this chapter, extant research suggests that physical dominance and its effects in the social domain are intuitively recognized by others. However, these findings all relate to lay people. If the associations between facial dominance and political positions extend to real-world politicians, we should also expect that the facial dominance of politicians will regulate how others respond to them. In relation to real electoral contests this is most concretely predicted by the Ideology Prediction, which states that *conservative individuals should have a stronger preference for dominant candidates*. Together, the Policy Prediction and the Ideology Prediction therefore suggest that 1) dominant-looking candidates will hold more conservative policy positions, 2) that conservative voters will intuitively be attracted to more dominant-looking candidates, and 3) that these processes should yield a match between conservative candidates and conservative constituencies (both holding conservative attitudes and policy positions). That is, relying on physical traits such as faces, voters might actually get the kind of candidate they want. If true, this tells a very different story than the conventional one about an ignorant and uninterested public that is willing to rely on even the shallowest and most senseless cues to make its political decisions.

### 3.9. Summary: The problem-sensitive psychological system of followership

Based on the five predictions, the model for the psychological system of followership can now be presented with a more nuanced illustration. Figure 3.2 provides such an illustration:

Figure 3.2: The evolved psychological system of adaptive followership



Note: Abbreviations for the dissertations five predictions: CP = Context Prediction; ID = Ideology Prediction; UP = Universality Prediction; DP = Distinctiveness Prediction; PP = Policy Prediction.

This model illustrates how candidates' physical traits along with their personalities serve as inputs to voters' followership psychology and affect voters' candidate perceptions. These perceptions influence candidates' electoral success depending on voters' problem priorities. These priorities are influenced by contextual information and voters' ideological predispositions. Moreover, candidates' physiological traits are expected to relate to their policy positions.

Figure 3.2 elaborates the model presented in Figure 3.1 in three ways. First, it clarifies that voters' prioritization of different problems depends on contextual information and their ideological predispositions. Second, it highlights that candidates' physiological traits as well as personality characteristics affect how they are perceived and that this perception in turn influences their electoral success (depending on voters' problem priorities). Third, Figure 3.2 includes the relationship between candidates' physiological traits and their policy positions, speaking to the potential diagnostic information in candidates' physiology for voters' electoral decisions. Finally, the letters in Figure 3.2 correspond to the abbreviations for the five different predictions.



## Chapter 4:

# Methods and research design

This chapter summarizes the different research designs and methods applied throughout the dissertation. The chapter first provides an overview of the six papers, their theoretical foci and key methodological features. Next, the chapter clarifies why and how the dissertation has employed a research design strategy that combines experiments and cross-sectional survey designs. Subsequently, it turns to the dissertation's core relationship between candidates' personalities and physical features, on the one hand, and electoral success, on the other hand, and presents the applied operationalizations of these variables in turn. To reduce the length of the chapter, specific operationalizations of problem contexts, political ideology and candidates' policy positions are kept to the actual papers. Finally, an important part of the theoretical model presented in Chapter 3 relates to the possible evolutionary roots of leader and candidate preferences. In order to test whether evolutionary psychology can indeed help explain *how* and *why* candidates' physical features affect voters' electoral behavior, the Universality Prediction was presented in Chapter 3. However, no single paper in the dissertation engages in a direct test of this prediction. Therefore, this chapter highlights how the dissertation's *overall* research design includes specific elements for testing the Universality Prediction and its corresponding hypotheses across different studies.

### 4.1. Overview of papers, theoretical foci, research design, and methods

To outline the structure of this chapter, Table 4.1 summarizes the most important methodological choices for each of the dissertation's six papers. Specifically, it indicates for each paper the most substantial theoretical contribution, the applied research design, and the applied operationalizations for the independent variable (candidates' personalities, faces, or voices) and the dependent variable (candidates' electoral success or voters' candidate preferences).

Table 4.1: Overview of the dissertation's six papers with respect to theoretical foci, research designs, and operationalizations of independent and dependent variables

Paper	Theoretical focus and contribution	Research design	Independent variable	Dependent variable
A	Basic relationship between facial traits and electoral success	Combines face-based trait inferences with election results (Denmark).	Candidates' facial competence. Average voter ratings of real candidate faces.	Candidates' electoral success.
B	Ideologically and contextually different preferences for candidate faces, and ideological persuasion effect of candidate faces.	Same as Paper A plus survey experiments with manipulated faces (Denmark and the US).	Candidates' facial dominance. Manipulated faces; average voter ratings of real candidate faces; and morphed versions of real candidate faces.	Candidates' electoral success, subjects' leader choice, and subjects' support for policy proposal.
C	Ideologically and contextually dependent preferences for candidate personality.	Survey experiments (US and Denmark) and American National Election Studies.	Candidate personality. Descriptions of a fictitious male candidate; trait evaluations of US presidential candidates.	Subjects' ratings of candidates, and American voters' candidate evaluations and choices.
D	Ideologically dependent preferences for candidate voice pitch.	Online survey experiments with manipulated voices (US).	Candidate voice pitches. Manipulated voices.	Subjects' candidate choice.
E	Ideologically and contextually different preferences for candidate faces are only related to choices of leaders and <i>not</i> to choices of friends.	Survey experiments with manipulated faces (Denmark).	Candidates' facial dominance. Manipulated faces.	Subjects' candidate choice.
F	Candidates' faces as cues to their policy positions.	Combines face-based trait inferences with candidates' policy positions, ballot positions and electoral success.	Candidates' facial dominance. Average voter ratings of real candidate faces.	Candidates' policy positions, ballot positions and electoral success.

Below, the chapter continues with reflections about the research design strategy employed, which combined and integrated experimental and cross-sectional survey designs.

## 4.2. Experiments and traditional cross-sectional survey designs

“All methods are fallible. None can provide a royal road to truth” (Kinder, 2011: p. 527). With this in mind, this dissertation follows state-of-the-art procedures in political psychology and applies a mix of experiments and traditional cross-sectional survey designs. Ideally this leads to a more well-grounded answer to the dissertation’s research question, insofar as convergent results across complementary methods are reached (Kinder and Palfrey, 1993; Kinder, 2011; McDermott, 2002a, 2002b). In short, testing the theoretical model of a problem-sensitive psychological system of followership in experimental as well as in cross-sectional survey designs should comprise a sound and robust methodological set-up.

A central feature of the experiments is that researchers hold control of the study in two important ways (Druckman et al., 2011; McDermott, 2002a, 2002b; Kinder and Palfrey, 1993; Gerber and Green, 2012; Petersen et al., 2007; Slothuus, 2008; Laustsen, Hopmann, Slothuus, 2014). First, they fully control the variation and the operationalization of each experiment’s independent and dependent variables. In relation to the dissertation’s research question, *“Whether insights from evolutionary psychology can help explain why voters are affected by candidates’ appearances and physical features,”* an experimental approach yields full control of the variation in candidates’ physical features (or personalities). Accordingly, this variation was tailor-made for each of the dissertation’s separate experiments, which subsequently restricted and shaped the possible outcomes on the dependent variable, namely participants’ candidate preferences and choices.

Second, when using experiments researchers also control the (procedural) assignment of the values of the independent variable to participants. For instance, with respect to the Context Prediction of this dissertation, I first controlled the variation and the possible values on the variable “contextual condition” and, thereafter, I also controlled the assignment of these values to the subjects of a given experiment. Importantly, by assigning values on the independent variable to the subjects *at random*, researchers are able to control for all other factors that might vary between subjects (Petersen et al., 2007; Druckman et al., 2011; McDermott, 2002a, 2002b; Kinder and Palfrey, 1993; Gerber and Green, 2012). Because subjects are grouped on an absolutely random basis, no differences should exist between the groups other than the experimental treatment, i.e. the value of the independent variable to which they are assigned. This feature constitutes the backbone of the experiment

as it ensures strong internal validity and establishes a causal order between the independent variable (e.g. candidates' physical traits, contextual condition of the candidate choice, etc.) and the dependent variable (candidates' electoral success).

However, the experiments' strengths also come at a cost: The conclusions drawn purely from experimental studies in stylized settings are not necessarily transferable to highly realistic situations outside the experiment. Therefore, one obvious and reasonable objection against an experimentally identified causal effect of candidates' physical features on voters' candidate choices would be that the relationship may not hold in real democratic contests, in which a range of other factors are known to affect voters' electoral behavior. To address this concern, the dissertation complements experiments with traditional cross-sectional survey designs. While such designs are purely correlational and thus suffer from weak internal validity (i.e. identification of the causal effects), they analyze *real voters' actual electoral behavior*, yielding a much stronger external validity than most experiments can offer. Concretely, Paper B, Paper C and Paper F relate candidates' physical traits or personality traits, respectively, to true behavioral measures through implementation of candidates' real numbers of votes (Paper B and F) or through analyses of American voters' actual electoral preferences and behaviors (Paper C, ANES analyses).

In sum, the dissertation seeks to actualize Kinder's statement that "Politics is an observational science *and* an experimental science" (Kinder, 2011: p. 528) by employing a combination of experimental and cross-sectional survey designs. Hopefully such a strategy will establish that the same pattern of results is found in both experimental and traditional survey settings, and ultimately this should strengthen the internal as well as the external validity of the conclusions that can be drawn from the dissertation's studies.

#### 4.3. Measuring the independent variables: candidate dominance and warmth

In relation to the theory of a problem-sensitive psychological system of followership, the central distinction in candidate preferences relates to dominance and aggressiveness, on the one hand, and warmth and agreeableness, on the other hand. In order to integrate research on candidates' physical features and personalities, I build on recent models that demonstrate how social perceptions do in fact fall along two dimensions of dominance and warmth (Fiske, Cuddy and Glick, 2007; Oosterhof & Todorov, 2008).



In the extant literature about personality evaluations in general (not about candidates per se), the dominance dimension is sometimes referred to as the competence dimension (see for instance (Fiske, Cuddy and Glick, 2007)). However, this is somewhat unfortunate and misleading in relation to the way the term “competence” is employed in the more specific literatures about candidate faces and personalities. In the political behavior literature, “competence” is associated with global candidate quality (Todorov et al., 2005; McCurly and Mondak, 1995; Funk, 1999), while “competence” in Fiske, Cuddy and Glick’s (2007) model of general social perceptions is linked to evaluations of dominance, seriousness, aggressiveness and confidence. Hence, to avoid any misunderstandings about the content of the two dimensions of social perception that are employed throughout the dissertation, these are named *dominance* and *warmth*, and simultaneously the term and trait of “competence” will be used in accordance with its standard meaning in political behavioral research (and mostly included as a control variable).<sup>5</sup> The sections below present the employed operationalizations of dominance and warmth in relation to candidates’ personalities, faces and voices, respectively.

