“The People’s Candidate”: trait assessments of candidate images by portuguese young adults

Filipe Manuel Vidal Falcão

2018
University of Porto
Faculty of Psychology and Educational Sciences

“THE PEOPLE’S CANDIDATE”: TRAIT ASSESSMENTS OF CANDIDATE IMAGES BY PORTUGUESE YOUNG ADULTS

Filipe Manuel Vidal Falcão

October, 2018

Dissertation presented for the Integrated Master’s in Psychology,
Faculty of Psychology and Educational Sciences of University of Porto, supervised by Professor Patricio Costa (F.P.C.E.U.P.)
Legal notices

The content of the present dissertation reflects the author’s perspectives, work and interpretation at the time of its delivery. This dissertation may contain inaccuracies, both conceptual and methodological, that may have been identified subsequent to the delivery time. Therefore, any use of their content should be exercised with caution.

By submitting this dissertation, the author states that it is the result of his own work, contains original contributions and that all sources used are acknowledged, found properly cited in the text and identified in the references section. The author also states that does not disclose any contents of this dissertation which reproduction is prohibited by the copyright or intellectual property rights.
You better lose yourself in the music, the moment
You own it, you better never let it go
You only get one shot, do not miss your chance to blow
This opportunity comes once in a lifetime
Acknowledgements

Firstly, to Prof. Patrício Costa, for the person he is, for everything he taught me throughout this process and for all the opportunities he gave me.

To Frederico Ferreira da Silva and Marina Costa Lobo, for making available their work to me and for all the attention given to my project.

To Pedro Moreira and the rest of the work group that assisted me during the whole process of the faces database validation.

To Carlos Jalali, for the opportunity to let me join the team in the “Changing European Elections” project.

To my parents, for all the love and affection and for always believing in me. I hope you’re proud.

To Afonso, for making me believe that there are only beginnings, not endings.

To Paulo, João and Tiago for contaminating me with a disease that I do not want to heal. To Eduarda and Sofia, for being my sisters over these five years and for the rest of my life. To Ruben and Sara, for all the memes (thanks, ‘meme family’).

To Raquel and Isabel, for showing me how beautiful love can be in such a wild world.

To Ana, my partner from FLUP, for all the dedication and attention given to my work (academic and non-academic).

To André, Bruno, Helena and Nélson, for all the friendship and memories.

To the University of Trás-os-Montes and Alto Douro, for having given me one of the best years of my life. To Sofia, Miguel and Diana, for being the family that took care of me during my stay in Vila Real. And finally, to Carlos. You started this difficult road with me, and although you do not finish it face-to-face, i know that you are with me in spirit.

This dissertation was supported within the scope of the Research Project “Changing European Elections: The impact of Eurozone bailouts on European Parliament election campaigns”, under reference number PTDC/IVC-CPO/3481/2014, supported by the Foundation for Science and Technology, in its State Budget component and by the Operational Program Innovations and Competitiveness (COMPETE 2020), in its FEDER/FNR component.
Resumo

Ao observar aqueles que nos rodeiam, formamos uma impressão acerca da sua personalidade com base nas suas características (Asch, 1946). O Modelo do Conteúdo do Estereótipo (Fiske, Cuddy, Glick & Xu, 2002) alega que avaliamos os outros com base na percepção que temos das suas intenções (Empatia) e das capacidades que estes possuem para as concretizar (Competência). O mesmo princípio aplica-se na avaliação de candidatos políticos (Fiske, Cuddy & Glick, 2007). Atualmente, a democracia Ocidental presencia um fenómeno de Personalização da Política, o que torna candidatos e líderes políticos os principais focos de atenção do seio político (Langer, 2007; Costa & Silva, 2015; Holtz-Bacha, Langer & Merkle, 2014; Caprara, Schwartz, Vecchione and Bararanelli, 2008). Posto isto, parece-nos pertinente perceber qual destas dimensões de traços (empatia e competência) de um candidato é mais relevante no comportamento de voto tanto do eleitorado jovem adulto em geral, assim como dos jovens adultos que se declaram como apoiantes de esquerda ou de direita.

Na presente investigação, 116 jovens adultos observaram um conjunto de rostos de candidatos à presidência das câmaras municipais de vários distritos de Portugal para as eleições legislativas de 2017. A partir da observação dos rostos, os participantes realizaram uma série de tarefas onde demonstraram a sua preferência por candidatos políticos cujos rostos foram previamente validados como empáticos ou como competentes. Os resultados mostram que os jovens adultos em geral preferem candidatos competentes. Adicionalmente, enquanto que os jovens de direita preferem, igualmente, candidatos competentes, os jovens de esquerda parecem preferir candidatos mais empáticos.

(253 Palavras)

Palavras-chave: Política; Personalização da Política; Personalidade; Traços; Empatia; Competência; Modelo do Conteúdo do Estereótipo
Abstract

By observing those around us, we form an impression of their personality based on their characteristics (Asch, 1946). The Stereotype Content Model (Fiske, Cuddy, Glick & Xu, 2002) argues that we evaluate others based on our perception of their intentions (Warmth) and the abilities they possess to achieve them (Competence). The same principle is applied in the evaluation of political candidates (Fiske, Cuddy & Glick, 2007). Nowadays, Western democracy is marked by a Personalization of Politics phenomenon, which makes candidates and political leaders the main focus of attention in the political sphere (Langer, 2007; Costa & Silva, 2015; Holtz- Bacha, Langer & Merkle, 2014; Caprara, Schwartz, Vecchione and Barbaranelli, 2008). Considering this, it seems pertinent to understand which one of these candidate’s traits dimensions (warmth and competence) is more relevant in the voting behavior of the young adult electorate in general and the young adults who declare themselves as left or right supporters.

In the present investigation, 116 young adults observed a set of different faces of candidates for the presidency of the municipal councils of several districts of Portugal. From the observation of faces, participants performed a series of tasks where they demonstrated their preference for political candidates whose faces were previously validated as warm or as competent. Results show that young adults generally prefer competent candidates. Additionally, whereas right-wing young adults also prefer competent candidates, left-wing young adults seem to prefer warm candidates.

(235 words)

Keywords: Politics; Customization of the Policy; Personality; Traits; Warmth; Competence; Stereotype Content Model
**Resumé**

En observant ceux qui nous entourent, nous faisons une idée sur sa personnalité, sur la base de ses caractéristiques (Asch, 1946). Le Modèle du Contenu Stéréotipé (Fiske, Cuddy, Glick & Xu, 2002) dit que nous faisons une évaluation des autres sur la base de la perception que nous avons de ses intentions (Empathie) et des capacités que ceux-ci possèdent pour concrétiser (compétence). Le même principe s’applique dans l’évaluation de candidats politiques (Fiske, Cuddy & Glick, 2007). Actuellement, la démocratie Occidentale présencie en phénomène de personnalisation de la politique, ce qui fait que les candidats et les leaders politiques sont le principal pôle d’attention du milieu politique (Langer, 2007; Costa & Silva, 2015; Holtz- Bacha, Langer & Merkle, 2014; Caprara, Schwartz, Vecchione and Barbaranelli, 2008). Pour ça, il nous semble pertinent, comprendre laquelle de ces dimensions de trace d’un candidat (empathie ou compétence) est la plus pertinente dans le comportement de vote de l’électorat jeune adulte en général, tout comme des jeunes adultes qu’ils soient de droite ou de gauche.

Dans la présente investigation, 116 jeunes adultes ont observé un ensemble de visages de candidats à la Présidence de Mairies de divers Districts tout comme pour les législatives de 2017. A partir de l’observation des visages, les participants réalisent une série de tâches ou ils démontrent leur préférences pour les candidats politiques dont les visages furent prévalidés comme empathiques ou comme compétents. En général, les résultats démontrent que les jeunes adultes préfèrent des candidats compétents. D’un autre côté, les jeunes de Droite préfèrent des candidats compétents, alors que les jeunes de Gauche semblent préférer des candidats plus empathiques.

(268 Mots)

Mots clés: Politique; Personnalisation de la Politique; Personnalité; Traits; Empathie; Compétence; Modèle de Contenu de Stéréotipé.
# Index

Introduction .......................................................................................................................... 1

Conceptual Framework ........................................................................................................ 2

1. A New Phenomenon: The Personalization of Politics ...................................................... 2
   1.1 Personalization of Politics .......................................................................................... 2
   1.2 Causes and consequences ......................................................................................... 3

2. Political candidates: they are among us ....................................................................... 4

3. Personality and Traits ....................................................................................................... 5
   3.1 Forming Impressions: The Personality of Political Leaders ..................................... 6
   3.2 Candidate’s traits ...................................................................................................... 7

4. The “Big Two”: Warmth and competence as universal dimensions of social cognition .............................................................................................................................................. 8

5. A different study .............................................................................................................. 9

6. Young adults: they matter ............................................................................................... 10

7. Reasons for this study ..................................................................................................... 10

Empirical Study .......................................................................................................................... 12

1. Overview and Hypothesis ............................................................................................... 12

2. Method .................................................................................................................................. 13

3. Measures and Instruments ............................................................................................... 22

4. Results .................................................................................................................................... 25

5. Discussion .......................................................................................................................... 35
   5.1 Findings and Interpretations ....................................................................................... 35
   5.2 Young Adults in General ............................................................................................ 36
   5.3 Left-wing and Right-wing young Adults ..................................................................... 38

6. Conclusion .......................................................................................................................... 38
   6.1 Implications for Portuguese Politics and Portuguese Young Adult’s ...................... 38
   6.2 Strong Points and Weaknesses of the Study ............................................................... 40
6.3 Future Research ................................................................................................................. 41
References ................................................................................................................................. 42
Appendix ............................................................................................................................... 48
Table’s List

- Table 1. Sample Characteristics
- Table 2. Pearson correlations between the attributes in study
- Table 3. Z-scores of the different attributes used to validate the warmth and competent faces.
- Table 4. Model 1 (vote for PS) binnary logistic regression
- Table 5. Model 2 (vote for PSD) binnary logistic regression
- Table 6. Distribution of frequencies of the participants' self-positioning and their opinion on the positioning of different Portuguese parties
- Table 7. Ideological Positioning one-way within subject’s ANOVA-RM
- Table 8. Positioning of the different parties on an ideological scale.
- Table 9. Proximity to a political party.
- Table 10. Vote intention (party)
- Table 11. First Task - Tests of Within-Subjects Effects
- Table 12. Third Task - Tests of Within-Subjects Effects
- Table 13. Third Task: Participant's Ideology * Candidate's Ideology (Means)
- Table 14. Third Task: Participant's Ideology * Candidate's Ideology * Candidate’s Party (Means)
- Table 15. Fourth Task Binnary logistic regressions

Figure’s List

- Figure 1. Scatterplot showing the proportion of faces per attribute (X axis: Competence Z-scores; Y Axis: Warmth Z-scores)
- Figure 2. Experimental study design
- Figure 3. 2nd Task Clash Scheme
- Figure 4. 3rd Task Scheme
- Figure 5. 4th Task Scheme
- Figure 6. Explanatory scheme to interpret the scores obtained by the participants.
- Figure 7. Scatterplot of the probability of voting in the PS/PSD over the years
Figure 8. Area chart representing the distribution of the participants' self-positioning and the positioning of the parties (according to their ideology) in the participants' point of view. (X axis: Ideology Score; Y Axis: Proportion of participants – Distributed

Appendix List

- Appendix 1. Assent of the FPCEUP Ethics Review Board
- Appendix 2. Questionnaire used in the Pilot Study
- Appendix 3. Faces validated in the Pilot Study
- Appendix 4. Z-scores of the different attributes used to validate warmth and competent faces.
- Appendix 5. Questionnaire used after face validation
- Appendix 6. Experimental Study Design
- Appendix 7. Distribution of frequencies of the participants' self-positioning and their opinion on the positioning of different Portuguese parties
- Appendix 8. Ideological Positioning one-way within subject’s ANOVA-RM
- Appendix 9. First Task Results
- Appendix 10. Third Task Results
- Appendix 11. Project Timeline
Introduction

Nowadays, political leaders are the main attraction of democracies and elections are considered battles between candidates: there is an increasing focus on them, and they play an essential role on election outcomes (Bittner, 2011). In the last half century, elections coverage, political news and discussions about politics have changed (Van Aelst, Sheafer & Stanyer, 2012) and political leaders became increasingly important (in terms of political communication and electoral competition) in western democracy (Garzia, 2011).