#### 4.3.1. Candidates’ personality traits

Preferences for candidate personalities are investigated in Paper C. In line with the overall strategy of the dissertation, both experimental and cross-sectional research designs based on real voters and their candidate evaluations are incorporated.

##### Candidates’ personalities in experimental studies

In the experiments, candidate personality is manipulated with short descriptions of a fictitious male candidate (named Thomas Johnson and Christian Mortensen in the American and Danish studies, respectively). Subjects were randomly assigned to read a description that highlighted either dominant or warm personality attributes of the fictitious candidate. The dominant personality description emphasized characteristics such as dominance, intransigence, taking control of negotiations, uncompromisingly sticking to policy positions, and being a person that others fear offending. The warm person-

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<sup>5</sup> Based on this ambiguity about the internal relationship between competence and dominance perceptions, one might argue that *if* competence and dominance are parts of the same underlying dimension, controlling for competence might bias against finding effects of dominance. Controlling for competence, therefore, constitutes a conservative research strategy.

ality description highlighted characteristics such as agreeableness, cooperativeness, willingness to make compromises, empathy, and being a person that others comfortably contact. A manipulation check confirmed that the dominant description is in fact perceived to be more dominant than the warm description, and that the warm description is perceived as more agreeable than the dominant description.

### Candidates' personalities in cross-sectional designs

The cross-sectional research design utilizes the fact that the American National Election Study (ANES) contains a range of evaluations of presidential candidates along different personality traits and characteristics. Based on the theoretical dimensions of dominance and warmth, respondents' perceptions of candidates' compassion and provision of strong leadership are used as approximations of warmth and dominance, respectively. Although these evaluations are not perfect operationalizations of the underlying theoretical dimensions, they are used because they comprise the best approximations available in large-scale election surveys that include candidate evaluations.

The manipulated candidate personalities for the fictitious male candidate as well as the exact coding procedures for the evaluation scales of the American presidential candidates are available in the Supplementary Material (experiments: SOM 1 and 2; ANES coding: SOM 7) for Paper C.

### 4.3.2. Candidates' facial traits

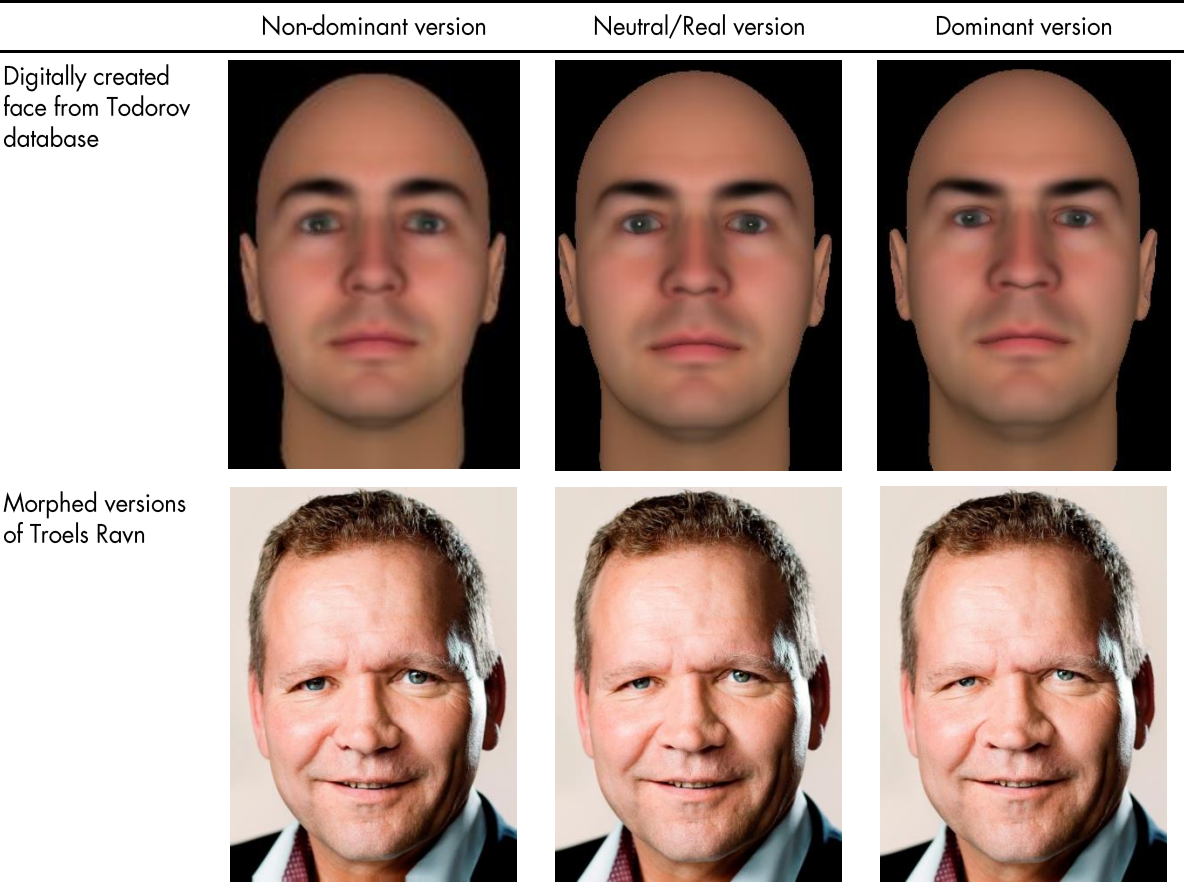
Preferences for candidates' faces are explored in Papers A, B, E and F. Across these papers two different measurement strategies are followed, depending on whether a study explores the relationship between candidates' faces in experiments or in real electoral contests.

### Candidates' facial traits in experimental studies

In experimental studies of the relationship between candidates' faces and electoral success, the dissertation relies on pre-morphed versions of the same face (in Papers B and E). These are collected from a database of digitally created faces maintained by Alexander Todorov (Oosterhof and Todorov, 2008).<sup>6</sup> In accordance with the key theoretical distinction between dominance and warmth, photos manipulated to vary in facial dominance were chosen. This variation was validated in small pilot studies, which confirmed that the more dominant versions of the faces used were indeed perceived as

being more dominant and less agreeable (a key characteristic linked to warmth). An example of a digitally created face manipulated into a more and a less dominant version is shown in Panel A of Figure 4.1 below (for concrete results of the validation studies see Papers B and E).

Figure 4.1 Examples of dominance manipulation of faces from Paper B and D



Panel A shows digitally created faces from Alexander Todorov’s database (Oosterhof and Todorov 2008), and Panel B shows morphed versions (using Psycho Morph) of Troels Ravn’s official photo on the website of the Danish parliament.

Furthermore, in Paper B the same manipulations were used for producing dominant and non-dominant versions of real politicians’ faces. Specifically, the real photo of a target politician was transformed following a standardized procedure of loading and changing the target photo +/- 40 percent along a dominance dimension using the software Psycho Morph.<sup>7</sup> The exact morphing procedure happens in two separate steps. First, the dominance dimension was created using sets of high- and low-dominance faces, respectively, from the Todorov database. These sets of faces were used to cre-

<sup>6</sup> The database can be accessed at <http://tlab.princeton.edu/databases/>

<sup>7</sup> The software is available online at <http://users.aber.ac.uk/bpt/jpsychomorph/>. For more information on the software see for instance Tiddeman (2011).

ate dominant and non-dominant endpoints for the dominance scale. Second, the target politician photo was loaded into Psycho Morph and morphed in the desired direction (low/high in dominance) and to the proper degree. Panel B in Figure 4.2 shows  $\pm$  40 percent dominance-morphed versions of the Danish politician Troels Ravn (more information on the manipulation procedure is provided in Paper B and its Supplementary Material).

### Candidates' facial traits in cross-sectional designs

For real-world elections (Papers A, B, and F), the dissertation follows standard procedures in the field and operationalizes facial traits based on naïve subjects' average evaluations (Todorov et al. 2005; Berggren et al., 2010; Banducci et al. 2008; Hamermesh and Biddle, 1994). That is, subjects who are completely unfamiliar with the candidates are shown a random subsample of the total number of candidates—one at a time—and asked to evaluate the candidates on different traits. Following the “truth-of-consensus” method (cf. Rosar et al., 2008, p. 70), average scores for the different facial traits can be calculated across individual subject ratings. Figure 4.1 shows an example of the rating process from one of the datasets used in Papers A, B and F.

Figure 4.1 Question wording for ratings of candidates' facial traits



Before rating a given candidate's facial traits, respondents read the following text (translation from Danish to English):

Take a look at the photo to the left. Please rate the person in the photo based on your first impressions. You must rate the person on all seven traits stated below. Choose the number between 0 and 10 that best suits your impressions of the person. 0 indicates that the person is minimally competent (or another trait). 10 indicates that the person is maximally competent (or another trait).

To what extent do you perceive the person as...

The procedure applied in another dataset used mainly in Paper F departed slightly from the above description. For the first dataset, subjects rated only eight or nine candidate faces, while subjects for the second dataset rated 72 photos each. Another procedural difference between these rating processes was that the ratings for first dataset were compiled in an online survey with only one photo shown on the screen at a time, whereas ratings for the second dataset were gathered using pen-and-paper surveys with nine photos shown simultaneously on each page. Importantly, and speaking to the robustness of the analyses in general, similar results are found using the two styles of photo evaluation procedure. A more thorough description of the da-

ta collection process for the first dataset is provided in Paper A, along with a brief discussion about smaller procedural differences between research designs in the literature on face-based trait inferences in general (see Paper A: pp. 4-6).

Ultimately, to get final scores for each candidate's facial traits, average scores on the different facial traits were calculated across individual subject ratings. However, a slight difference between the ultimate measures of dominance and warmth employed in two of the dissertation's papers (Papers B and F) is worth highlighting here. In Paper B, a principal-component factor analysis was used to create common scales for the underlying dimensions of raters' evaluations of candidates. Specifically, average ratings of the candidates on seven different traits<sup>8</sup> were captured by two underlying dimensions: A competence dimension<sup>9</sup> and a common dimension for dominance and warmth, with these characteristics comprising opposite extremes *on the same scale* (that is, candidates evaluated as very dominant are simultaneously evaluated as very not-warm and vice versa).<sup>10</sup> In Paper F, a different measurement approach was applied. One of the main purposes of Paper F was to investigate whether the relationship between facial dominance and specific political attitudes established among lay-people replicate even for political professionals. Therefore, this paper focused exclusively and narrowly on facial dominance and relied on the candidates' average scores on exactly this trait. Importantly, key findings in Paper B with respect to the Ideology Prediction are replicated in Paper F, using this single-trait measure of facial dominance instead of the principal-component factor approach described above. This similarity in results suggests that the main findings of the dissertation are robust and replicate with slightly different operationalizations of facial dominance (and facial warmth).

#### 4.3.3. Candidates' voice pitches

Paper D investigates the relationship between candidates' voice pitches and electoral success. Incorporating candidate voice pitches complements the dissertation's use of candidate faces in important ways. First, voice pitches

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<sup>8</sup> The traits are competence, intelligence, responsibility, dominance, physical strength, friendliness, and attractiveness.

<sup>9</sup> The competence dimension is primarily linked to the traits of competence, intelligence, and responsibility.

<sup>10</sup> This common dominance–warmth dimension is first and foremost driven by evaluations on the traits dominance (linked to the dominance end of the scale) and friendliness (linked to the warmth end of the scale). See the factor loadings for the separate traits reported in Paper B.

can be objectively quantified, whereas the use of faces relies directly on subjects' or voters' subjective perceptions of candidate faces. Second, in relation to the Cue Universality Hypothesis, it is critical to establish parallel patterns of preferences for different cues to candidate leadership. Given the general preference for lower-pitched candidate voices in recent studies (Tigue et al., 2012; Klofstad et al., 2012), voices constitute an obvious such cue to candidate leadership. Third, existing research establishes that higher levels of testosterone lower voice pitches among human males (Evans et al., 2008; Dabbs and Mallinger, 1999; Bruckert et al., 2006), and that higher levels of testosterone are correlated with more dominant and aggressive behavior (Archer 1991; Mazur and Booth, 1998; Feinberg et al., 2008).

In sum, exploring subjects' preferences for candidate voices supplements the use of candidates' faces because voices constitute a more direct, objective and biological marker for dominant behavioral dispositions in candidates. Specifically, Paper D employs manipulated versions of male and female voices and asks subjects to choose between a lower-pitched and a higher-pitched version of the same voice (mirroring the choice between manipulated versions of the same face in Paper B and E). Specifically, recorded voices were altered  $\pm 0.5$  equivalent rectangular bandwidths (ERB) following previous studies on voice pitch perception (Jones et al. 2008). This produces a constant perceivable gap between the manipulated voices regardless of the baseline pitch of the non-manipulated voice (Stevens 1998) (more information on the exact procedures for voice manipulations is provided in Paper D and its Supplementary Material S1).

#### 4.4. Measuring the dependent variable: candidates' electoral success

The dissertation overall applies three different set-ups for exploring candidates' electoral success and voters' candidate preferences: 1) Forced choice set-ups in which subjects or voters choose between two different candidates (either in an experimental setting or in electoral contests with only two candidates); 2) multi-party and multi-candidate electoral contests; and 3) evaluations of individual candidates. The dependent variable of the dissertation, candidates' electoral success, is operationalized in correspondence with the overall set-up of a given study. Below the three different styles of operationalization are presented in turn.

#### 4.4.1. Voter preferences in forced choice set-ups

Prior research on the relationship between candidates' physical features and electoral success typically applies a forced choice paradigm, mirroring first-past-the-post electoral contests with only two different candidates. In this set-up subjects choose their favored candidate from two alternatives, and such a strategy has two important advantages. First, in experiments two candidates who vary *only with respect to a certain characteristic or trait* can be presented to the participants and any differences in candidate preferences can be ascribed to the varied feature. Second, if real-world candidates from two-party systems are used in the experiment, the subjects' choices can be related to real-world electoral outcomes by comparing proportional preferences in the experiment with candidates' actual vote shares in real elections (see e.g. Todorov et al., 2005; Little et al., 2007). The dissertation follows this strategy and operationalizes candidates' electoral success with subjects' choices between two candidate faces in Paper B and Paper E, between the two actual main candidates for the American presidency in Paper C, and between two candidate voices in Paper D.

#### 4.4.2. Electoral success in real-world electoral contests

For several reasons, voters' and subjects' choices do not always constitute the best operationalization of candidates' electoral success. For instance, when analyzing Danish electoral outcomes, central features of the Danish electoral system differ from first-past-the-post systems, causing candidates' raw numbers of votes to be a less meaningful indicator of actual electoral success. Below, these central features are highlighted in turn and related to the applied measure of electoral success in Danish proportional representative elections.

First, in Denmark voters can vote for parties as well as specific candidates. Since the dissertation focuses exclusively on candidate features and since party votes cannot (necessarily) be ascribed to specific individual candidates, the applied operationalization of electoral success in Danish elections is exclusively based on personal votes for the candidates. Second, Danish elections are characterized by a proportional representative electoral system in which multiple parties (typically eight or nine parties in national elections) with large numbers of nominated candidates compete against each other. As a consequence, candidates are not only competing across party lines but also against their party allies. To validly capture candidates' electoral success in a system like the Danish, a comparison that takes this joint inter-party and intra-party competition into account is needed. An easy solu-

tion would be to rely merely on a comparison of candidates' personal votes. However, to explore inter-party and intra-party competition simultaneously, candidates' initial situations should be equalized. Using raw numbers of personal votes is therefore not a suitable solution since Danish parties hold very different baseline support among the voters. For instance, a Danish candidate running for the Social Democrats compared to his counterpart from the Conservative Party can expect significantly more votes simply due to being a member of a much larger party. Therefore, a measure for electoral success which (1) is founded in personal votes, (2) takes the simultaneous competition between and within parties into account, and finally (3) controls for baseline party sizes is warranted.

Fortunately, other scholars have faced similar problems when investigating the relationship between candidates' physical features and electoral success in Proportional Representative electoral systems like the Danish. In their analyses of Finnish elections, Berggren et al. (2010) employ the measure "relative success," which for candidate  $i$  from party  $j$  is defined in the following way:

$$\text{Relative success} = (p_i/v_j) \cdot 100$$

where  $p_i$  is the number of personal votes cast for candidate  $i$ ;  $v_j$  is the total number of personal votes cast for party  $j$  divided by party  $j$ 's number of candidates. In other words, relative success compares the number of personal votes for a given candidate,  $p_i$ , to the hypothetical number of votes the candidate would have received if personal votes within the party were equally distributed across the party's candidates,  $v_j$ .

Relative success is applied in Papers A, B and F when investigating the relationship between candidates' faces and electoral success in local and national elections in Denmark. However, in these electoral contests it turns out that a few top candidates receive disproportionately large numbers of personal votes, making relative success highly skewed to the right. To adjust for this problem, the standard procedure for solving skewness problems is applied and the logarithm of relative success is calculated. This measure is named "Electoral success" and recoded to a 0-1 scale, with "0" reflecting minimal (observed) Electoral success and "1" reflecting maximum (observed) Electoral success (the recoding procedure is described more thoroughly in Papers A, B and F).



#### 4.4.3. Evaluations of specific candidates

The third and final operationalization of candidates' electoral success relates to evaluations of a specific candidate based on his face or personality. There are two benefits of employing evaluations of specific candidates rather than choices between different candidates. First, the robustness of candidate preference patterns can be investigated when results for choices between different candidates (using the two set-ups described above) are compared to evaluations of specific candidates. Second, evaluations of single candidates also permit another type of analysis, since it is possible to explore a more fine-grained preferential pattern. For instance, it is possible to investigate whether a difference in candidate preferences between liberal and conservative individuals is due to positive selections of candidates with certain characteristics or if, on the contrary, it reflects rejections of specific candidate types.

This "single candidate evaluation set-up" is applied in Papers B and C following standard measures in the field. In Paper B, subjects are asked to indicate how much they support a policy proposal presented by a given candidate. Support is indicated on 0-10 scales where "0" and "10" reflect minimal and maximum support for the policy proposal, respectively. Paper C employs feeling thermometer ratings of subjects' (and voters') evaluations of a fictitious candidate or of actual US presidential candidates, respectively. Specifically, subjects indicate their feelings towards a given candidate on a 0-100 feeling thermometer, where feelings between "0" and "50" indicate that the subject does not feel very favorably towards the candidate, whereas feelings between "50" and "100" indicate warm feelings.

### 4.5. Integrated cross-study elements for testing the Universality Prediction

A central part of this dissertation's theoretical framework relies on evolutionary psychology. To test whether evolutionary psychology can indeed help explain *how* and *why* candidates' physical features affect voting behavior, Chapter 3 built on general key premises of evolutionary psychology and phrased the Universality Prediction and its three distinct and concrete hypotheses: the Cue Universality Hypothesis, the Cultural Universality Hypothesis, and the Leadership-Politics Universality Hypothesis. This Universality Prediction is not tested specifically in any of the dissertation's six papers. Rather, the dissertation's overall research design includes a set of integrated features that permit testing of the Universality Prediction through comparisons across

different studies. This section presents these features and relates them to the three distinct universality hypotheses. Accordingly, the integrated features for comparisons across studies constitute the basis for testing the overall Universality Prediction and, consequently, also for investigating the claim that an *evolved* psychological system of followership regulates modern citizens' electoral behavior.

#### 4.5.1. Comparisons across traits and cues

A key aim of the dissertation is to establish that features known to be markers of the same behavioral and biological dispositions feed into the same psychological system of followership and, accordingly, create identical leader and candidate preferences among followers and voters (cf. Feinberg, 2008). Three such relevant features are candidates' personalities, faces and voices. Based on the Cue Universality Hypothesis, a designated psychological system of followership ought to process these cues in identical ways and correspondingly produce preferences for leader personalities, faces and voices that follow the same underlying pattern. The dissertation's overall research design permits comparisons across studies and papers to test whether contextual information and political ideological differences affect preferences for candidate and leader personalities, faces and voices in similar ways. Section 5.4 provides the results of these comparisons and evaluates whether or not the Cue Universality Hypothesis is supported in the dissertation's data.

#### 4.5.2. Cross-national comparisons

The second feature of the overall research design directed at testing the Universality Prediction relates specifically to the Cultural Universality Hypothesis, and consequently it focuses on cross-national and cross-cultural similarity. Specifically, it employs identical studies in Denmark and the United States in order to show that preferences for candidate personalities and their physical features are *not* caused by national or institutional idiosyncrasies. Instead, these preferences are universal and replicate across very different institutional contexts and national settings.

Among modern democracies, Denmark and the United States represent two such very different settings and, consequently, together they comprise a most different systems design (Przeworski and Teune, 1970; Anckar, 2008). Building on this logic, Paper B and Paper C employ identical research designs in these countries and compare the Danish and the American results to explore whether similar patterns in candidate preferences are revealed even when the institutional contexts under which the participants live are varied to

the widest degree possible: while both Denmark and the United States qualify as modern democracies, they are fundamentally different within this category. Denmark embodies corporatism, parliamentarism, proportional elections and a multi-party system. The United States, by contrast, embodies federalism, presidentialism, first-past-the-post elections and a two-party system. These differences also extend into broader culture, with the United States being markedly more individualistic and Denmark more collectivistic (Nelson and Shavitt 2002). Uniform patterns in candidate preferences with respect to faces (Paper B) and personalities (Paper C) across these two countries would therefore support the proposed theory of an evolved psychological system of followership and, furthermore, underline that it is universally employed by voters across countries, institutions and cultures.