The party is not the dominant actor anymore: the political leader’s personality is now above it (Coen, 2015). Therefore, parties highlight their leaders, placing them at the center of their expositions. This makes politicians more actors than party members, which causes voters to make their decisions based on their perceptions of them, instead of the parties (Van Aelst, Sheafer & Stanyer, 2012). The effect of this attention on the candidates is not limited to political parties only, covering also collegiate forms of government (Langer, 2007). According to Barisione (2009), the impact of political leaders’ in politics can be an extra contribution that a candidate can offer to his respective party through the assessment of his image by the public. Thus, it’s no surprise that the candidate’s personality has drawn attention by scholars and political scientists, becoming a relevant theme for research (Hayes, 2004) in political behaviour and political communication (Rahat & Sheafer, 2007). Personality traits have a significant impact on the choices of voters (Costa & Silva, 2015), so it is pertinent to determine which trait is more relevant in the voting behavior of the electorate (in this case, young adults).

When we first see an individual, we form an impression about his character. Through the observation of his characteristics (i.e., his traits), we obtain conclusions about his character (Asch, 1946). According to the Stereotype Content Model (Fiske, Cuddy, Glick & Xu, 2002), there are two dimensions (warmth and competence) of traits that are universal in the field of social cognition. These dimensions of traits govern the judgments we make about others and shape our emotions and behaviors (Cuddy, Glick, & Beninger, 2011). Therefore, the purpose of this study is to determine which one of these two dimensions is more relevant in young adult’s voting behavior.
Conceptual Framework

1. A New Phenomenon: The Personalization of Politics

According to Garzia (2011), political leaders have become quite visible to the public lately, and are now more relevant than their political parties in voting behaviour (Lobo & Silva, 2017). This kind of candidate’s empowerment concerns a new phenomenon: the personalization of politics. Empirical evidence is still mixed (Holtz-Bacha, Langer & Merkle, 2014), with some studies presenting incongruous conclusions within the same country (Van Aelst et al., 2012; Rahat & Sheafer &., 2007). However, several studies claim that the personalization of politics is a phenomenon on the rise - supporting the idea that western democracies have become individualized. For instance, Langer (2007) found evidence that there has been an increase in the number of mentions of political leaders by the media and a greater focus on their traits and lives. Costa and Silva (2015) and Caprara, Schwartz, Vecchione and Barbaranelli (2008) have also found evidences that personality traits have a significant impact on the choices of voters; Finally, Holtz-Bacha et al., (2014) assessed personalization in the United Kingdom and Germany, finding features of personalization in both countries.

Research conducted in Portugal also claims that party leaders are important in voting decisions (Lobo & Silva, 2017). Lobo (2005) studied leaders’ effects in Portuguese elections, highlighting the elections of 2005, which were more centralized in the candidate’s personalities than usual. Recently, a longitudinal analysis carried out by Lobo and Silva (2017) found evidences that politicians do have an impact on voting decisions and that there is a growth in their effect as time goes by, which seems to confirm the personalization thesis.

1.1 Personalization of Politics

There isn’t a concrete definition of this concept. To Rahat and Sheafer (2007), personalization of politics concerns a process where the political importance of the politician as an individual has increased. They argue that this process should be a general concept which can be divided into three types: Institutional, Media, and Behavioral Personalization. Institutional Personalization refers to institutions, rules and mechanisms which place great significance on the politician as an individual, not paying attention to parties. Media Personalization consists in a shift in how politics is presented in the media - a shift towards
a bigger focus on the politicians (on his political characteristics and activities) and a lower focus on parties/institutions. Lastly, to understand Behavioral Personalization we need to distinguish personalization in the political behavior of both politicians and the public. Concerning personalization in the political behavior of politicians, it refers to an increase in the importance the politician as an actor and a decrease of the parties; whereas personalization in the political behavior of the public refers to a process where the perception of politics corresponds to a dispute between individuals instead of parties.

In another study, Langer (2007) deconstructs personalization into three categories: presidentialization of power, leadership focus and politicization of private persona. Presidentialization of power refers to a sharp distribution of power straight to the leader – who acquires a greater visibility. Leadership focus consists in a bigger attention to the personality traits and skills of the leader. Lastly, Politicization of private persona refers to an increased focus on traits that allows the politician to be framed as a ‘normal person’ instead of as a member of a party.

To Holtz-Bacha et al., (2014), the personalization of politics is a complex phenomenon. To study it, we need to address the time frame (i.e., are we talking about an election or routine periods?) and where it manifests (i.e., in the media coverage, government communication and/or in the voter’s judgments?). As stated by the authors, personalization refers not only “to a change in on whom the coverage focuses, but also in what it emphasizes” (p.156). Specifically, personalization not only focuses on the leaders, but also on their personality traits and details about their life. To complete, Balmas, Rahat, Sheafer and Shenhav (2014) point two types of political personalization: centralized and decentralized. The former refers that power is concentrated in the leader, whereas the latter refers to a distribution of power among other politicians who are not leaders. Both processes can coexist, and both have as consequence a gain in the leaders’ power.

1.2 Causes and consequences

Most of the literature points the finger at the media: since political leaders acquired a central role in political communication, they became exposed and susceptible to the scrutiny of the public (Garzia, 2011). According to Rico (2014), television stresses the image of the candidate over the content of the news, enhancing his influence on voters, who rely in their impressions of the candidates when they try to decide in whom to vote. Langer (2007) also points out television as the media that most influences personalization, since it focuses on political leaders (and their traits) instead of policies or institutions, just to make the
coverage simple and appealing. Lastly, Barisone (2009) claims that the leaders’ image is more influential in countries with a more developed media, while Barker, Lawrence and Tavits (2006) argue that voters use television as a mean to simplify their decision-making process.

But not everything is due to the media. The modernization of society and technology led to new forms of political communication that affected the relationships between parties and citizens (Garzia, 2011). The strategies of the political actors - which consist in a bigger focus on the media (Yvengar & Simon, 2000) -, are another cause of personalization (Van Aelst et al., 2012): being the main source of news, political leaders gain votes and have more advantages influencing the media (Yvengar & Simon, 2000).

What about the effects of this shift in politics? Scholars point to several consequences, such as a smaller importance of the parties (Balmas, Rahat, Sheafer & Shenhav, 2014), the growth of doubtful voters (Holtz-Bacha et al., 2014), less attention in the institutional performance of the leaders (Coen, 2015) and concerns regarding the leader's increasing power and the quality of leadership, as well as a greater susceptibility of political leaders to the moods of the public. Moreover, there is a possibility of prejudice to the quantity and quality of political news, which can depart from the contents that really matter in order to focus on the candidate (Langer, 2007).

2. Political candidates: they are among us

The conception of an ideal candidate is abandoned in favor of an increasing focus on their capability to fit with the audience (Garzia, 2011). Because of this, candidates adapt their strategies to the media: they use it to communicate with the public, obtain publicity, strengthen their power and to emphasize their personal side. Both the media and the leader converge, complementing and reinforcing each other (Garzia, 2011). Hayes (2004) explain that the core of the appeal consists on the candidate’s traits. Television, for example, by exposing the politicians with a large focus on the visuals, encourages an evaluation of the political leaders based on their traits (Hayes, 2004; Huber, 2015).

Due to voters' limited ability to deal with information (Bittner, 2014), and because the average citizen only pays superficial attention to politics, not having a vast knowledge on the subject (Sniderman, Brody, & Tetlock, 1993), they use cognitive strategies that
consist in using information already stored in memory to assist in the decision-making process. These strategies are called heuristics and voters use them to form political positions (Petersen, 2015). According to Sniderman et al., (1993), heuristics are “judgmental shortcuts, efficient ways to organize and simplify political choices” that require a low amount of information (p.19). They can also be considered rules, quickly executed to draw relationships between the relevant information available and the desired decision, solving informational limitations and allowing the subject to reach consistent opinions, while not consuming a lot of cognitive energy (Petersen, 2015). In short, citizens don’t collect every information they get about a candidate. Instead, they use symbolisms and cues to help their decision-making processes (Hayes, 2004). These strategies (heuristics) are usually of two types: the first consists in the application of a political and ideological stereotype, as individuals categorize candidates according to the information about the candidate’s party/ideology. The second type consists in the application of personal stereotypes, where the subjects evaluate candidates through individual factors like their appearance, gender or even race (Bittner, 2014).

3. Personality and Traits

It is necessary to define the concept of personality. To Hall & Lindzey (1978), personality is composed by the social skills of an individual (i.e., the ability of a subject to handle positive responses from others) and the salient impressions created by the individual’s attributes on others. Based on the works of Allport (1937), Hall & Lindzey (1978) highlight two important definitions of personality: the biosocial (personality as the reactions of others to the subject) and the biophysical (personality as qualities of the subject which can be described and measured).

The literature is filled with personality theories. One of the perspectives that’s congruent with the theoretical follow-up of this project it’s the traits approach, or Traits Theory, which aims to describe individuals according to a set of attributes (Gleitman, 1981). These attributes refer to what Kirkpatrick & Locke (1991) consider as personality traits, i.e.,

---

1 Although there is no consensual definition, we considered the concept of stereotype as personal beliefs about another group that can be positive or negative (Lee, Jussim, & McCauley, 1995). Unlike cultural stereotypes, where the stereotype is shared by the members of a culture or sample, personal stereotypes constitute an individual’s beliefs about a group - even if they are not shared by members of the group to which the individual belongs (Lee, McCauley & Jussim, 2013).
characteristics of the subject, like “capacities, motives, or patterns of behavior” (p.48), and manners to think, feel or act (McCrae & Costa, 1997). A considerable number of psychologists have come to terms with the structure and concepts of personality, claiming that it consists essentially of five factors (e.g., Barrick & Mount, 1991), what brings us to the Five-Factor Model (F-FM) (McCrae & John, 1992), a current version of the traits approach (McCrae & Costa, 2008). This model is supported by personality questionnaires as well by research that utilizes language adjectives (McCrae & Costa, 1997). It frames personality as a hierarchical system of traits that fit, and can be described (McCrae & Costa, 1997), in five dimensions: agreeableness, extraversion, conscientiousness, neuroticism, and openness to experience (McCrae & John, 1992). Roccas, Sagiv, Schwartz and Knafo (2002) describe each one of these dimensions. According to the authors, individuals with elevated levels of extraversion are sociable and active, while individuals with low levels are reserved and prudent. Individuals with high levels of agreeableness are kind and humble, while individuals with low levels are irritating and stubborn. Individuals who score high on the openness to experience dimension are sensitive and noetic, while individuals with low scores are insensitive and formal. Concerning the conscientiousness dimension, individuals with high levels are accountable and precise, while individuals with low levels are irresponsible and unorganized. Lastly, individuals with high levels of neuroticism are uneasy and unsure, while individuals with low levels are placid and emotionally steady.

The study of personality requires personalities to be stable over time in order to be measured, though one of the main critics pointed to the trait’s theory refers to the lack of consistency in the individual’s behavior in different situations (Gleitman, Fridlund & Reisberg, 1999). However, several longitudinal studies point to the existence of a satisfactory degree regarding the consistency of the subject’s behavior, which contradicts some criticism made to this theory (Gleitman, et al., 1999).