#### 4.5.3. Comparisons of leader and candidate preferences

The third and final research design feature for testing universalities across results and papers relates to the Leadership-Politics Universality Hypothesis. The dissertation argues that preferences for candidates and their physical characteristics are linked to deeper, psychological mechanisms that are *not* designed for democratic elections per se but rather for followership decisions in general. Accordingly, it was tested whether identical patterns in preferences for non-political and political leaders are found, since this would potentially support that the same psychological system of followership regulates political as well as general leadership preferences.

Concretely, the dissertation investigates the Leadership-Politics Universality Hypothesis through comparisons of political and non-political leadership preferences in Paper B and Paper E. In these papers, subjects are asked to choose their favored leader in contexts fully removed from modern democratic elections, and subsequently these choices are compared to choices of political candidates.<sup>11</sup> These comparisons are included in Papers B and E, and Section 5.4 further summarizes other relevant results from across the dissertation's studies.

## 4.6. Summary

In sum, the dissertation combines experimental studies with more traditional cross-sectional surveys to optimize internal as well as external validity. Across

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<sup>11</sup> Specifically, in these papers subjects are introduced to non-political scenarios related to a fictional small-scale foraging tribe (Paper B) or a crew onboard a ship (Paper E), respectively, and subsequently asked to choose their favored leader.

the different studies, the same underlying model of two-dimensional social perceptions is used as the point of departure for operationalizing the main independent variables, i.e. candidate personalities, faces and voices (Fiske, Cuddy and Glick, 2007; Oosterhof and Todorov, 2008). The dissertation's dependent variable, candidates' electoral success, is measured in multiple ways across studies in order to match the specific set-ups of the studies and to investigate the robustness and scope of the results. Finally, the dissertation's overall research design includes specific features for testing the evolutionary roots of the proposed psychological system of followership in general and for testing the Universality Prediction in particular.

## Chapter 5: Main results

The various studies in the dissertation have produced a number of empirical findings that significantly extend our knowledge about the relationship between candidates' physical features and electoral success. The results also add novel insights about preferences for political candidates in general, and in particular about the psychological processes guiding these preferences.

In this chapter, I summarize the main findings of the dissertation. The dissertation's six papers have separate research questions targeting specific parts of the theoretical model presented in Chapter 3. Here, I try to bring together key findings from across the papers in order to answer the dissertation's overall research question, phrased in Chapter 1:

*Can insights from evolutionary psychology help explain why voters are affected by candidates' physical traits, such as faces and voice pitches? And if so, how does an evolved psychological system of followership then affect electoral behavior in modern democratic elections?*

Hence, detailed information about specific tests or results is not to be found in this chapter, but instead in the separate papers. To structure the presentation of the key findings, the dissertation's five predictions from Chapter 3 serve as points of reference throughout this chapter.

To provide an initial overview of the results, Figure 5.1 graphically illustrates and evaluates the results in relation to the proposed theory of an evolved psychological system of adaptive followership. The figure summarizes key results in concrete relation to the theoretical model from Chapter 3 and relates the results from each of the six papers directly to the separate parts of the model that they test. Based on the separate results, arrow thickness illustrates the robustness and the relative level of support for a given sub-relationship of the model, with level of support increasing with arrow thickness:

Figure 5.1 Evaluation of the theorized model of a psychological system of adaptive followership in light of the dissertation results

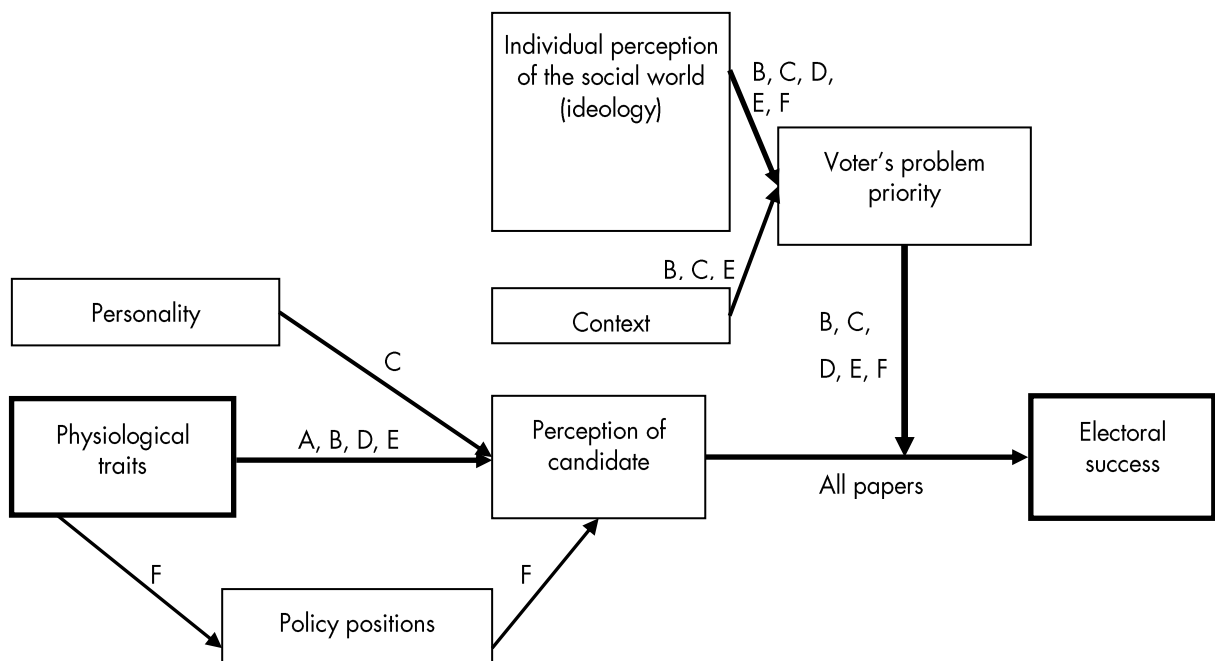


Figure 5.1 is basically the same model shown in Figure 3.2. However, the different arrows—and particularly their thickness—are changed to indicate the strength and robustness of the support provided in the dissertation's analyses (in Papers A-F) for specific parts of the model. The thicker an arrow, the more convincing and robust the findings.

Figure 5.1 illustrates that most parts of the theoretical model are robustly supported. However, some parts are more strongly supported than others: The link between “Physiological traits” through “Perception of candidate” on “Electoral success” is rather well-supported and correspondingly marked with thick arrows. A thick arrow also marks the link between “Voter’s problem priority” and the relationship between “Perception of candidate” and “Electoral success,” illustrating that the latter is robustly dependent upon “Voter’s problem priority” (between problems related to inter-group conflict and intra-group cooperation, respectively). On the other hand, thinner arrows characterize the relationships between “Physiological traits,” “Policy positions” and “Perception of candidate.” This is primarily due to the fact that these relationships are only tested on one dataset (in Paper F). Likewise, the arrow from “Context” on “Voter’s problem priority” is a little thinner than the corresponding arrow from “Individual perception of the social world (ideology),” which is

because the latter relationship is tested and supported in more datasets, and the former is only partially supported among American subjects in Paper C.

Below, the results are presented in direct relation to the six different papers and the five separate predictions comprising the dissertation.

## 5.1. Forming perceptions of candidates from their faces

As illustrated in Figure 5.1 and by the general research question, a key aim of this dissertation is to test and establish a more thorough basis for the relationship between candidates' physical features and their electoral success. Paper A targets this objective as it explores the central finding in the extant literature, namely that those who from their faces alone are perceived as more competent are electorally more successful. Specifically, Paper A gives rise to the following conclusions:

- The relationship between candidates' facial competence and electoral success is established for the first time in the context of Danish elections.
- The relationship is shown to hold even when applying a more comprehensive set of control variables than has hitherto been incorporated.
- The relationship between facial competence and electoral success is more complex than a single main effect, and it suggests that the effect of facial competence is *not* primarily driven by voters' perceptions of candidates' attractiveness.

These results form the basis for further scrutinizing and unraveling the relationship between candidates' physical features and electoral success. The following sections present the main findings that test the dissertation's five predictions one by one.

## 5.2. The Context Prediction (CP)

The dissertation's first prediction expects that voters' candidate preferences will vary as systematic responses to the contextual conditions under which they are expressed:

*Voters will have a stronger preference for agreeable and warm candidates under within-group cooperation than under between-group conflict. Conversely, voters will have a stronger preference for dominant candidates under between-group conflict than under within-group cooperation.*

The Context Prediction is supported across analyses in six studies included in three different papers. More comprehensively, the results give rise to the following conclusions:

Preferences for candidate and leader faces:

- Paper B investigates preferences for candidate and leader faces and finds that a more dominant-looking leader is preferred when the context is characterized by between-group conflict compared to within-group cooperation. Paper E replicates this result in two separate studies using a different overall storyline than Paper B.

Preferences for candidate personalities:

- Paper C explores preferences for candidate personalities under between-group conflict and within-group coordination scenarios, respectively. Results show that a warm and agreeable candidate personality is evaluated as more competent for dealing with problems related to within-group coordination than a dominant candidate personality. By contrast, a dominant candidate personality is evaluated as more competent in relation to problems of between-group conflict. However, whereas the former result holds in Denmark and the United States, the latter is only supported among Danish subjects. Reasons for this difference between Danish and American subjects are discussed more thoroughly in Paper C.

Relation to existing findings:

- The findings in Papers B and E deal with preferences for non-political leaders. In this sense, these results supplement a series of previous studies that find that preferences for political candidates' faces also vary systematically with the context, in line with the Context Prediction (Little et al. 2007; Little et al 2012; Little and Roberts, 2012; Hall et al. 2009; Spisak et al., 2012a, 2012b; Spisak 2012; Re et al., 2013). Moreover, the findings in Paper C—that preferences for candidate *personalities* are also contextually dependent—constitute a novel finding in leadership psychology as well as in political behavior.