3.1 Forming Impressions: The Personality of Political Leaders

When we observe an individual for the first time, we create an impression about him (Asch, 1946). Through the observation of his characteristics (i.e., their traits), we obtain conclusions about his character. This process is quick and a precondition of social life (Asch, 1946). The personality of the candidate matters to voters: the references to personality traits in election studies are superior than party connections, and judgements that voters make about the candidate’s personality affect their evaluations and vote decisions (Pancer, Brown & Barr, 1999). These authors claim that “by ascribing traits to their political leaders,
individuals have some basis for gauging the reactions of their political leadership to future demands of their office”, which makes their personalities a matter of interest (p.346).

Congruently, Costa and Silva (2015) claim that personality traits are a key element when evaluating political leaders, since they work as cues to their “behavior in decision-making and policy positions” based on a mechanism used daily to evaluate others (p.2).

In short, voters simplify their decision-making processes through heuristics (Barker, et al., 2006), and they evaluate political leaders because it’s an easy and everyday process (Bittner, 2011) from which they can retrieve information about them (Costa & Silva, 2015). For these reasons, the importance of candidate’s traits in the inferences we make about them is undeniable (Funk, 1997).

### 3.2 Candidate’s traits

Scholars still have questions regarding the most important traits for voters and the origins and impacts of their perceptions on elections (Bittner, 2011). While some scholars claim that all traits have the same impact, others allege that some traits are more relevant (Funk, 1997). According to Bittner (2011), the traits that appear more often in surveys are: leadership, cares, knowledgeable, intelligent, inspiring, honest, compassionate, trustworthy, arrogant and moral.

However, if we try to investigate traits separately - one by one - to make a general understanding of evaluations made by voters, we get a high number of variables, so this method is not feasible (Bittner, 2011). According to Bittner (2011), certain patterns come to light through the combinations of traits, fitting within dimensions which may form the basis of candidate evaluations. For example, some scholars combine leadership and competence to create a dimension named Competence (Bittner, 2011). Framed with this view, Funk (1997) claims that evaluations of candidates made by voters undergo a screening process in which the leader’s image enters separate dimensions regarding competence, warmth and trustworthiness.

In this study, we will focus only on the competence and warmth dimensions: this analysis is supported by the Stereotype Content Model (Fiske, et al. 2002) as well as a series of studies which hint that these dimensions constitute essential parts of our perception and the assessments we make about others (Cuddy et al., 2011; Castelli, Carraro, Ghitti & Pastore, 2009). According to Fiske, Cuddy & Glick (2007) the “warmth dimension captures traits that are related to perceived intent, including friendliness, helpfulness sincerity,
trustworthiness and morality, whereas the competence dimension reflects traits related to perceived ability, including intelligence, skill, creativity and efficacy” (p.77).

4. The “Big Two”: Warmth and competence as universal dimensions of social cognition

According to Fiske et al., (2002), we evaluate others through the perception of their intentions (warmth) and their capability to make those intentions a reality (competence). This assumption constitutes the main basis of the Stereotype Content Model (Fiske, et al. 2002). As Castelli et al., (2009) refer, warmth addresses the relational side of social life, pointing to the “aptitude to carry out harmonious social relations and signals that the perceived target can be profitably approached”, while competence regards the subject’s skills to achieve his objectives (p.1152). Warmth and competence are considered two universal dimensions of human social cognition, both individually and at a group level (Fiske et al., 2007), governing our social judgments of others and shaping our emotions/behaviors (Cuddy et al., 2011). Warmth can be predicted by perceived competition-cooperation and competence can be predicted by status. The structural origins of these dimensions classifies competitors (competition) as not warm, while allies (cooperation) are judged as warm; and individuals with high status are considered competent, while individuals with low status are marked as incompetent (Cuddy, Fiske, & Glick, 2008). The same is true regarding our impressions of political candidates (Fiske et al., 2007; Cuddy et al., 2008).

It is assumed that both these dimensions of the political leader have a decisive impact regarding election outcomes, with voters evaluating political leaders based on a mechanism they use recurrently. Although several studies indicate that voters’ decisions are affected by a candidate’s personality assessment, the most important traits in this assessment remains to be discovered (Laustsen & Bor, 2017). According to Funk (1997), competence qualities of a leader are normally considered a desirable feature in the evaluations made by voters, with warmth qualities being considered less task-relevant. However, according to the author, it shouldn’t be a surprise if warmth represents a basis for the voter’s evaluations, being also task-relevant. Nevertheless, warmth remains a significant predictor in elections outcomes (Funk, 1997). This is congruent with Costa and Silva’s study (2015), which claims that voters evaluate leaders according to their intentions for the electorate and their capacity to act on them. The work of Laustsen and Bor (2017) demonstrates that the conclusions about the candidate’s traits most valued by voters vary according to the science that is dedicated
to the study of this theme - while political science claims that the traits most valued by voters are those of competence, social psychology considers that warmth-related traits are more important. The same authors carried out an investigation of this type, concluding that warmth is more important than competence.

5. A different study

Making a direct comparison between warmth and competence in leaders may provide informations on which dimension carries more weight in a candidate’s evaluation (Funk, 1997). Voters distinguish political leaders according to their traits, but does this principle apply also to political parties? Bittner (2011) claims that voters distinguish not only leaders but also parties, which can give information that will influence a voter’s perception of the leaders. Thus, when voters confront parties, a partisan stereotype stands and substantial differences about Right and Left parties unfold: while right parties are marked as more conservative, less liberal and as supporters of low taxes, left parties are viewed as the opposite. If the trait of the leader follows the party issue ownership, it may be expected that right party leaders are more competent but less warm, while left party leaders are warmer but less competent. Therefore, voter’s perception of left and right may be marked by specific traits (Bittner, 2011). In her study, Bittner (2001) provided evidence that leaders of all parties scored differently according the warmth and competence dimensions, rarely performing well on both. Fiske and colleagues (1999) support this idea, noting that stereotypes are only positive on one dimension, not on both. Thus, we can conclude that the core of a voter’s perception about leaders is not based only on the media, since there is an influence regarding political attitudes and values (Bittner, 2011). In their study, Costa and Silva (2015) examined how the evaluation of the party leader’s influences voters, finding that the leader’s warmth is significant in the voting behavior of both left and right party voters. However, it revealed that competence is fundamental to left voters and not to right voters.

Most studies about personalization have focused mainly on samples constituted by individuals of voting age, without any delimitation in the age group. In this study we reversed this trend, focusing our attention only on young adults.
6. Young adults: they matter

The young adults construct refers to a stage in life that has its lower boundary at age eighteen and reaches its upper boundary by the age of thirty (Rindfuss, 1991). The entry to adulthood is a process in which people face expectations and experiences influenced by institutions and social norms (Liu, Modrek & Sieverding, 2017), so it is not surprising that it corresponds to a sensitive period to social changes and to the economic context (Fonseca, 2014). It is also a social construct based on social-guidelines which establish social roles on how to be and what to do (Fonseca, 2014).

Young adults are often recognized as catalysts of social changes, since they have more education (Rindfuss, 1991). However, western democracies are facing a detachment between young adults and politics. The results of general elections show that young adults voting rate is lower than the general electorate (Winchester, Binney & Hall, 2014), and Lobo, Ferreira and Rowland (2015) claim that there is evidence of a conflictual relationship between young people and politics. The current state of democracy in Portugal appears to potentiate studies involving the relationship between politics and young adults, since the first generations socialized in democracy are recent. In their study, Magalhães and Moral (2008) revealed the dissatisfaction of the portuguese population towards democracy. However, this feeling was less obvious among young adults, who reveal favorable attitudes toward more limited reforms, lower levels of skepticism regarding the effectiveness of the forms of political participation and greater political involvement (being above the national average in relation to membership of political parties, unions, associations or professional bodies). However, they reveal something interesting: low levels of confidence regarding political institutions, more specifically, in the political parties and their respective leaders (Magalhães & Moral, 2008).

7. Reasons for this study

Young adults of today are the adults of tomorrow. By focusing on this group, we can understand which dimension of traits (warmth/competence) of a candidate is more relevant for young adults voting decisions. The interest in politics varies according the confidence in the political institutions, and the confidence in political leaders is a significant predictor of the interest in politics (Augusto, 2008), another reason why we did this study, since we
believe we can help candidates to gain the trust of young adults. Nevertheless, obtaining a small idea of the traits most valued by young adults may be useful for politicians to captivate future adults and the next youth electorate. This study may also be useful for political parties, which can change their image to attract this age group.
Empirical Study

1. Overview and Hypothesis

Voters care about the candidate’s personal characteristics (Ditonto, 2017) and make evaluations about them with basis on their appearance (Bittner, 2014; Carpinella & Johnson, 2013). One factor that influences the way how we perceive others is their facial appearance (Hack, 2014). To Bar, Neta & Linz (2006), impressions of people’s personalities are “formed by using the visual appearance of their faces” (p.269). Hassin & Trope (2000) are congruent with this perspective, and Willis & Todorov (2006) claim that facial appearance effects are universal. Similar effects can be expected to be found in the political field, especially at times of decision-making (Olivola & Todorov, 2010; Willis & Todorov, 2006).

Voters use facial cues to elect leaders (Chang, Lee & Cheng, 2017) and to form impressions of candidates (Carpinella & Johnson, 2013). According to Sussman, Petkova & Todorov (2013), candidates’ appearance may be a cause of bias for voters in elections. Todorov, Mandisodza, Goren and Hall (2005) go further, claiming that “inferences from the facial appearance of political candidates can influence processing of subsequent information” (p.1623). These impressions have influence on the voters’ decisions without them even being aware of it (Sussman, Petkova & Todorov, 2013). By using candidates' faces to make inferences about their traits, voters turn to an intuitive portion of their decision-making process, which will have effects on their decisions (Mattes et al., 2017; Olivola & Todorov, 2010). Voters use these evaluations mainly when they don’t have information about the candidate, using his appearance to facilitate their decisions (Lenz & Lawson, 2011). This information is congruent with what has been said so far about the personalization of politics.

This research was carried out through a quantitative methodology composed by two sections: in the first, data from a study by Lobo and Silva (2017) was analyzed. The analyzes made by the authors were replicated only with young adults to draw conclusions that could support the expected results of this research\(^2\). In the second - an experimental study -, participants completed an online questionnaire where they were asked to imagine themselves

\(^2\) The data concerned was analyzed using appropriate statistical techniques and were made available by the authors themselves. All the statistical analyzes carried out in this project were made with appropriate software (IBM SPSS Statistics).
in fictional elections scenarios. In the questionnaire, they were exposed to a set of photographs that contained faces of real candidates belonging to the executives of several Portuguese municipalities who would represent the different candidates in the election. From the visualization of the faces participants performed a series of tasks. In the end of the questionnaire, participants answered a series of questions regarding their personality and political behavior.

We aim to find out which candidate’s dimension of traits is more relevant for young adult’s (in general and supporters of left and right parties) voting decisions. For this investigation, the following hypotheses ($H$) were developed:

$H1$: Considering the work of Laustsen and Bor (2017) - and since this research focuses on a social psychology’s perspective -, the warmth dimension of a political leader is expected to be a more relevant personality trait than competence in young adults’ voting decisions in general.

$H2$ and $H3$: Following the works of Bittner (2011), if the perception of the leader is conditioned by party characteristics, we expect that the warmth dimension of a candidate is more relevant in left-wing young adults’ voting decisions ($H2$). On the other hand, we expect that the competence dimension of a candidate is more relevant in right-wing young adults’ voting decisions ($H3$).

2. Method

2.1. Ethics Statement

This study was approved by the Faculty of Psychology and Educational Sciences of the University of Porto Ethics Review Board (Cf. Appendix 1). Participants were informed about the study’s objectives and the nature of the tasks. Before the experiment started, they provided an informed consent. Participants who wanted to receive research findings indicated their e-mail in the completion of the informed consent.

2.2. Participants and Design

A sample of 34 males and 82 females Portuguese respondents ($n = 116$), aged from eighteen to thirty years old ($M = 24.3, SD = 2.74$) participated in this study\(^3\). Most of the

\(^3\) We only considered participants that had no missing information in all the relevant variables.
participants are students (43.1%) or active workers (27.6%). 87% are graduated. The data also reveals a predominance of unmarried individuals (93.1%) (Cf. Table 1). The Candidate’s Party (Socialist Party [PS] / Social Democratic Party [PSD]), Candidate’s Traits (warmth/competent) and Candidate’s Ideology (candidate presented with left values text / candidate presented with right values text) were treated as within-participants factors. The Participant’s Ideology (left-wing/right-wing) – based on the median\(^4\) - was treated as a between-subjects factor.

### Table 1. Sample Characteristics

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>34</td>
<td>29.3%</td>
</tr>
<tr>
<td>Female</td>
<td>82</td>
<td>70.7%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>24.3</td>
<td>(2.74)</td>
</tr>
<tr>
<td>Basic education</td>
<td>1</td>
<td>0.9%</td>
</tr>
<tr>
<td>High school</td>
<td>14</td>
<td>12.1%</td>
</tr>
<tr>
<td>Graduation</td>
<td>57</td>
<td>49.1%</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master</td>
<td>38</td>
<td>32.8%</td>
</tr>
<tr>
<td>Postgraduate studies</td>
<td>2</td>
<td>1.7%</td>
</tr>
<tr>
<td>PhD</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active worker</td>
<td>32</td>
<td>27.6%</td>
</tr>
<tr>
<td>Student</td>
<td>50</td>
<td>43.1%</td>
</tr>
<tr>
<td>Student worker</td>
<td>20</td>
<td>17.2%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>10</td>
<td>8.6%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not married</td>
<td>108</td>
<td>93.1%</td>
</tr>
<tr>
<td>Married</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td>Nonmarital Partnership</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

### 2.3 Procedure

#### 2.3.1 Replication of Lobo and Silva’s (2017) analysis with young adults

A replication of the analysis conducted by Lobo and Silva (2017) was carried out to obtain additional results that may help understand the future conclusions that will be obtained by this investigation. The original study tested the personalization thesis in Portugal, analyzing leader effects in the PS and the PSD based on election studies covering a period of thirteen years. The authors confirmed the impact of leaders in the voting behavior of portuguese voters, adding that the leader’s impact has been increasing, but not linearly.

As in the original research, two binary logistical regressions were carried out: one for the PS vote choice, other for the PSD vote choice. These tests don’t require compliance with

---

\(^4\) To understand the reasons for using the median in this measure, Cf. Results: Political Ideology
assumptions regarding the distribution of independent variables (Pohar, Blas & Turk, 2004) and through it we can foretell the likelihood of the observations falling into one of the two values of the dependent variable (Chosen Party: PS/PSD: Other parties) based on an independent variable (Leader’s Likeability - Leader-PS/Leader-PSD: a 10-point Leader’s likeability scale [in terms of antipathy – 0 - and sympathy - 10]). In the variable Chosen Party, “vote for other parties” was coded as “0” and “vote for PS/PSD” was coded as “1”. Therefore, voting for PS/PSD becomes the success in our models. Control variables (gender, age, union membership, religiosity, party identification [Party Id], retrospective sociotropic economic evaluations [Econ_evolution], and evaluation of government performance [Govern_Perf]) were inserted in the model to avoid the overestimation of leader effects.

This reproduction can help us understand the effects of candidates on young adults. However, the replication performed was not identical to the original study because only relevant tests to the present work have been performed and the analysis was based only on young adults. Also, in the original study, the independent variable interacted with each election year. Yet, it was not possible to perform this interaction on our replication due to the small number of cases.

2.3.2 Pilot Study - Validation of the Faces Set

The faces used in the experimental part were selected through a pilot study. Through it, a final set of twenty photographs of real Portuguese political candidates to the 2017 Local Elections was validated regarding their warmth and competence. The candidates belong to the two main political parties in Portugal: the centre-left PS and the centre-right PSD. This option is based on the political weight that these two parties occupy in portuguese society since portuguese governments have alternated between these two parties since 1976 (Lobo & Silva, 2017).

The photographs, composed by male politicians of both parties, were collected through the websites of the parties or through other internet sites - Initially, the photographs underwent a process of homogenization (background removal and grayscale conversion) and classification regarding a series of characteristics (notoriety; sex; formality; quality of the photo; smile; glasses; look; hair; beard; ideology; leadership; competence; trustworthiness;

---

5 Mainly in the regression where the dependent variable was vote for PSD.
6 Due to the small number of photographs of female candidates collected, we decided to only use photographs of male candidates.
7 The photographs used are public and accessible to any person, so no authorization has been submitted to the politicians/parties for their use in this project.
likability; and result in the elections). A total of 535 photos (256 from PS; 279 from PSD) were collected and classified. Those that were considered to have the best quality were subjected to a random selection process, which determined forty-four faces to be used in the next step of this study.

The selected faces were validated through an online questionnaire (Cf. Appendix 2). A sample of sixteen male and thirty-one female respondents ($n = 47$), aged from seventeen to forty-seven years old participated in this study. Participants were recruited via email or through social networks and were asked to participate in a study focused on political candidate’s images and political behavior. In the questionnaire, participants were instructed to observe the faces of the candidates appearing on the screen. Each face was presented individually, and respondents evaluated them on a ten-point scale (0= Nothing, 10= Totally) regarding traits that composed the warmth (“Friendliness” and “Trustworthiness”) and competence (“Competence” and “Leadership”) dimensions. Participants should also indicate if they recognized the candidates and whether the candidate displayed belonged to a left or right party. After assessing the faces, respondents filled the Portuguese version of the NEO-Five Factor Inventory (NEO-FFI-20) - a personality assessment scale developed by Bertoquini and Pais-Ribeiro (2006); The UPPS-P impulsiveness scale adapted to the Portuguese population (Lopes et al., 2013); and measures of political ideology, party proximity and sociodemographic characterization.

The time for completion of the questionnaire was approximately 40 minutes and the platform used was Qualtrics. Some data obtained at this stage (e.g., impulsivity scale data) was collected only to be used in further investigations. After the collection period, three participants were eliminated because they had identical answers. Furthermore, it was decided to perform the validation of the faces with only one attribute per dimension. Therefore, the analyzes were performed considering “Friendliness” and “Competence” as the attributes that composed the warmth and competence dimensions, respectively. To select the faces used in this project, a scatterplot with the attributes standardized scores (or z-scores) was designed (Cf. Figure 1). Twenty faces were validated in the present investigation: twelve were validated as warmth ($Q4, Q6, Q9, Q22, Q23, Q24, Q27, Q35, Q37, Q39, Q41, Q45$) and

---

8 This decision is due to the high and significant correlations (Cf. Table 2) between Trustworthiness and the other attributes ($r (45) \text{ between } 0.55 \text{ and } 0.79, p \leq 0.01$) which could bias the results.

9 According to Adeyemi (2011), one advantage of using the z-scores is that they can be used to compare scores from different tests or scales, especially when the data is gathered within a measurement range. The disadvantage of using z-scores is because they assume a normal distribution, and if "this assumption is not met the scores cannot be interpreted as a standard proportion of the distribution from which they were calculated" (p. 95).
eight as competent ($Q_5, Q_{12}, Q_{13}, Q_{14}, Q_{26}, Q_{32}, Q_{36}, Q_{38}$). Of the twelve warmth
selected faces, eight belong to the PSD, and four of the eight competent faces belong to the
PS. Validated photographs are available in the appendix section of this paper (Cf. Appendix
3). The $z$-scores data were also compiled into a table (Cf. Appendix 4 - Table 3)

Table 2. Pearson correlations between the attributes in study

<table>
<thead>
<tr>
<th></th>
<th>FRIE</th>
<th>LEAD</th>
<th>TRUS</th>
<th>COMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendliness (AMIG)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadership (LEAD)</td>
<td>.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trustworthiness (TRUS)</td>
<td></td>
<td>.79**</td>
<td>.55**</td>
<td></td>
</tr>
<tr>
<td>Competence (COMP)</td>
<td></td>
<td>.30*</td>
<td>.89**</td>
<td>.69**</td>
</tr>
</tbody>
</table>

* $p \leq .05$ ** $p \leq .001$

2.3.3 Experimental Study: Candidate’s Traits, Ideology and Party Manipulation

The participants described in the point 2.2 of this section completed a digital
questionnaire regarding political candidate’s images and political behavior (Cf. Appendix
5). First, rules about the research were made explicit, namely the fact that the politicians
presented are real. After authorizing their participation, participants answered questions
related to sociodemographic data (sex; age; schooling; occupation; marital status). Next,
participants were informed that they would visualize a series of faces belonging to real
candidates to the presidency of municipal chambers of different Portuguese councils in the
2017 local elections. Then, they were asked to imagine themselves in fictitious electoral
scenarios to the municipal chamber of the council where they live and to pay attention to the
faces of the candidates appearing on the screen$^{10}$. While looking at the candidates’ faces,
participants indicated the likelihood of voting on the candidate or chose between one of two
candidates appearing on the screen. The experimental plan took place over four tasks (Cf.
Appendix 6 – Figure 2). The order of presentation of the faces for all the tasks was defined
previously by means of a random lottery due to software limitations.

First Task – Probability of voting – Simple. Respondents observed four faces
presented individually: two belonged to the PS (one warmth; one competent) and the other
two to the PSD (one warmth; one competent). For each face visualized, participants were
questioned about the probability of voting for that candidate (“How likely are you to vote for
this candidate?”).

---

$^{10}$ Respondents did not receive any real information about the candidates presented except for their face.
Second Task – Candidate’s Choice – Simple.

Participants were exposed to a set of eight photographs: four of them had already been presented in the previous task and four fresh faces were inserted\(^{11}\). Of these four new faces, two belong to the PS (one Warmth; one Competent) and two belong to the PSD (one Warmth; one Competent). The photographs were presented in pairs and participants were asked to vote in one of the two candidates presented (“Which candidate would you choose?”). The photographs of the first task intersected with each other to create a confrontation between each one of them. The same was applied to the new photographs of task two. The photographs of the first task did not intersect with the new ones\(^{12}\). In total, twelve clashes between candidates were made (Cf. Figure 3).

Third Task – Probability of Voting - Complex (with Text Associated to the Candidate). Eight faces were presented individually: four of them came from the first task and four fresh faces were inserted. Of these four fresh faces, two belong to the PS (one

\(^{11}\) As the number of available photographs was reduced, it was impossible to avoid the repetition of photographs.

\(^{12}\) This option is due to an attempt to reduce a possible consistency effect that could arise with the photographs of the first task. This way, participants were not able to choose only the same candidates from the first task, which would bias the investigation.
warmth; one competent) and two belong to the PSD (one warmth; one competent). Each face was presented with a text that reported information about the ideology of the candidate (regarding values associated to left and right parties). The values in the text could/ or could not be congruent with the party values to which the presented candidate is affiliated\(^{13}\). The values selected for the left parties involved ‘equality’ and ‘social change’, while the right parties’ values focused on ‘tradition’, ‘stability’ and ‘need of order’. For each face, participants were questioned about the probability of voting for the presented candidate (“How likely are you to vote for this candidate?”). The two PS warmth candidates received, respectively, a left-wing and a right-wing text. The same principle was applied to the PS competent candidates and to the four PSD’s candidates (Cf. Figure 4). With this task, we can verify whether young adults from left or right-wing really prefer competent or warmth leaders only by its face, even if they are confronted with a text involving values that are congruent/incongruent with their ideology.

**Fourth Task – Candidate’s Choice – Complex**  
(with Text Associated to each Candidate).

Participants were exposed to a last set of paired faces. The faces used were the same as in the 3\(^{rd}\) task, and each one was presented along with a text. The difference between the texts was in the values that they reflected (left or right values). This time, participants were asked to choose one of the two candidates presented (“Which candidate would you choose?”). As in the second task, the photographs that came from the first task did not intersect with the ones from the third Task. The task involved six conditions (Cf. Figure 5).