### 5.3. The Ideology Prediction (IP)

The dissertation's second prediction relates to individual differences in political ideology and proposes that liberals and conservatives will hold very different candidate preferences:

*Liberal voters will have a stronger preference for agreeable and warm candidates than conservative voters. Conversely, conservative voters will have a stronger preference for dominant candidates than will liberal voters.*

The Ideology Prediction is supported across Papers B-F in different ways:

Preferences for candidate and leader faces:

- Based on a combination of real-world election data and survey experiments, the results of Paper B support the Ideology Prediction. Analyses of real election results from the 2009 Danish local elections reveal that candidates from conservative parties get more votes the more dominant they look (or that they lose votes the more warm and non-dominant they look), while candidates from the liberal parties, by contrast, benefit from looking warm and non-dominant (and are harmed by looking dominant). Interestingly, however, these ideological differences only apply for male candidates. For both conservative and liberal female candidates, analyses show that looking dominant is always associated with getting fewer votes. That is, female candidates get more votes the warmer and more non-dominant they look. Furthermore, experimental results parallel this finding, with conservative subjects exhibiting a stronger preference for dominant leader faces than liberals.
- Additionally, the analysis in Paper B clarifies and deepens the effect of ideology on candidate preferences in two ways:
  - o The experimental results in Paper B show that the ideological difference in preferences for candidate faces is rooted in differences of Social Dominance Orientation (SDO). That is, differences in individual dispositions for perceiving the social world on the basis of group hierarchies and group conflicts drive the relationship between political ideology and candidate preferences. Specifically, conservative individuals are found to be more socially dominant, and this difference causes them to prefer dominant and aggressive leaders and candidates.

- In accordance with the Ideology Prediction, two experiments demonstrate that facial persuasion effects parallel the ideological difference in preferences for candidate faces. In other words, liberal subjects are demonstrated to be more easily persuaded to support a given policy proposal by a warm than by a dominant face and, conversely, conservative subjects are more effectively persuaded by dominant than by warm faces.
- The findings in Paper B regarding ideological differences in preferences for candidate *faces* are replicated and clarified in Papers E and F:
  - Paper F replicates the results for real political candidates in Paper B using a new sample of candidates for the Danish national election in 2011. Again, analyses demonstrate that a dominant appearance is significantly more advantageous for conservative candidates than for liberal candidates. Interestingly, compared to the analysis in Paper B, candidate sex is not found to influence the relationship between candidates' facial dominance and their electoral success. That is, all conservative candidates—irrespective of their sex—are found to benefit from looking dominant (whereas this relationship only applied to male conservative candidates in Paper B). This difference could point to important and interesting lines for future research regarding the potentially different ways physical cues relate to perceptions of male and female candidates and leaders.
  - In addition, Paper F reinvestigates the 2009 Danish local election data with respect to parties' internal nomination strategies and reveals that looking dominant is also an advantage to conservative candidates in intra-party nomination races. Conservative candidates are nominated closer to the top of the ballot the more dominant they look, while no such relationship applies to the liberal candidates.
  - Paper E replicates the experimental results from Paper B and repeats the overall conclusion that conservative subjects have a stronger preference for dominant-looking leaders than do liberal subjects.

Preferences for candidate personalities:

- Paper C employs a combination of real election data and survey experiments to demonstrate that voters' preferences for candidate personalities also differ with their ideological predispositions. Among real American voters, perceptions of candidates' provision of strong leadership—a trait associated with dominance—is found to be significantly more important for conservative voters' global candidate evaluations than for

their liberal counterparts. By contrast, perceptions of candidates' compassion are significantly more important for liberal compared to conservative voters' general evaluations of candidates. This result is paralleled in two experiments: A fictitious male candidate is better-liked among conservative subjects when he is described as dominant, while the same fictitious candidate is better-liked among liberals when he is described as warm and agreeable.

Preferences for candidate voices:

- Paper D tests the Ideology Prediction with respect to preferences for candidate voices. In two studies, conservative Republicans exhibit a stronger preference for lower-pitched male voices than do liberal Democrats.

## 5.4. The Universality Prediction (UP)

The dissertation argues that the contextual and ideological effects on preferences for candidates' physical features and personalities reflect a deep-seated psychological system of followership that is *not* designed for democratic elections per se but for followership decisions in general. For this claim to be plausible, the proposed psychological machinery ought to yield similar patterns of results in three different ways, as articulated with the Universality Prediction and its three distinct hypotheses from Chapter 3. These hypotheses are not directly tested in any of the dissertation's papers. Therefore, this section yields important and necessary new insights through comparisons, linkages and couplings of key findings and results across the separate papers.

The Cue Universality Hypothesis:

The *Cue Universality Hypothesis* states that different cues to the same type of leader competence should give rise to identical patterns in candidate preferences:

*Preferences for candidates' personalities, faces, and voice pitches should follow the same general pattern.*

In other words, if perceptions of candidates and leaders based on personalities, faces and voices all feed into the same psychological system as inputs, then we should expect that these cues are processed in identical ways by

the followership psychology. Ultimately, this should produce similar preferential patterns for candidate personalities, faces, and voices, shaped by contextual information and ideological differences among followers.

- Papers B and C investigate *contextual effects* on preferences for candidate faces and personalities, respectively. Across the studies and across results it is shown that between-group conflict scenarios increase subjects' preferences for dominant faces and dominant personalities compared to within-group cooperation scenarios. With respect to contextual variation in preferences for candidate voices, Tigue et al. (2012) find that sensitivity to physical prowess in male candidate voices is heightened during wartime, which further supports that contextual differences in candidate preferences are similar across different cues to dominant and aggressive styles of leadership.
- Papers B-F explore *ideological effects* on preferences for candidate faces, personalities and voices. In all of these studies, conservatives hold significantly stronger preferences for masculine and dominant faces, dominant and intransigent personalities and lower-pitched and dominant voices than do liberals.

The Cultural Universality Hypothesis:

The *Cultural Universality Hypothesis* assumes that identical patterns of candidate preferences are found across very different electoral and institutional settings:

*Similar patterns of candidate preferences should be found across even the most different electoral and institutional settings.*

The dissertation tests this assumption in Papers B and C by conducting identical experiments in two countries that, within the category of developed and modern democracies, qualify as most different systems: the United States and Denmark.

- Paper B demonstrates that context and ideology affect preferences for candidate and leader *faces* following identical patterns in Denmark and in the United States.
- Paper C shows that ideological predispositions guide Americans' and Danes' candidate *personality* preferences in identical ways. However, as noted above, a slight difference was found between Danes and Americans regarding contextually different candidate personality preferences: unlike Danish subjects, Americans do not evaluate a dominant candidate

as more competent than his agreeable counterpart under contexts of between-group conflict. Reasons for this difference between Danish and American subjects are discussed more thoroughly in Paper C.

The Leadership-Politics Universality Hypothesis:

Finally, the *Leadership-Politics Universality Hypothesis* builds on the assumption that human psychology is not designed for democratic elections per se but for followership decisions in general. Therefore, followership decisions ought to follow the same pattern whether they are politically related or not:

*Preferences for political and non-political leaders will follow the same fundamental pattern insofar as they reflect the same underlying psychological system of followership.*

Again, answering this hypothesis calls for comparisons across the dissertation's different papers.

- *Contextual effects* are investigated in relation to political leadership in Paper C and in relation to non-political leadership in Papers B and E. Across these papers, results coherently suggest that more dominant political candidates and leaders are preferred when contexts are characterized by between-group conflict compared to when they relate to within-group cooperation.
- Followers' *ideological predispositions* are also found to affect their preferences for political candidates and non-political leaders in very parallel ways. Papers B, C, D and F find that conservative individuals prefer political candidates with dominant traits and features. Mirroring these results, Papers B and E show that more dominant leaders are also preferred by conservatives outside the realm of political leadership.

## 5.5. The Distinctiveness Prediction (DP)

Paper E directly targets the Distinctiveness Prediction and tests whether contextual and ideological preferences relate distinctly *to followership decisions* and *not* to all possible kinds of social decisions:

*Contextual information and political ideology will relate differently to preferences for leaders than to preferences for social relations such as friends and peers.*

Findings across two studies support that followership decisions are regulated by a special and designated psychological system:

- Paper E replicates main findings from Paper B and shows that conservatives more often than liberals choose a dominant-looking leader, and that this tendency for conservatives as well as for liberals is enhanced under between-group conflict compared to within-group cooperation. Importantly, Paper E further demonstrates that the contextual and ideological effects are distinctly related to choices of leaders and not to choices of friends. Hence, Paper E adds the novel insight that problem context and individual differences in political ideology relate *distinctly* to preferences for physical characteristics in leaders rather than for social partners in general.

## 5.6. The Policy Prediction (PP)

Paper F investigates the Policy Prediction and the idea that candidates' facial dominance will be linked to their policy positions:

*The policy positions of political candidates are correlated with their level of facial dominance, such that facially more dominant candidates hold more restrictive, dominant, and conservative positions.*

The results in Paper F are primarily supportive of the Policy Prediction:

- For conservative as well as for liberal candidates, facial dominance is found to be positively correlated with more right-wing and conservative policy positions on egalitarianism and immigration issues. For liberal candidates, facial dominance is additionally correlated with being more right-wing on a war issue (Danish presence in Afghanistan). In addition, these relationships turn out to hold even when controlling for a comprehensive set of alternative explanations such as candidates' age, sex, style of clothing, hair and facial expression.
- Combined with the robust finding that conservative voters prefer dominant-looking candidates (see above section about results related to the Ideology Prediction), these results suggest that when voters rely (partially) on candidates' physical characteristics, this is not necessarily a sign of an ignorant and irrational electorate. Instead, voters might use candidates' faces and other physical cues to match their candidate preferences and their perceptions of the social world in adaptive—and perhaps even meaningful—ways.

## 5.7. Short summary of the dissertation's findings

Overall, the dissertation's results support the five predictions presented in Chapter 3 and the underlying theory of a problem-sensitive psychological system of adaptive followership. Below, this chapter ends with a brief summary of the results followed by a short discussion of the findings in relation to dissertation's research question as outlined in Chapter 1.

The results presented in Papers B, C and E show that more dominant leaders and political candidates are preferred in times of between-group conflict compared to under within-group cooperation contexts, supporting the Context Prediction. Next, Papers B-F demonstrate that political ideology influences candidate preferences in a way that parallels the contextual effect, such that conservatives have a stronger preference for dominant leader and candidate personalities, faces and voices than do liberals. The findings related to the Universality Prediction and the Distinctiveness Prediction indicate that these results could be guided by a psychological system of followership shaped by problems of group living and navigation of social hierarchies in humans' ancestral past. Regarding the Universality Prediction, results show that (1) different cues to the same type of leadership competence yield parallel patterns in leadership preferences; (2) contextual variation and individual differences in political ideology relate similarly to leadership preferences across different institutional and electoral settings (Denmark and the United States); and (3) these patterns in candidate preferences are not related to politics per se, but instead contextual variation and political ideology regulate political and non-political leadership preferences in identical ways.