**Notoriety.** After the fourth task, participants observed the faces that arose during the tasks and indicated if they recognized any of the candidates. If a large proportion of the participants reported that they knew the presented faces, their reply would be invalid.

\(^{13}\) This information was not made available to participants.
**Questionnaire.** Participants also completed the NEO-FFI-20 and other items in order to collect information about their interest in politics, politics follow-up frequency, party ideology, vote intention and proximity to a political party.

### 2.4 Statistical Analysis

To test our hypotheses, different statistical tests were performed according to the tasks completed by the participants. The results of the first task will be presented together with those of the third task. The reason for this order of presentation is due to the nature of the tasks (the first and third involve probability of voting, while the second and the fourth involve the choice of a candidate). However, the results of the second task will not be presented together with those of the fourth.

**First Task (Probability of Voting [Simple]) and Third Task (Probability of Voting [Complex - Text Associated to the Candidate]).** Regarding the results of task one, a Mixed-Design ANOVA was conducted to compare the effects of candidate’s traits (warmth/competent), candidate’s party (PS/PSD) and participant’s ideology (Left-wing/Right-wing) on the probability of voting in a candidate. To obtain results from task three, a Mixed-Design ANOVA was conducted to compare the effects of candidate’s traits, candidate’s party, candidate’s ideology (candidate presented with left values text / candidate presented with right values text) and participant’s ideology on the probability of voting in a candidate. In the tests, candidate’s traits, candidate’s party and candidate’s ideology constitute the within subjects’ factors, and the participant’s ideology constitutes the between subjects’ factor. Before applying the tests, we needed to ensure that the underlying assumption of sphericity was met. For sphericity to be a matter of concern, it is necessary to have three conditions at least (Field, 2009). Since we only had two levels of repeated measures in both ANOVA’s, there is only one set of differences, so the assumption of Mauchly’s sphericity is met. Since we have a between-subjects factor, it was important to verify whether the homogeneity of variances assumption was assured using the Levene’s test. The test revealed that the variances are homogenous\(^\text{14}\), so this assumption was assured.

**Second Task (Candidate’s Choice [Simple]).** Since we didn’t have a quantitative measure in this task, it was necessary to create one that would allow us to compare data. In the pairs of faces presented, “Candidate A” – always displayed on the left side of the screen - was coded as “0” and “Candidate B” – always displayed on the right side - was coded as

---

\(^{14}\) All tested variables presented \(p\) values greater than .05.
“1”. Each candidate could belong to one of two parties (PS/PSD) and could manifest one of two dimensions of traits (warmth/competence). Considering that the results would always vary between "0" and "1", and since the candidate’s traits and the candidate’s party variables were not constant throughout the questions, it was impossible to carry out an interpretation of these results in general. The strategy chosen was as follows: first, to compare cases, the eight pairs involving two candidates with different dimensions were selected, and pairs with identical traits were excluded from the analysis.

Next, we created, for each participant, a sum of the times he/she selected the warm candidate (warmth sum) during these confrontations. Considering the layout of the candidates in the submitted pairs, the code "1" was assigned to the warm candidate when he was on the right side of the screen. When he was on the left side, he was assigned with the code "0", although these cases were treated as if they received the code "1" in our analysis - since they are considered as false positives, so as not to violate the calculations intended. The results of this total sum could vary from a scale of zero (participants did not select warmth candidates in any of the clashes) to eight (participants always selected the warm candidates in all the clashes). On the other hand, a total of four indicates that the participants chose four times the warm candidates and four times the competent candidates. By this logic, we can assume that values higher than four in the warmth sum indicate that the participants prefer warm candidates, choosing the warm candidate more often, while a sum of less than four indicates that the participant has chosen the warm candidate few times - which means that he chose the competent candidate more often (Cf. Figure 6). Next, following this line of thinking, we created a PSD sum (only pairs of candidates whose parties were different were selected). In this sum, values greater than four indicate that participants prefer PSD candidates. Finally, total sums of the times the participants selected the PSD candidate (PSD sum) and the warm candidates (warmth sum) were created.

After the mean values of the warmth sum and the PSD sum were obtained, four Student’s t-tests were performed: two for only one sample (to verify possible significant differences in young adults in general) and two for independent samples (to verify possible significant differences between left and right-wing participants). The tests were performed after assuring the normality and the homogeneity of variances assumptions.

---

15 The PSD sum did not involve false positives - PSD candidates were always presented on the right (despite the randomization process).
16 The Kolmogorov-Smirnov test revealed significant values ($p < 0.05$), indicating a violation of the normal distribution. However, the values of Skewness and Kurtosis are between -2 and 2, so we assume that this
Fourth Task (Candidate’s Choice - Complex [Text Associated to each Candidate]). This task was designed to support and explore the results of the third task. Three logistic regressions were performed. The difference between these regressions relates to the category of the chosen dependent variable (chosen candidate) for each regression. Our objective was to verify if the participants differentiated the candidates according to the traits. For this, pairs of candidates having different dimensions of traits but with texts with equal ideological values and equal parties were chosen as the category for the dependent variables of the first two regressions: in the first, a pair that contained candidates with different traits, both with a left-wing text, was selected as the dependent variable. The second involved candidates with different traits, both right-wing texts. Finally, the last regression involved candidates from different parties, different traits and texts with different ideological values.

In all the dependent variables selected, the warm candidates always appeared in place of “Candidate B”, so they always received the code "1", while the competent candidates always received the code "0". Through these regressions we can foretell the likelihood of the observations falling into one of the two values of the dependent variables (chosen candidate: competent candidate with left or right ideology/ warmth candidate with left or right ideology) based on an independent variable (participant’s ideology: left/right). Since the category coded with the larger number becomes the event for which the regressions will predict odds, voting for a warmth candidate becomes the success in our models, while a vote for competent candidates is a failure. Control variables (sex, age and occupation) were inserted in the models to avoid the overestimation of the results.

3. Measures and Instruments

assumption is assured (George & Mallery, 2010). The homogeneity of variance assumption was assured using the Levene’s test (variables presented p values greater than .05).
3.1 Independent Measures

**Personality Assessment.** Participants filled out the NEO-FFI-20 scale, an accessible version of the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1992). It is a self-report instrument composed by twenty items that evaluate the respondent regarding five personality dimensions (agreeableness, extraversion, conscientiousness, neuroticism, openness to experience). For each statement there are five hypotheses of response displayed on a 5-point Likert scale: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), 5 (strongly agree). Items 4, 9, 19 correspond to the agreeableness dimension; items 2, 7, 12 and 17 correspond to extraversion; items 5, 10, 15 and 20 correspond to conscientiousness; items 1, 6, 11 and 16 correspond to neuroticism; finally, items 3, 8, 13 and 18 correspond to the openness to experience dimension. The sum of the scores of the questions in each dimension gives us the total value of the dimensions (scores can vary between 0 and 16). Higher scores in a dimension correspond to a greater presence of that trait in the respondent. The quotation of the items is performed from 0 to 4, except for the items that have inverted quote (1, 3, 11, 13, 14, 18, 19) (Bertoquini & Pais-Ribeiro, 2006). According to Dourado et al., (2017), these dimensions form empirical ideas of the behavioral, emotional and cognitive differences between subjects. The author investigated the validity and reliability of this scale, concluding that it can be used to evaluate these dimensions accurately. In their study, Bertoquini and Pais-Ribeiro (2006) also point out that the NEO-FFI-20 shows a clear factor structure and reasonable values of internal consistency for all dimensions (Cronbach's α > .7 for all the five dimensions).

In our sample, an alpha of .71 was obtained for agreeableness, .57 for extraversion, .72 for conscientiousness, .58 for neuroticism and .71 for openness to experience. The low results found in the extraversion and in the neuroticism dimensions tell us that these aren’t reliable measures in the present study. However, they may be used for possible results, if they’re interpreted with caution. It is possible that the reduced alpha values obtained in these factors are due either to the sample size or due to misinterpretations of the items.

**Interest in Politics.** It was measured by the following item (1=Nothing interested; 4= Very interested): “In general, do you consider yourself a very interested, reasonably, little or nothing interested person in politics?”

**Politics Follow-up Frequency.** Participants were asked how often they followed news about politics through different media. They answered to the following statement in a 6-point scale (1=Never; 2=Less Frequently; 3=Neutral; 4=1-2 days per week; 5=3-4 days
per week; 6= Daily/almost every day) to each different media (Radio; Television; Internet; Journals): “During election campaigns, how often do you often keep track of policy news through...” (Cronbach's $\alpha = .82$).

**Voting History.** Respondents were asked if they voted in the 2017 local elections. They answered the following statement in a 5-point scale (1=I was not able to vote in the 2017 local elections; 2= I thought about voting, but I did not vote; 3= I usually vote but this time I did not vote; 4= I voted for the 2017 local elections; 5= I don’t know): “When we talk to people about elections, we learn that there are many persons who could not vote because they were sick, had no time, or simply weren’t interested. Which of the following best describes your case?”.

**Political Ideology.** It was measured by the following item (0= Left; 10= Right): “In politics, people sometimes talk about left and right. Where would you position yourself on a scale of 0 to 10, where 0 means left and 10 means right?”.

**Proximity to a Political Party.** Participants showed their agreement to the following statement in a 4-point scale (1= Doesn’t Answer/ Doesn’t Know; 2= No; 3= Yes): “Do you consider yourself close to a particular political party?”. If the participant selected ‘Yes’, they were asked to show their agreement with the following statement in a 7-point scale (1= BE; 2= CDS-PP; 3= Partido Ecologista/Verdes; 4=PCP; 5= PPD-PSD; 6= PS; 7= Other)\textsuperscript{17}: “Which party is that?”.

**Party Closeness.** Participants who considered themselves close to a political party showed their agreement to the following statement in a 4-point scale (1= Merely sympathetic; 2= Reasonably close; 3= Close; 4= I don’t know/don’t answer): “Do you feel very close to that party, reasonably close, or would you say that you are merely sympathetic with that party?”.

**Vote Intention.** Participants showed their agreement to the following statement in a 5-point scale (1= I would definitely not vote; 2= Probably would not vote; 3= I do not know if I would vote; 4= Probably would vote; 5= I would definitely vote): “If the next local elections were today, would you vote?”.

**Vote Intention (Party).** Participants were asked to reveal in which party they would vote in the local elections (1= Bloco de Esquerda; 2= CDS-PP; 3= PEV; 4=PCP; 5= PSD; 6= PS; 7= Other): “If so, in which party would you vote?”.

\textsuperscript{17} BE-Bloco de Esquerda; CDS-PP – Partido do Centro Democrático Social; PEV - Partido Ecologista/Verdes; PCP – Partido Comunista Português
**Notoriety (recognition).** Participants were exposed to all the faces that arose during the different tasks and indicated if they knew any of them (1=Yes; 2=No) before the study: “Did you knew this candidate prior to this or other investigation? “ (Cronbach's α = .92).

### 3.2. Dependent Measures

**Probability of Voting (Simple) - First Task.** Participants observed the faces of the candidates and showed their agreement to the following statement in a 10-point scale (0=Not Likely; 10=Very Likely): “How likely are you to vote for this candidate?” (Cronbach's α = .73).

**Candidate’s Choice (Simple) - Second Task.** Participants observed the faces of two candidates and were asked to choose between one of the two: “Which candidate would you choose?” (This variable resulted from the sum of 8 dicotomic variables – selected pairs - and presented a KR20 reliability score of 0.44 – for the PSD sum – and 0.49 – for the warmth sum\(^\text{18}\)).

**Probability of Voting (Complex - Text Associated to the Candidate) - Third Task.** Participants observed the faces presented and read the text associated to each candidate. For each face, participants showed their agreement to the following statement in a 10-point scale (0=Not Likely; 10=Very Likely): “How likely are you to vote for this candidate?” (Cronbach's α = .81).