Regarding the Distinctiveness Prediction, Paper E shows that context and ideology relate significantly differently to choices of leaders than to choices of social relations in general, suggesting that the psychological system of followership might be *distinctly* related to followership decisions and leader preferences. Finally, Paper F reveals that more facially dominant candidates hold more conservative and right-wing policy positions on core political issues. This suggests that electoral behavior that is partially informed by candidates' physical features might not necessarily warrant pessimistic conclusions on behalf of the electorate's political interest or ignorance. If, instead, voters use candidates' faces to seek out political candidates that match their own policy positions and preferences, facial features might constitute a sensible and meaningful cue for voters to rely on. This interpretation, however, begs the question of whether voters intentionally use candidate faces to align their candidate preferences with their policy positions, or if the results should rather be interpreted as side effects of more general tendencies to evaluate

other individuals based on their physical appearances. For now, this question is left for future research to answer.

In general, the results support the dissertation's overall idea that insights from evolutionary psychology can help explain the seemingly meaningless relationship between candidates' physical features and electoral success. As opposed to an idle, empty and meaningless relationship between candidates' visual and vocal appearances, on the one hand, and their electoral success, on the other, the dissertation's findings outline a much more nuanced picture. Across the six papers, voters' candidate preferences are characterized more by systematic patterns of problem sensitivity guided by contextual information and ideological predispositions than by heedless ignorance surrounding electoral decisions in general. In addition, the results establish that voters rely on candidates' physical features in the same way that they rely on more direct information about candidates' personalities and personal characteristics. As a whole, based on these findings the dissertation introduces an alternative and less pessimistic interpretation of the relationship between candidates' physical features and voters' electoral behavior.



## Chapter 6:

# Conclusion and perspectives

The dissertation's theoretical argument and the corresponding findings provide new insights about preferences for political candidates. Moreover, the dissertation extends existing knowledge on electoral behavior in important ways and points out several directions for future research. In this chapter, I elaborate on the dissertation's contributions in relation to three broader themes. First, I discuss the dissertation's results in relation to existing research about candidate-centered explanations of electoral behavior. Moreover, in light of the dissertation's results, I provide two concrete recommendations for future research about political candidates. Second, based on the dissertation's theory and results, I clarify how political candidates are to be comprehended in relation to broader cross-disciplinary insights on leadership. Finally, I return to the dissertation's research question and relate its findings to the general debate in public opinion research about voters' rationality and the quality of public opinion formation.

### 6.1. Candidates' role in future electoral research

The dissertation contributes with new insights to electoral research on the role of candidates in several ways. First, it demonstrates that different candidate traits are *not* necessarily valuable for all candidates. Rather, features and characteristics related to the traits of dominance and warmth are *only* valuable for some candidates or under certain contextual scenarios. In particular, liberal voters are shown to value characteristics linked to candidate warmth, whereas conservative voters value features linked to candidate dominance. Hence, liberal and conservative candidates can benefit from being associated with dominance or warmth, respectively. Following a parallel pattern, all voters are shown to more highly prioritize candidate dominance when primed with problem contexts of between-group conflict, and conversely to more highly prioritize candidate warmth under problem contexts related to within-group cooperation. Importantly, being associated with the “wrong” traits and characteristics—with regard to the preferences of one's core constituency and voter base or to contextual conditions—can have detrimental effects for political candidates. For instance, if liberal (conservative) candidates are associated with dominance (warmth), results demonstrate that they will be liked less and lose real votes in elections.

Second, across the dissertation's studies it has been revealed that similar psychological mechanisms regulate preferences for candidates independent of the prominence of the candidates. In other words, across studies the same psychological machinery is found to guide preferences for different types of candidates, from nominees for the US presidency to Danish local politicians. Yet the majority of prior research on political candidates focuses narrowly on highly prominent candidates and party leaders. This could potentially cover and disguise important effects of less prominent candidates and lead to the depreciation of candidate factors, which, for instance, has traditionally been the case in Danish electoral research (Andersen and Borre, 2003; Andersen and Borre, 2007). If the complete picture of the electoral role played by candidate factors is to be revealed, scholars need to pay more attention to less prominent candidates and their personal characteristics, especially in multi-candidate contests such as the Danish.

Below, I elaborate further on these points and highlight how I would suggest future candidate-focused electoral research should be done in light of these findings.

#### 6.1.1. Inclusion of items measuring candidate dominance and warmth

Chapter 2 stressed that extant electoral research does highlight candidates and their personal characteristics as a significant explanatory factor for voters' electoral decisions (Clarke et al., 2004; Jenssen & Aalberg, 2006; Funk, 1999), but that it remains unclear exactly how this role of candidates unfolds. One of the more developed candidate-centered explanations stresses candidates' personal characteristics—such as being perceived as more competent—as the intermediate link between candidates and electoral outcomes (Funk, 1996, 1997; Kinder, 1986; McCurley and Mondak, 1995; Popkin, 1994). Furthermore, this finding is echoed in the literature on face-based trait inferences, which concludes that candidates who, from their faces alone, are perceived as more competent fare better in electoral contests (Todorov et al., 2005; Olivola and Todorov, 2010a). However, in both literatures *it remains unresolved what more concrete factors make up and characterize a competent candidate*.

In this dissertation, I addressed this puzzle based on a problem-centered approach. Contextual circumstances and individual differences in political ideology were predicted to jointly affect voters' prioritizations of different types of social problems, which subsequently influence perceptions of candidate competence and ultimately electoral behavior (see Figures 3.2 and

5.1). As presented in Chapter 5, these predictions were supported throughout the dissertation's six studies, demonstrating that different types of candidates—varying with respect to perceived dominance and warmth—are preferred by voters depending on the problem contexts they face and the ideological predispositions they are equipped with. However, the vast majority of existing large-scale electoral studies *do not* include items that satisfactorily capture candidate personality along the key dimensions of warmth and dominance.<sup>12</sup> Instead, candidate personality items in existing electoral datasets are most often directed towards measuring one universal dimension of candidate competence, believed to be universally appealing to all voters independent of their default ideological positions and the context they are situated in.

Thus, in essence I argue that a discrepancy exists between the nature of the candidate-centered relationships presented in this dissertation and the items available for capturing candidate personality and characteristics in existing electoral research. In addition, this discrepancy could possibly be to blame for the unclear and unsatisfactory conclusions that scholars have reached about candidates and their personal characteristics (cf. Funk, 1999). I suggest that future large-scale electoral projects include trait evaluations of candidates on items that are directly related to the warmth and dominance dimensions, respectively. Inclusion of these items does not necessarily need to be completely at the expense of items measuring traits related to the currently prevailing one-dimensional approach to candidate personality. One could imagine a compromise in which the number of items measuring the one-dimensional element is slightly reduced, permitting the simultaneous inclusion of a dominance item and a warmth item, respectively. For instance, simultaneously measuring perceptions of candidates' knowledge, decency, inspiration, intelligence, and so on could be slightly restricted, leaving space in the survey for inclusion of the suggested items.

### 6.1.2. Inter-party and intra-party candidate effects

The dissertation's findings also have implications for the way candidates should be analyzed under different electoral systems. One of the most robust findings across the dissertation's studies is that liberal and conservative individuals prefer different types of political candidates. This raises interesting

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<sup>12</sup> In Paper C I apply the American National Election Study (ANES) and the traits "Provision of Strong Leadership" and "Compassion" as approximations for dominance and warmth, respectively. As also discussed in Paper C, these traits are not optimal operationalizations.

questions for competition between candidates since ideologically different voters are electorally attracted to very different candidates. Moreover, one might ask: Can candidate characteristics then exert significant effects on parties' overall support and possibly move the electoral majority from one party to the other? Below, I argue that this is indeed possible, but that the nature of such effects most likely varies between different electoral institutions. Additionally, I argue that candidate characteristics also play an important role for competitions between candidates from the same party or from ideologically related parties and that this role has hitherto been neglected.

Based on very similar findings from (almost) identical studies conducted in the United States and in Denmark, I have argued that the psychological processes of followership could constitute a human universal. Importantly, although the psychological processes are identical, they need not produce identical effects on the macro level of electoral outcomes. Instead, good reasons exist why they should not. In the United States, most often only two candidates compete against each other. Consequently, these elections can be characterized as mainly inter-party competitions. Given the ideological difference in candidate preferences, we should expect conservative candidates to benefit from being perceived as more dominant among their own core constituencies, and liberal candidates should benefit from being perceived as warm. However, such appeals and processes probably cater more to die-hard ideological supporters than to winning over votes from the opponent's side, where voters care about completely different candidate traits. Based on this, Hayes' trespassing argument most likely constitutes a more fruitful candidate-centered campaigning strategy in two-party systems such as the American. That is, to move votes across the ideological spectrum, candidates from either side need to "capture" traits that are traditionally associated with the ideological opponent due to the candidate preferences of the other side (Hayes, 2005). Therefore, on the macro level in the United States, we should expect that candidate personalities matter most when conservative candidates are perceived as more warm and agreeable than liberal candidates, thereby appealing to liberal voters on their own turf. Vice versa, liberal candidates should appeal the most to conservative voters when they beat the conservative candidates on perceptions of dominance.

A very different story most likely unfolds in Denmark. Due to a much larger number of parties and the fact that each party nominates a range of candidates, Danish voters choose from a much larger sample of candidates than

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However, to the best of my knowledge they are the best items available in the ANES and in any existing large-scale electoral data project.

American voters. Hence, competition among Danish candidates is comprised of simultaneous inter-party and intra-party contests, whereas these processes are split in two (primaries and then actual elections) in the American system. The existence of several parties within the same ideological wing further changes the nature of the inter-party contests, since Danish candidates do not need to trespass onto the opposite ideological side to gain support. Rather, they can cater to voters from ideologically kindred parties to produce important displacements of votes within a given ideological block. This logic matches the well-established insight in Danish electoral research that voters rarely move from one ideological block to the other, but that they more often switch between parties and candidates within the liberal or the conservative block (Hansen et al., 2007).

Finally, a point related to the intra-party element of Danish elections is worth paying even further attention to. As mentioned above, the large number of nominated candidates in Danish elections produces elements of intra-party competition, and as a consequence candidate characteristics will affect voters' decisions between candidates from their favored party. That is, a voter might identify strongly with the Social Democrats, but (s)he might not know which candidate (s)he should vote for personally. Based on the ideological difference in candidate preferences, we should see that liberal voters select the candidate that they find warmer and more agreeable based on campaign pamphlets, posters, personality impressions and newspaper interviews. Similarly, conservative voters should seek out the candidates they find more dominant. In fact, such intra-party processes are identical to the processes revealed in Papers B and F for real voters' preferences for candidate faces. Importantly, these analyses include (nearly) all nominated candidates, which current electoral research in proportional representative electoral systems rarely does. Instead, a more narrow focus on party leaders is most often applied. If one wants to reveal and explore how candidates, their personalities and their physical features affect electoral outcomes, one needs to employ research designs that capture the full variance in candidate characteristics and not only variation among prominent and highly recognized party leaders. However, to minimize the data-gathering burden of such a research design, a less ambitious strategy that settles for a sample including candidates from only a few electoral districts could comprise a feasible solution. The important point remains that intra-party and intra-block competitions hold promising potential for investigating candidate-driven effects on electoral results, especially in proportional representative electoral systems like the Danish.

In sum, three key points should be noted from the above discussion. First, future research can benefit from distinguishing between different electoral institutions when exploring the macro effects of the psychological micro-foundations of candidate-centered electoral explanations. Second, intra-party competition between candidates might also fruitfully be analyzed in light of the theoretical model of this dissertation. Finally, candidate-centered approaches to electoral contests could profit from an expansion of the currently prevailing narrow focus on party leaders (or main candidates) to also include “ordinary” and less prominent candidates. This is especially warranted in proportional electoral systems like the Danish, in which voters in certain districts do not have the opportunity to vote for the party leaders. Looking for leader effects could be misleading, whereas looking for candidate-centered effects related to the candidates actually running in a district might prove more reasonable.

## 6.2. Candidates and interdisciplinary approaches to leadership

A central element in the dissertation’s theory is that the proposed psychological system of adaptive followership is *not* designed to regulate democratic decisions per se. Instead, the followership psychology is theorized and demonstrated to regulate all sorts of followership decisions independent of whether they have a political or non-political nature. This suggests that candidates constitute a modern instantiation of a more general social phenomenon that has existed throughout human evolutionary history, namely *leaders*. If political candidates activate psychological machinery evolved to regulate leader preferences, one could imagine that kindred insights from evolutionary and leadership psychology will also prove fruitful when studying political leadership and voters’ reactions to political candidates. The studies by Hibbing and co-authors about human attention to leaders’ potential exploitative behaviors constitute one such example (Alford and Hibbing, 2004; Hibbing and Alford, 2004; Smith et al., 2007). Likewise, evolutionary psychological approaches to topics such as political scandals, political hypocrisy, communication and persuasion effects by different candidate personalities, and preferences for male versus female candidates could reveal new and thought-provoking insights.

In general, a genuine interdisciplinary approach to followership decisions—covering political as well as non-political topics—is desirable insofar as researchers want to map and uncover the fundamental structure of the psy-

chological processes that regulate leader preferences. Such work has actually already been initiated in the psychological sciences by Van Vugt, Price and co-authors (Price and Van Vugt, 2013; Van Vugt, 2006; Van Vugt and Ahuja, 2010). Based on the dissertation's results, political scientists hold promising potential for contributing to such a generalized approach to followership psychology in several ways. First, extant research suggests that the collective (consisting of rank and file group members) has, over human evolutionary history, played a significant role in determining who emerged on top of social hierarchies and became leaders (Boehm, 2000; de Waal, 1996). If so, political contests and campaigns constitute a very direct and pure instantiation of such social processes and leaders' appeals to lower-ranked group members for necessary support. Hence, political scientists possess genuine expert knowledge about this modern equivalent to ancestral followership decisions.

Second, over the last 60 years of research in political behavior, the construct of political ideology has played a key role, and recently ideological differences were found to have deep-seated physiological and genetic roots (Alford, Funk, and Hibbing, 2005; Hatemi et al., 2007; Oxley et al., 2008). Throughout this dissertation, these differences in political ideology are also demonstrated to constitute a key factor in explaining candidate and leader preferences. Therefore, political scientists—who have an eye for these important ideological differences—can contribute significantly to future research on the psychological foundations of political leadership preferences. Furthermore, given the two independent main effects of political ideology and problem context on candidate preferences highlighted in this dissertation, one direction for future research would be to explore possible interactions between context and individual differences. For instance, one might ask if there are boundary contexts between which political ideology can play a role, or whether ideological differences play a significant role across all possible contexts.

Finally, this dissertation has mainly focused on understanding and mapping the psychological system of *followership*. However, looking at the social and political world, it is obvious that not all individuals seek to follow—some also like to lead. Therefore, one promising avenue for future research in this area will be the interplay between the followership psychology outlined here, on the one hand, and individuals' desires and inclinations to seek out leading positions themselves, on the other hand. Specifically, an interdisciplinary approach to leadership and followership needs to address *when* and *how* individuals seek out top positions or settle for less prominent positions in social hierarchies, respectively.

### 6.3. Voter rationality and candidates' physical features

"From a rational perspective, information about the candidates should override any fleeting initial impressions" (Todorov et al. 2005: p. 1623). In this sentence, Todorov and colleagues express a common interpretation: It is neither rational nor sensible when voters' initial impressions of candidates, founded on, for instance, their faces and voices, guide electoral decisions. Throughout this dissertation, I have argued in favor of an alternative interpretation of the relationship between candidates' physical features and electoral success. Specifically, I suggest that this relationship reflects a psychological system of followership shaped by forces of natural selection. Furthermore, even in contemporary mass societies, this followership psychology regulates modern voters' candidate preferences in ways that are meaningful and rational in relation to ancestral environments. Yet despite this alternative interpretation (and its empirical support) one might still ask: Exactly *how* rational is it for voters to rely on first impressions from candidates' physical appearances? Below, I argue that in light of the dissertation's results, voters' reliance on candidates' physical features could meet even rather high standards for voting rationality and opinion quality.

Extant work in public opinion formation shows how voters, in the absence of concrete information, use so-called heuristics or rules of thumb to form political opinions. These heuristics are often cognitively undemanding, for which reason they have been accused of constituting a threat against deep and deliberate decision-making processes among the citizenry. However, a range of studies find that reliance on heuristics can be quite meaningful, that reliance on heuristics often leads to the same decisions that would have been reached through more deliberate processes (Sniderman, Brody and Tetlock, 1991; Lupia, 1994; Lupia, McCubbins, and Popkin, 2000), and that "low-information reasoning is not necessarily without substantive content" (Popkin, 1994: p. 212). Face-based candidate perceptions are shown to be founded in such automatic processes, suggesting that they could constitute a heuristic (Ballew and Todorov, 2007; Willis and Todorov, 2006). The dissertation's results add to the insight that reliance on this heuristic is not necessarily "without substantive content." Rather, throughout the dissertation voters are found to match their preferences for candidate faces to contextual cues of problem saliency as well as to their own ideological predispositions. In other words, voters do not simply gravitate uncritically toward a pretty or a competent-looking candidate face. Instead, their candidate face preferences are



colored by contextual information and fundamental perceptions of the social world in meaningful ways. Moreover, these preferences are paralleled in preferences for candidate personalities and voice pitches, suggesting that preferences for candidate faces are reflections of more general candidate type preferences.

Yet one might still doubt that face-based gut feelings about candidates make rational sense in modern societies. After all, no individual politician—not even the US President—can personally cause victory or defeat in modern between-group conflict scenarios of military encounters. First, the political leader most often does not himself fight and, second, outcomes of modern military conflicts depend much more on the size of armies and strength of weapons than on individual politicians. In other words, one might object that even though the relationship between candidates' physical traits and voters' candidate preferences *seem* to make sense through the lens of contextual and ideological dependences, this does not equal voting based on candidates' physical appearance being rational in modern mass societies.

Most of the dissertation's findings definitely do not permit claiming anything more than this, but one particular finding stands out from this conclusion: Dominant-looking candidates are shown to hold significantly more conservative and right-wing positions on key policy issues, and right-wing voters (and party organizations) furthermore prefer such dominant-looking candidates (Paper F). This finding, along with a set of related studies showing that individuals can correctly predict party affiliations from candidates' faces (Olivola et al., 2012; Carpinella and Johnson, 2012; Rule and Ambady, 2010a; Samochowiec, Wänke, & Fiedler 2010), suggests that reliance on candidates' facial appearances could even constitute a meaningful and rational heuristic in modern democratic elections insofar as voters use candidates' physical features to align candidate choices with their policy positions. However, further studies are needed to more thoroughly uncover this potential element of rationality in voting based on candidates' physical features. For instance, future research should try to clarify whether perceptions of candidates based on their physical features are correlated with contextually meaningful leadership competencies related to problems of between-group conflict and within-group cooperation, respectively (that is, do certain candidate types lead to better group performances under different contexts?). Additionally, such studies could, if possible, try to measure true biological markers of candidate dominance such as facial width-to-height ratios, voice pitches or even baseline testosterone levels of professional politicians and link these measures to behavioral indicators of dominant behaviors in parliament, campaigns or rhetorical styles.

Finally, based on normative democratic ideals, one might still object that just because candidates' physical features might constitute valid cues to their policy positions, this does not entail that democracy ought to be founded on such shallow processes among the citizens. As indicated by Berelson's thoughts from 1952, considerations related to the discrepancy between how democracy ideally should work and how it apparently does work have a long history in electoral research: "The political theory of democracy, then, requires that the electorate possess appropriate personality structures, that it be interested and participate in public affairs, that it be informed, that it be principled, that it correctly perceive political realities, that it engage in discussion, that it judge rationally, and that it consider the community interest" (Berelson, 1952: p. 329). However, voters fall short of meeting these requirements according to Berelson's own work, to the results presented here and to most political behavioral work in between. Therefore, one might argue that perhaps such requirements are too far removed from electoral psychological reality to be relevant. Rather, one should take human nature as the point of departure and put forward realistic expectations for voters' decision-making processes based on well-established insights about bounded rationality, automatic psychological biases and the forces that shaped these core features of human psychology (Simon, 2008; Kahnemann, 2011; Gigerenzer et al., 2000; Barkow, Cosmides and Tooby, 1992). One fundamental principle for such expectations could be that as long as evolved psychological programs, biologically driven gut feelings and mental shortcuts lead to decisions identical to those that would have been reached had more deliberate considerations been activated, then we cannot and should not complain about the quality of citizens' political behavior. However, if these automatic and cognitively undemanding processes lead to decisions that differ from decisions grounded in deliberation, we can and should be concerned, and consider ways to preserve democracy's well-being.

This latter and more general perspective about realistic expectations for voters' decision-making processes aside, it is worth repeating the dissertation's main conclusion in relation to the quality of the processes underlying the relationship between candidates' physical features and electoral success. In contrast to prevailing interpretations and conclusions in the existing research about candidate faces and physical features, this dissertation shows that voters do *not* rely on candidate physiology at random. Instead, voters—based on a very sophisticated followership psychology—align their candidate preferences with fundamental perceptions of the social world and sensibly choose a candidate who, from his or her personality, face or voice, appears to be focused on solving the same political problems that the

voter prioritizes. In other words, voting based on candidate characteristics—and even based on physical characteristics—is not outright disastrous to democracy. Rather, it reveals (yet another) element of modern political behavior colored and guided by humans' evolutionary past in an ecologically rational and even contemporarily sensible way.