**Candidate’s Choice (Complex – Text associated to each candidate) - Fourth Task.** Participants observed the faces presented and read the text associated to each candidate. Next, they were asked to choose between one of the two candidates (“Which candidate would you choose?”)\(^\text{19}\).

### 4. Results

**4.1 Replication of Lobo and Silva’s (2017) analysis with young adults.**

We used two binary logistic regressions (Cf. Tables 4 & 5). These models were conducted to predict the chosen party (PS/PSD; other parties) using a leader’s likeability scale as a predictor variable. Both models (Model 1: Vote for PS; Model 2: Vote for PSD)

\(^{18}\) These low results may come from the different sources of variation present in this task.

\(^{19}\) Since we only have one dependent variable, there is no sense in performing a reliability analysis.
were statistically significant (Model 1: $\chi^2 (12) = 476, p < .001$; Model 2: $\chi^2 (12) = 426, p < .001$). The PS’s vote choice model indicated a significant effect of party identification (OR = 8.17, $p < .001$) and the leader’s likeability (OR = 1.55, $p < .001$) on the chosen party. This model had a Nagelkerke pseudo-$R^2$ of 0.69. Regarding the PSD’s vote choice model, the party identification (OR = 6.58, $p < .001$) of the respondents and the leader’s likeability (OR = 1.61, $p < .001$) proved to be the only significant predictors. This model has a Nagelkerke pseudo-$R^2$ of 0.68, which tells us that it has good quality.

We conclude that party identification and the leader’s likeability are directly related to the chosen party in the elections. Using odds ratios (OR) to interpret the results, we see that party identification has a higher effect on the choice for both PS and PSD than does the leader’s likeability. With these tests, we found that some of our conclusions are congruent with those of Lobo and Silva (2017): leaders’ impact on young adult’s vote choice is significant both for the PS and the PSD (even when controlling for the electoral acts).

Table 4 - Model 1 (vote for PS) binary logistic regression.

<table>
<thead>
<tr>
<th>Blocks</th>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>$p$</th>
<th>OR</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1 $\chi^2$(12)</td>
<td>Gender (female)</td>
<td>.11</td>
<td>.25</td>
<td>.19</td>
<td>.66</td>
<td>1.12</td>
<td>.68 - 1.84</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>.017</td>
<td>.036</td>
<td>.23</td>
<td>.63</td>
<td>1.02</td>
<td>.95 - 1.09</td>
</tr>
<tr>
<td></td>
<td>Union (union member)</td>
<td>-.044</td>
<td>.35</td>
<td>.015</td>
<td>.90</td>
<td>.96</td>
<td>.48 - 1.92</td>
</tr>
<tr>
<td></td>
<td>Religiosity</td>
<td>.084</td>
<td>.15</td>
<td>.32</td>
<td>.57</td>
<td>1.09</td>
<td>.81 - 1.46</td>
</tr>
<tr>
<td></td>
<td>Party Id - PS</td>
<td>2.10</td>
<td>.18</td>
<td>137</td>
<td>&lt;.001</td>
<td>8.17</td>
<td>5.75 - 11.6</td>
</tr>
<tr>
<td></td>
<td>Econ_evolution</td>
<td>.12</td>
<td>.14</td>
<td>.74</td>
<td>.39</td>
<td>1.12</td>
<td>.86 - 1.47</td>
</tr>
<tr>
<td></td>
<td>Govern_Perf</td>
<td>.000</td>
<td>.20</td>
<td>.000</td>
<td>.99</td>
<td>1.00</td>
<td>.67 - 1.49</td>
</tr>
<tr>
<td></td>
<td>Leader-PS</td>
<td>.44</td>
<td>.056</td>
<td>60.3</td>
<td>&lt;.001</td>
<td>1.55</td>
<td>1.39 - 1.73</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td>.35</td>
<td>.42</td>
<td>.69</td>
<td>.41</td>
<td>1.42</td>
<td>.62 - 3.22</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td>.85</td>
<td>.451</td>
<td>3.52</td>
<td>.061</td>
<td>2.33</td>
<td>.96 - 5.65</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>-.352</td>
<td>.65</td>
<td>.3</td>
<td>.59</td>
<td>.70</td>
<td>.19 - 2.5</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>-.083</td>
<td>.50</td>
<td>.027</td>
<td>.87</td>
<td>.92</td>
<td>.34 - 2.46</td>
</tr>
</tbody>
</table>

Table 5 - Model 2 (vote for PSD) binary logistic regression.

<table>
<thead>
<tr>
<th>Blocks</th>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>$p$</th>
<th>OR</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 1 $\chi^2$(12)</td>
<td>Gender (female)</td>
<td>.002</td>
<td>.28</td>
<td>.000</td>
<td>1.00</td>
<td>1.00</td>
<td>.58 - 1.74</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>-.029</td>
<td>.039</td>
<td>.53</td>
<td>.47</td>
<td>.97</td>
<td>.90 - 1.05</td>
</tr>
<tr>
<td></td>
<td>Union (union member)</td>
<td>.530</td>
<td>.44</td>
<td>1.44</td>
<td>.23</td>
<td>1.70</td>
<td>.72 - 4.04</td>
</tr>
<tr>
<td></td>
<td>Religiosity</td>
<td>.162</td>
<td>.17</td>
<td>.91</td>
<td>.341</td>
<td>1.18</td>
<td>.84 - 1.64</td>
</tr>
<tr>
<td></td>
<td>Party Id - PSD</td>
<td>1.883</td>
<td>.19</td>
<td>96.6</td>
<td>&lt;.001</td>
<td>6.58</td>
<td>4.52 - 9.58</td>
</tr>
<tr>
<td></td>
<td>Econ_evolution</td>
<td>.048</td>
<td>.15</td>
<td>.11</td>
<td>.74</td>
<td>1.05</td>
<td>.79 - 1.40</td>
</tr>
<tr>
<td></td>
<td>Govern_Perf</td>
<td>-.015</td>
<td>.24</td>
<td>.004</td>
<td>.95</td>
<td>.99</td>
<td>.61 - 1.59</td>
</tr>
<tr>
<td></td>
<td>Leader-PSD</td>
<td>.476</td>
<td>.061</td>
<td>61.4</td>
<td>&lt;.001</td>
<td>1.61</td>
<td>1.43 - 1.81</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td>-.384</td>
<td>.50</td>
<td>.58</td>
<td>.45</td>
<td>1.68</td>
<td>.26 - 1.82</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td>.128</td>
<td>.49</td>
<td>.070</td>
<td>.79</td>
<td>1.14</td>
<td>.44 - 2.94</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>-.029</td>
<td>.60</td>
<td>.002</td>
<td>.96</td>
<td>.97</td>
<td>.30 - 3.13</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td>-.120</td>
<td>.56</td>
<td>.045</td>
<td>.83</td>
<td>.89</td>
<td>.30 - 2.66</td>
</tr>
</tbody>
</table>
To explore our results, a scatterplot focused on the probability of voting (correlated with the leader’s likeability) in the PS/PSD over the years was drawn (Cf. Figure 7). Results show that there have been oscillations in leader effects on young adults in the last thirteen years, with 2015 being the year in which leaders’ effects were more prevalent. Given this significant impact of leaders in vote choice, it seems that the personalization of politics in Portugal looks like a real phenomenon.

Figure 7. Scatterplot of the probability of voting in the PS/PSD over the years.

4.2 Independent Measures Results

Personality Assessment. The sample revealed an average value of 7.1 ($SD = 2.75$) for neuroticism, 9.58 ($SD = 2.35$) for extraversion, 10.5 ($SD = 3.36$) for openness to experience, 10.1 ($SD = 3.02$) for agreeableness and 12.4 ($SD = 1.89$) for conscientiousness. The dimension that stands out most in our sample is conscientiousness. The sample shows above-average values in extraversion, openness to experience, agreeableness and conscientiousness; as well as values below the average in the neuroticism dimension. We can consider our participants as emotionally stable, responsible and accurate individuals (Roccas, et al., 2002).

Interest in Politics. 37.9% of the participants are reasonably interested in politics and 17.2% are very interested. However, 31.9% of the participants show little interest in politics and 12.9% have no interest whatsoever. On average, respondents reveal little interest in politics ($M = 2.59$, $SD = 0.92$).

Politics Follow-up Frequency. The most used media to follow news about politics during electoral campaigns by young adults seems to be the internet ($M = 3.08$, $SD = 1.77$) and television ($M = 2.94; SD = 1.61$). The Newspapers ($M = 2.25; SD = 1.77$) and the Radio
(\(M = 1.55, SD = 1.62\)) are the less used media to follow this type of news. A composite measure was created to analyze young adults’ involvement regarding political news in time of election campaigns. Results show that, in average, young adults follow political news on less than one to two days per week (\(M = 2.45, SD = 1.37\)), which reveals a low accompaniment to this type of information.

**Voting History.** 76.7% of the participants voted in the 2017 local elections. 9.5% of the participants couldn’t vote and 6% thought about voting but did not vote. The rest claim that they normally vote, but in those elections did not do it (4.3%) or did not knew if they voted (3.4%)

**Political Ideology.** To distribute participants according to their ideology (left or right), a series of processes were carried out: firstly, a distribution of frequencies of the participants’ self-positioning (autopositioning) was carried out together with their opinion on the positioning of different Portuguese parties according to their ideology (Cf. Appendix 7 – Table 6). This distribution is also represented in Figure 8 (Cf. Appendix 7 - Figure 8). To verify if there were differences of ideological positioning of the different parties according to the respondents, a one-way within subject’s factor (party: BE, CDS, PEV, PCP, PSD, PS) ANOVA-RM was conducted (Cf. Appendix 8 – Table 7). As expected, it revealed a main effect of the party \([F (5, 575) = 90.6, p < .001, \eta_p^2 = .44]\), which tells us the participants differentiate all parties according to their ideology.

| Positioning of the different parties on an ideological scale. |
|-----------------|--------|--------|
| **Party**                   | **M**  | **SD**  | **N**  |
| Bloco de Esquerda (BE)          | 1.97   | 1.97   | 116    |
| Partido do Centro Democrático Social (CDS-PP) | 6.44   | 2.56   | 116    |
| Partido Ecologista/Verdes (PEV)       | 3.48   | 2.11   | 116    |
| Partido Comunista Português (PCP)       | 2.63   | 2.77   | 116    |
| Partido Social Democrata (PPD-PSD)       | 6.89   | 1.92   | 116    |
| Partido Socialista (PS)        | 4.52   | 2.17   | 116    |

On a scale where zero means ‘left’ and ten means ‘right’, participants placed BE as the leftmost party (\(M = 1.97, SD = 1.97\)). BE is followed by the PCP (\(M = 2.63, SD = 2.77\)), the PEV (\(M = 3.48, SD = 2.11\)) and the PS (\(M = 4.52, SD = 2.17\)). On the other hand, the PSD (\(M = 6.89, SD = 1.92\)) is considered as the party most on the right, being close to the CDS (\(M = 6.44, SD = 2.56\)). The results suggest that the participants correctly differentiate the parties according to their ideology, since the left parties (BE, PCP, PEV and PS) are all located at a point lower than five and the right parties (CSD and PSD) at a point higher than
five (Cf. Table 8). Finally, we created a participant’s ideology binned variable based on the median ($\bar{x} = 4$) that would allow a posterior comparison between left and right-wing participants. For this, we recoded the variable concerning the ideological self-positioning of the participants, grouping the values into bins. The use of the median as a measure of central tendency for the creation of this variable is due to the fact that the median is more adequate to find the midpoint when the distribution is skewed (there are more left-wing participants than right-wing participants). Nevertheless, it also minimizes the influence of possible outliers. This recoding involved the assignment of "Left" to all participants who indicated a value less than four in this item and “Right” to participants who indicated a value higher than four. With this recoding, we concluded that 54.3% of the sample follows a left-wing ideology ($n_{left}=63$), while 45.7% ($n_{right}=53$) follow a right-wing ideology.