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## English summary

This dissertation addresses how political candidates' personal characteristics affect voters' electoral decisions. Recent studies find that different, seemingly irrelevant factors influence voting behavior, with one such factor being candidates' facial (and vocal) appearances. These findings challenge the core premise in democratic theory that voters are sound and reasonable individuals who, based on conscious and deliberate mental processes, choose between different elites. However, in this dissertation I dispute that the relationship between candidates' physical features and voters' electoral behavior should necessarily be interpreted as evidence of an ignorant and irrational citizenry. Building on insights from evolutionary psychology, I suggest that this relationship could instead reflect a psychological system of adaptive followership molded by problems of group living that humans have faced over evolutionary history. I propose that this followership psychology also regulates modern voters' candidate preferences. These preferences will depend on problem contexts of between-group conflict and within-group cooperation, as well as voters' ideological predispositions. Specifically, I predict that voters facing between-group conflict problems and voters holding conservative ideological world views will prefer dominant candidates. Conversely, voters facing within-group cooperation problems and voters holding liberal ideological world views will prefer warm candidates. Finally, I predict that preferences for candidates' physical features (faces and voices) will follow the same pattern as preferences for a more sound cue to candidate leadership competence—namely candidates' personalities. If true, then what at first sight might seem irrational could instead express *real* political priorities and tastes.

From these general expectations, a set of five specific predictions is generated. To secure high internal as well as external validity, these predictions are tested utilizing a research design strategy that combines experiments and cross-sectional survey designs. In addition, similar studies are conducted in the United States and in Denmark—two countries that within the group of modern western democracies qualify as most different systems—to explore whether the proposed followership psychology constitutes a human universal across highly relevant differences in electoral institutions. Finally, the concrete experimental designs implement state-of-the-art manipulations of candidate faces, voices and personalities to illuminate the subtle ways through which these features possibly appeal to voters.

The dissertation's results comprise a coherent set of findings that bridges recent studies on the electoral effect of candidates' faces and voices with the more traditional literature about voters' preferences for candidate personalities. Specifically, the findings demonstrate how voters' candidate preferences depend on problem contexts and voters' political ideology. First, voters' preferences for dominant candidate personalities and faces are stronger under contexts of between-group conflict compared to contexts of within-group cooperation. Second, political ideology influences candidate preferences in a way that parallels the contextual effect. Conservative voters—who tend to perceive the social world as dangerous and characterized by conflicts between social groups—exhibit a stronger preference for dominant candidate personalities, faces and voices than do liberal voters. Conversely, liberals—who tend to perceive the social world as a safe place characterized by cooperation—display a stronger preference for warm candidate personalities, faces and voices. Third, these contextual and ideological differences in candidate preferences are very similar in studies conducted in Denmark and the United States. This finding supports that a universal psychological system of followership could be causing the described patterns in voters' candidate preferences. Fourth, problem context and political ideology relate differently to choices of candidates than to choices of other social relations, suggesting that the followership psychology constitutes a *dedicated and distinct* psychological system regulating leader preferences. Finally, the dissertation explores the potential diagnostic value in candidates' facial features and finds that candidates with more dominant faces hold more conservative and right-wing policy positions on core political issues. Combined with the finding that conservative voters prefer dominant-looking candidates, this suggests that voters might use information in candidate faces to seek out a candidate that matches their own policy preferences. In this way, facial features could constitute a sensible and meaningful cue for voters to rely on.

In sum, these results support all five predictions and thus also the general proposition that voters might use candidates' physical features to match their candidate preferences to their perceptions of the social world in adaptive—and perhaps even meaningful—ways. Ultimately, this gives rise to reinterpreting existing results about the relationship between candidates' facial appearances and voters' electoral decisions. This relationship has hitherto been interpreted as evidence of an irrational and ignorant electorate. However, based on the dissertation's results, an alternative interpretation now appears: Voters could be relying on candidates' physical features in the same way they rely on perceptions of candidates' personalities. All of these candidate

characteristics serve as inputs to an evolved psychological system of adaptive followership that guides modern voters' candidate preferences in (evolutionarily) rational and meaningful ways.





## Dansk resume

I denne afhandling analyserer jeg, hvordan politikere og deres personlige karaktertræk påvirker vælgeres stemmeadfærd. Nyere forskning viser, at en række faktorer, som *burde være* irrelevante for vælgernes stemmeadfærd, alligevel påvirker, hvem krydset sættes ud for på valgdagen. Blandt disse faktorer er politikeres ansigtstræk og stemmelejer. Disse resultater udfordrer én af grundpræmisserne i folkestyret – nemlig at vælgernes er fornuftige individer, som baseret på grundige overvejelser vælger mellem forskellige eliter. I denne afhandling stiller jeg dog spørgsmålstejn ved om sammenhænge mellem politiske kandidaters fysiske træk og vælgernes stemmeadfærd nødvendigvis skal tages som udtryk for vælgernes irrationalitet. Med udgangspunkt i evolutionspsykologien foreslår jeg, at sammenhængen i stedet viser eksistensen af et dybtliggende psykologisk system for følgerskab (i det følgende "følgerskabspsykologi"), som er formet af de adaptive problemer mennesket gennem dets udviklingshistorie har været konfronteret med. Yderligere foreslår jeg, at denne følgerskabspsykologi også i dag påvirker, hvem moderne vælgere foretrækker – og derfor stemmer på. Disse præferencer for politiske kandidater (og ledere) forventes at variere med 1) kontekstuelle omstændigheder karakteriseret ved henholdsvis konflikt mellem grupper og behov for samarbejde internt i ens egen gruppe, og 2) den individuelle vælgers ideologiske prædisposition. Mere konkret forventer jeg, at vælgere vil foretrække dominante politikere, når de er konfronteret med et problem relateret til konflikt mellem deres egen gruppe og en anden gruppe, og når de er politisk højreorienterede. Omvendt vil problemer relateret til samarbejde inden for ens egen gruppe og en venstreorienteret politisk ideologi føre til at imødekommende politikere foretrækkes. Endelig forventer jeg, at disse mønstre gør sig gældende, hvad enten vælgernes skal vælge imellem mulige politiske kandidater ud fra disses ansigtstræk, stemmelejer eller ud fra en mere "fornuftig" type af information om politikernes – nemlig personlighedsbeskrivelser. Hvis denne sidste forventning finder opbakning, kan den tilsyneladende meningsløse sammenhæng mellem politikeres ansigtstræk og vælgernes stemmeadfærd potentielt tages som udtryk for mere *virkelig og reel*/politisk stillingtagen.

Ud fra disse generelle forventninger udledes fem mere konkrete hypoteser. For at sikre så høj intern og ekstern validitet som muligt i testen af disse hypoteser kombinerer afhandlingen eksperimentelle studier og mere klassiske spørgeskemaundersøgelser. Yderligere gennemføres parallelle studier i Danmark og USA, idet de to lande blandt moderne vestlige demokratier ud-

gør et Most Different Systems Design: Gennem sammenligning af deltagerne i de to lande undersøges om de psykologiske mekanismer, der styrer præferencer for politikere, er ens på tværs af lande med væsentligt forskellige kulturer og institutionelle valgrammer. Endelig benytter afhandlingen i de konkrete eksperimentelle studier avancerede teknikker til realistisk at manipulere med politikeres ansigter, stemmelejer og personligheder.

Afhandlingens empiriske resultater bygger bro mellem de nyere studier om politiske kandidaters ansigter (og stemmelejer) og den mere traditionelle valgforskning om politikeres personligheder. Konkret viser resultaterne, at vælgernes præferencer for typer af politikere afhænger af problemkontekst og ideologiske prædispositioner. For det første viser resultaterne, at dominante kandidater foretrækkes frem for imødekommende kandidater, når konteksten er karakteriseret ved konflikt mellem grupper i modsætning til behov for samarbejde inden for ens egen gruppe. For det andet påvirker den individuelle vælgers politiske ideologi præferencen for politikere på en tilsvarende måde: Højreorienterede vælgere, som tenderer til at forstå den sociale verden som mere konfliktfyldt, foretrækker politikere med dominante personligheder, ansigter og stemmer. Venstreorienterede vælgere, som tenderer til at se den sociale verden som et fredfyldt og samarbejdende sted, foretrækker politikere med imødekommende personligheder, ansigter og stemmer. For det tredje viser disse kontekstuelte og ideologisk forankrede effekter sig at være meget identiske i Danmark og USA, hvilket støtter, at følgerskabspsykologien udgør et universelt psykologisk system. For det fjerde viser resultaterne, at problem kontekst og prædispositioner i politisk ideologi relaterer sig til præferencer for politikere (og ledere) på en særlig måde, og at de samme effekter *ikke* gør sig gældende for valg af andre typer af sociale relationer. Med andre ord udgør følgerskabspsykologien et dedikeret og specialiseret psykologisk system. Til slut undersøger afhandlingen, om vælgere faktisk kan bruge politikernes ansigter til at afkode disses politiske synspunkter. Det viser sig at være tilfældet: Politikere med mere dominante ansigter er mere højreorienterede på helt centrale politiske spørgsmål såsom velfærd og indvandring. Sammenholdt med det resultat, at højreorienterede vælgere foretrækker politikere med dominante ansigter, tyder dette fund på, at vælgere kan bruge kandidaters ansigter til at afkode politiske holdninger og efterfølgende bruge dette til at matche deres stemmeadfærd således, at de stemmer på den kandidat, som de faktisk deler politiske synspunkter med. Hvis det er rigtigt, udgør kandidaters ansigter potentielt en meningsfuld information for vælgere.

Kort fortalt støtter afhandlingens resultater de fem opstillede hypoteser og dermed også den mere generelle formodning om, at vælgere bruger

politikeres fysiske træk til *meningsfuldt* at matche præferencer for politikere til deres egne politiske holdninger. Dette giver anledning til at genoverveje, hvad sammenhængen mellem politikeres ansigter og vælgernes stemmeadfærd egentlig betyder. Snarere end vælgernes irrationalitet tyder afhandlingen resultater på, at moderne vælgere baserer deres stemmeadfærd på indtryk fra politikernes personligheder, ansigter og stemmelejer, og at alle disse indtryk fungerer som inputs til en specialiseret følgerskabspsykologi, som styrer stemmeadfærden på en måde som (i en evolutionær forstand) er meningsfuld.