**Proximity to a Political Party.** 60.3% of participants report that they don’t feel close to a political party, while 31.9% report feeling close to a party and 3.4% do not know if they consider themselves close. 4.3% did not answer the question. Of the respondents who consider themselves close to a party, a valid 24.4% of the participants report feeling close to the PS and 16.7% report feeling close to the PSD (Cf. Table 9).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>%</th>
<th>Valid %</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>27</td>
<td>23.3</td>
</tr>
<tr>
<td>CDS-PP</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>CDU</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>PEV</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>PCP</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>PPD-PSD</td>
<td>13</td>
<td>11.2</td>
</tr>
<tr>
<td>PS</td>
<td>19</td>
<td>16.4</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Do not know</td>
<td>1</td>
<td>.9</td>
</tr>
<tr>
<td>Does not reply</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>67.2</td>
</tr>
</tbody>
</table>

Surprisingly, 34.6% of the participants consider themselves close to BE. These results differ from those obtained in the post-election survey conducted on 2016 by the ICS (Institute of Social Sciences, University of Lisbon), which showed that young adults feel closer to the PS and the PSD (both with a valid percentage of 36.5%). Behind the PS and the PSD is the BE, with a valid percentage of 9.5%. The difference in these results may be due to the characteristics of the samples.
Party Closeness. A large majority of participants (39.7%) consider themselves only as a sympathizer of the party they consider to be close. Only 4.3% report feeling very close and 18.1% claim feeling reasonably close to that party. 0.9% of the participant’s didn’t reply.

Vote Intention. 57.8% of participants report they would definitely vote if the next elections were held today, 19% report they would probably vote and 12.1% do not know if they would vote. On the other hand, 7.8% report they probably wouldn’t vote, while only 3.4% report they would definitely not vote.

Vote Intention (party). Of the participants who claim they would (or probably would) vote, 46.6% don’t know/do not answer which party they would vote for. 14.6% report that they would vote in the PS and 12.4% in the PSD. 16.9% report that they would vote in BE (Cf. Table 10).

Table 10. Vote intention (party)

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>15</td>
<td>16.9</td>
</tr>
<tr>
<td>CDS-PP</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>PEV</td>
<td>5</td>
<td>5.6</td>
</tr>
<tr>
<td>PCP</td>
<td>3</td>
<td>3.4</td>
</tr>
<tr>
<td>PPD-PSD</td>
<td>11</td>
<td>12.4</td>
</tr>
<tr>
<td>PS</td>
<td>13</td>
<td>14.6</td>
</tr>
<tr>
<td>Do not know/ Does not reply</td>
<td>41</td>
<td>46.6</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
<td>76.7</td>
</tr>
</tbody>
</table>

Notoriety. Only one face was recognized by 8.6% of participants. The remaining candidates were never recognized for more than 6% of the sample in study. As this percentage is very small, we decided to proceed with the analysis of the results without excluding these participants, since the results wouldn’t be significantly influenced.

4.3 Candidate’s Traits, Ideology and Party Manipulation

First task (Probability of Voting [Simple]) results. The analysis of variance showed a main effect of the candidate’s party on the probability of voting, $F(1, 114) = 12.1, p = .001, \eta^2_p = .096$ (Cf. Appendix 9 – Table 11). Posthoc analyses using Bonferroni’s tests indicated significant differences between parties and revealed that the participants are more likely to vote in the PS candidates ($M = 4.79; SE = 0.16$) than in the PSD candidates ($M = 4.31; SE = 0.17; p = .001$).

There was a significant interaction between the candidate’s traits and the candidate’s party on the probability of voting: $F(1, 114) = 4.72, p = .032, \eta^2_p = .040$ (Cf. Appendix 9 – Table 11). Two paired samples Student’s t-tests were used to make post-hoc comparisons.
between candidate’s traits and the candidate’s party variables. A first paired-samples Student’s t-test indicated that there were no significant differences in the probability of voting for the PS warm candidate \((M = 4.58, SD = 2.14)\) and the PS competent Candidate \((M = 5.02, SD = 2.37)\); \(t(115) = -1.668, p = 0.09, d = 2.09\). A second paired-sample Student’s t-test indicated that there were significant differences in the probability of voting for the PSD warmth candidate \((M = 4.53, SD = 2.14)\) and the PSD competent candidate \((M = 4.09, SD = 2.42)\); \(t(115) = 2.00, p = 0.048, d = 0.19\).

Predicted interactions among candidate’s traits, participant’s ideology and candidate’s party were not significant, \(F(1, 114) = 1.67, p = 0.20, \eta^2_p = .014\). All other main effects and interactions were non-significant and irrelevant to our hypotheses, all \(F \leq 12.07, p \geq 0.20, \eta^2_p \leq 0.096\). The results of this task suggest that young adults in general are more likely to cast their votes in the PS competent candidate, in what seems to be a first step to reject our \(H1\). However, regarding the PSD candidates, it appears that the participants in general prefer the warm candidate over the competent candidate.

**Third Task (Probability of Voting [Complex - Text Associated to the Candidate]) results.** There was a main effect of the candidate’s ideology on the participant’s probability of voting (Cf. Appendix 10 – Table 12), \(F(1, 114) = 168, p < .001, \eta^2_p = .60\). Post hoc analysis using Bonferroni’s test showed that the participants are more likely to vote in candidates who show left-ideological values \((M = 6.46; SE = 0.16)\) than in candidates who present right-ideological values \((M = 3.53; SD = 0.19; p < .001)\). Significant interactions were found between the candidate's traits and the participant’s ideology, \(F(1, 114) = 5.94, p = 0.016, \eta^2_p = .050\), between the candidate's ideology and the participant’s ideology, \(F(1, 114) = 8.45, p = .004, \eta^2_p = .069\), and between the candidate’s traits, candidate's ideology and the candidate’s party, \(F(1, 114) = 22.6, p < .001, \eta^2_p = .17\) (Cf. Appendix 10 – Table 12). The interaction between the candidate’s party, candidate's ideology and the participant’s ideology is almost significant \((F [1, 114] = 3.72, p = .056, \eta^2_p = .032)\). All other main effects and interactions were non-significant and irrelevant to our hypotheses, all \(F \leq 3.72, p \geq 0.056, \eta^2_p \leq 0.032\).

The interactions reveal interesting data: first, the interaction between candidate’s traits and participants ideology revealed that left-wing young adults are more likely to vote in warm candidates \((M = 5.29, SE = 0.19)\) over competent ones \((M = 5.10, SE = 0.19)\), while right-wing young adults seem to prefer competent candidates \((M = 4.88, SE = 0.21)\) over

---

20 This lack of effects may be due to the fact that there is no information about the candidate's ideology. This information will be inserted in the third task. Another reason for this lack of effects may be due to the reduced number of faces presented in this task.
warm ones (M=4.64, SE= 0.21). Second, the interaction between the candidate’s ideology and participant’s ideology reveals that young adults from left and right-wings are more likely to vote in candidates who assume left-wing values (Cf. Table 13). Third, the interaction between candidate’s traits, candidate’s party and candidate’s ideology (Cf. Table 14) revealed that young adults in general are more likely to vote in the PSD competent candidate who presented left-wing values (M = 6.59; SE = 0.18).

Table 13. Third Task: participant's ideology * candidate's ideology (means).

<table>
<thead>
<tr>
<th>Participant's ideology</th>
<th>Candidate's ideology</th>
<th>M</th>
<th>SE</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left</td>
<td>candidate presented with left-wing text</td>
<td>6.95</td>
<td>.22</td>
<td>6.52 – 7.39</td>
</tr>
<tr>
<td></td>
<td>candidate presented with right-wing text</td>
<td>3.44</td>
<td>.25</td>
<td>2.94 – 3.94</td>
</tr>
<tr>
<td>Right</td>
<td>candidate presented with left-wing text</td>
<td>5.87</td>
<td>.24</td>
<td>5.4 – 6.35</td>
</tr>
<tr>
<td></td>
<td>candidate presented with right-wing text</td>
<td>3.65</td>
<td>.27</td>
<td>3.10 – 4.19</td>
</tr>
</tbody>
</table>

Table 14. Third Task: participant's ideology * candidate's ideology * candidate’s party (means).

<table>
<thead>
<tr>
<th>Candidate’s traits</th>
<th>Candidate’s party</th>
<th>Candidate’s ideology</th>
<th>M</th>
<th>SE</th>
<th>95% C.I.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth</td>
<td>PS</td>
<td>candidate presented with left-wing text</td>
<td>6.50</td>
<td>.19</td>
<td>6.11 – 6.89</td>
</tr>
<tr>
<td></td>
<td>PSD</td>
<td>candidate presented with right-wing text</td>
<td>3.19</td>
<td>.20</td>
<td>2.79 – 3.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td>candidate presented with left-wing text</td>
<td>6.38</td>
<td>.19</td>
<td>6.00 – 6.76</td>
</tr>
<tr>
<td></td>
<td></td>
<td>candidate presented with right-wing text</td>
<td>3.79</td>
<td>.227</td>
<td>3.34 – 4.24</td>
</tr>
<tr>
<td>Competence</td>
<td>PS</td>
<td>candidate presented with left-wing text</td>
<td>6.18</td>
<td>.205</td>
<td>5.77 – 6.58</td>
</tr>
<tr>
<td></td>
<td>PSD</td>
<td>candidate presented with right-wing text</td>
<td>3.83</td>
<td>.214</td>
<td>3.40 – 4.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>candidate presented with left-wing text</td>
<td>6.59</td>
<td>.18</td>
<td>6.24 – 6.95</td>
</tr>
<tr>
<td></td>
<td></td>
<td>candidate presented with right-wing text</td>
<td>3.37</td>
<td>.20</td>
<td>2.96 – 3.78</td>
</tr>
</tbody>
</table>

In short, these results seem to reject $H1$, since in both tasks the candidate with greater probability of voting showed traits of competence. On the other hand, they seem to confirm $H2$ and $H3$. To completely confirm our hypotheses, we must check the results of the other tasks.

Second Task (Candidate’s Choice [Simple]) results. Four Student’s t-tests were used to make comparisons between the warmth sum and PSD sum variables. The first two Student’s t-test carried out were one-sample t-tests to verify the existence of significant differences in the preferences of young adults in general for warm and competent candidates. Results showed that there were no significant differences in the preferences of young adults in general for warm or competent candidates; $t(115) = - 1.947$, $p = 0.054$, $d = - 0.18$. Although there are no significant differences, we believe that there is a tendency for young adults to generally prefer competent candidates (just like in the first and third tasks). Given that the higher the average value of the warmth sum, the greater the times the participants chose the warm candidates, we believe that the values presented in the warmth sum ($M =$
3.67; SD = 1.81) reveal this tendency, since the means are below the intermediate point - which reveals that the participants chose more times the competent candidates. Another reason to believe in this trend is the level of significance (p = 0.054), which is very close to the significance level. The second Student’s T-test showed that there were significant differences in the preferences of young adults in general for PS and PSD candidates; t(115) = - 6.272, p < .001, d = -0.58. Young adults in general seem to prefer PS candidates. Given that the higher the value of the average PSD sum, the greater the number of times the participants chose the PSD candidates, we can believe that the values presented in the PSD sum (M = 2.99; SD = 1.73) reveal this tendency, since the means are below the intermediate point, which reveals that the participants chose more times the PS candidates. This is in favor of what has been said so far, as participants seem to prefer leftist candidates.

The third and fourth Student’s t-test carried out were independent samples t-tests to verify the existence of significant differences in the preferences of the left and right-wing young adults for warm and competent candidates. No significant differences were found in the preferences of left and right-wing young adults for warm or competent candidates; t(114) = .78, p = 0.43, d = .15. Although there were no significant differences, we believe that there is a tendency for right-wing young adults (M = 3.53; SD = 1.93) to prefer competent candidates. Considering that the higher the average value of the warmth sum, the greater the number of times the participants chose the warm candidate, and since left-wing young adults also present an average value below the middle, there is a tendency for both to prefer the competent candidates, although this preference is less obvious for left-wing young adults (M = 3.79; SD = 1.71). Results from the fourth Student’s t-test did not reveal significant differences in the preferences of young adults from left and right-wing for PS or PSD candidates; t(114) = -.371, p =.71, d = 0.38. Since the higher the average value of the PSD sum, the greater the number of times the participants chose the PSD candidates, we may believe that there is a tendency for left-wing young adults (M = 2.94; SD = 1.68) to prefer candidates from PS. The right-wing young adults also present a mean value below the middle, which also indicates a tendency to prefer the PS candidates (M = 3.06; SD = 1.80).

In short, there seems to be a tendency for young adults (in general and from left and right-wing) to choose competent candidates more often. Again, these results seem to tell us that H1 should be rejected and, at the same time, they seem to reject H2 and confirm H3. However, again, these results aren’t significant, so we can only make assumptions about them.
Fourth Task (Candidate’s Choice | Complex – Text Associated to each Candidate) results. Three binary logistic regressions were conducted to predict the chosen candidate (warm/competent) using the participant’s ideology as a predictor variable. Control variables (sex, age, occupation) were also inserted in the models (Cf. Table 15). The first model had as dependent variable a PS warm candidate who presented left ideological values. This model was not statistically significant (Model 1: $\chi^2 = 6.8$ df = 4) and had a Nagelkerke pseudo-$R^2$ of 0.077. The only significant variable was the participant’s ideology (OR = 0.41, p = .026). These results show that this variable is relevant in the preference for competent/warmth candidates. The OR tells us that left-wing young adults are more likely to choose the warm candidate, whereas the right-wing ones are more likely to choose the competent candidate (the chance of a right-wing young adult to choose a competent candidate is 0.41 times higher) (Cf. Table 15). The second model had as dependent variable a warm candidate from PS who presented right ideological values. This model was not statistically different from the null model at the 0.05 level (Model 2: $\chi^2 = 1.5$ df = 4) and had a Nagelkerke pseudo-$R^2$ of 0.018. This model revealed no significant effects of participants ideology, sex, occupation and age ($p > 0.05$). Lastly, the third model was not statistically different from the null model at the 0.05 level (Model 3: $\chi^2 = 5.62$ df = 4) and had a pseudo $R^2$ of 0.12. No significant effect of any of the predictor variables present in this model was found (all $p > 0.05$).

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$p$</td>
<td>OR</td>
</tr>
<tr>
<td>participant's ideology</td>
<td><strong>0.026</strong></td>
<td>0.41</td>
</tr>
<tr>
<td>sex</td>
<td>0.65</td>
<td>1.22</td>
</tr>
<tr>
<td>occupation</td>
<td>0.16</td>
<td>1.88</td>
</tr>
<tr>
<td>age</td>
<td>0.84</td>
<td>0.98</td>
</tr>
</tbody>
</table>

*p < 0.05

In short, these results seem to confirm $H2$ and $H3$, although in a partial way, since the participant's ideology did not prove to be a significant predictor in all regression models. Only in Model 1 there was a significant effect of the participant's ideology, which revealed that left-wing young adults chose warm candidates more often, while those on the right chose more often the competent ones. None of the control variables presented significant values in any model.
5. Discussion

We expected a main effect of political leaders in the voting behavior of Portuguese young adults in the replication of Lobo and Silva’s (2017) analysis, what would indicate the existence of the personalization of politics phenomenon in Portugal. If so, the image of Portuguese political leaders is stressed, which makes them more exposed to the scrutiny of the public (Garzia, 2011). This exposition influences voters, who rely in their impressions of the candidates to make their voting choices (Rico, 2014). When we observe others (e.g., Political leaders) for the first time, we create an impression of their characters based on their traits (Asch, 1946), and candidates’ facial cues are useful for voters to infer traits about candidates (Hassin & Trope, 2000; Carpinella & Johnson, 2013; Chang, Lee & Cheng, 2017). As the Stereotype Content Model (Fiske, et al., 2002) claims, we evaluate others through their warmth and competence. Therefore, we studied which one of these two dimensions of traits is most relevant in a candidate’s profile for young adults (in general and left and right-wing supporters) voting decisions.

5.1 Findings and Interpretations

After replicating Lobo and Silva’s (2017) analysis with young adults, we found that party identification and the leader’s likeability have a decisive impact on young adult’s vote choice. As in the original study, the impact of young adult’s evaluations of leaders looks relevant, with the probability of voting for the PS/PSD rising as the leader is better evaluated. Our results show oscillations in leader effects on young adults in the last thirteen years, and these results aren’t congruent with those of the original study - leaders’ effect are more relevant as time goes by. With the results obtained in our research, we believe that there is indeed a personalization of politics phenomenon in Portugal. In our experimental study, respondents answered a questionnaire where they observed a set of faces of real political candidates. In short, results indicated that the competence dimension is more relevant for the voting behavior of young adults in general. In addition, and just as it was expected, young adults who consider themselves left-wing seem to prefer warm candidates, whereas right-wing young adults prefer competent candidates. The results also indicated a preference among young adults in general and young adults from left and right-wing for left-wing candidates. We believe that this preference may be related to the age of the participants. Since they are young and with a more liberal way of thinking than the older generations,
"Tradition", “stability” and "need of order" may be values that aren’t in line with this age group anymore, which may justify their preference for left values

5.2 Young Adults in General

Through the first three tasks, we obtained results that seem to revoke H1. In the first task, among the four candidates presented, the one with the highest probability of voting was a competent candidate. In the second task - although no significant differences were found in the choices of young adults in general -, we found that the number of times young adults chose the competent candidates was higher than the number of times the warm candidates were chosen. Lastly, in the third task, it was again found that the candidates with the highest probability of voting were also the competent ones.

Considering Laustsen and Bor's (2017) work, young adults in this study were expected to prefer warm candidates over competent candidates. However, we found the opposite: they prefer competent candidates. If this is indeed true, we see that it is fundamental for political leaders who want to captivate this electorate to shows traits of confidence, intelligence, effectiveness, creativity and leadership – traits related to the perceived ability to pursue their intentions. By preferring competent candidates, young adults show the need to have a political leader with a recognized status and a belief that these candidates can control resources to achieve their goals (Cuddy, Fiske & Glick, 2008).

The available literature is vast on the importance of the candidates' competence in voting behavior, with many authors claiming that this dimension is one of the most relevant features in the evaluation of politicians: in their study, Todorov, Mandisodza, Goren & Hall (2005) found that inferences of competence based on candidates faces influence voter’s decisions and predict United States elections outcomes. Sussman, Petkova and Todorov (2013) reached the same conclusion in a study conducted in Bulgaria, demonstrating that competence ratings are also more successful at predicting election outcomes than judgments on other traits in cross-cultural evaluations. Laustsen (2014) is congruent with this perspective, considering that facial competence can predict electoral success.

These results also fit in Funk's (1997) conclusions. To this author, competence is particularly relevant when evaluating candidates. A preference for this trait in candidates reveals that the judgments young adults in general make about politicians is based mainly on their competence. According to the autor, this perspective shows that young adults make a ‘normative’ interpretation of candidate evaluations based on task-relevant qualities, which means that voters don’t vote based on a model of proximity (i.e., if they valued the
candidate's warmth – their relational side - more than competence). Instead, they are reasonable and consider the candidate's ability to acquire collective gains. With this interpretation, we may think that Portuguese young adults consider the advantages they can get when choosing a candidate, not considering so much the proximity and relational side of the candidates (Popkin, 1991). This may be true, and many political scientists and economists believe that voters are rational actors and that the decisions they make are free of any bias (Olivola & Todorov, 2010).

Ideally, voters should make decisions solely based on the capabilities of political leaders (Sussman, Petkova & Todorov, 2013), since democratic functioning requires voters to be rational in choosing and judging their political leaders. But voting is a complex process, which prevents voters from being completely rational (Olivola & Todorov, 2010). According to what has been said about personalisation throughout this project, we believe that voters evaluate candidates and make their decisions based on heuristics. Given the influence of competence traits in young adult’s voting behavior, we may think that they may be looking for markers that signal these traits in political candidates, instead of basing their decisions on substantial information about politics (Sussman, Petkova & Todorov, 2013). Faced with the enormous amount of information that comes from the media, the voter is forced to consider a wide range of dimensions when evaluating a candidate (e.g., religious, economic and social dimensions). To do this, and according to a view accepted by the cognitive psychology field, the voter filters these contents to overcome his own cognitive limitations, which forces him to resort to heuristics. For this reason, it is not surprising that the voter is not completely rational, which subscribes to the presuppositions of the phenomenon of the personalization of politics (Olivola & Todorov, 2010).

If our hypothesis were confirmed, we had reason to believe that young adults would value more the relational side of the candidates to the detriment of their abilities to fulfill goals and tasks. These results would be congruent with the results of Silva and Costa’s (2018) study - which show a predominance of the warmth dimension over competence - and those of Laustsen and Bor (2017). If they valued more the relational side of the politicians, young adults would also reflect a need for a candidate who intended to cooperate and have positive intentions towards others. In this sense, to attract young adults, political candidates should show traits such as sincerity, kindness, trustworthiness, and friendliness (e.g.) (Cuddy, Fiske & Glick, 2008).
5.3 Left-wing and Right-wing young Adults

$H2$ and $H3$ were confirmed through the last three tasks (although only partially, as we will explain later in this section). Considering Bittner’s (2011) assumptions, left-wing leaders are perceived as more warm and right leaders as more competent. In this sense, it would be expected that left-wing young adults would prefer a warm candidate. As well, it would be expected that right-wing young adults would prefer a competent candidate. We see that our results are congruent with Bittner's (2011) work, insofar as we seem to face a party stereotype that influences the voter's perception of political candidates: as expected, left-wing young adults are more likely to vote in warm candidates than in competent ones ($H2$). As well, right-wing young adults are more likely to vote in competent candidates than in warm ones ($H3$).

The results of the second task suggested the rejection of $H2$ and the confirmation (although partial) of $H3$. However, since these were not significant, $H2$ was not rejected and $H3$ only partially confirmed. In the third task, results were significant: young adults established this stereotype in scenarios where the personality trait attributed to the candidate was ‘incongruent’/’congruent’ with the values associated to his respective party/ideology. This makes us believe that there is indeed a differentiation of the candidate’s traits by young adults from left and right-wings, and they function as a guide in the choice of their political leaders thanks to a party stereotype, confirming $H2$ and $H3$. To complement these results, we used task four. In this task, both hypotheses were also confirmed, although in a partial way. In the three regressions, only in one of them (where both candidates were presented with left-wing texts) the candidates were differentiated by young adults, with the right-wing young adults choosing more often the competent candidate, while left-wing young adults chose the warm candidate more often.

6. Conclusion

6.1 Implications for Portuguese Politics and Portuguese Young Adult’s

The results obtained in this research should be object of reflection on a set of themes, mainly on the political candidates and on the state of Portuguese politics. With this research, we believe that political leaders are a possible solution to alleviate the possible conflict that young adults seem to have with politics in general. This conflict (a mistrust and lack of
interest regarding politics) was evidenced by the results of this research – low levels of political news follow-up in all media, a reasonable level of interest in politics and the fact that the most part of the young adults included in the sample does not consider themselves close to any party -, which are congruent with the results obtained by studies focused on this theme (Magalhães & Moral, 2008; Augusto, 2008; Winchester, Binney & Hall, 2014; Lobo, Ferreira & Rowland, 2015).

Given that young adults are currently distrustful of politics (and candidates themselves), it seems that there is a need for political candidates to change things. According to the literature consulted, and with the replication of Lobo and Silva’s (2017) analysis, it was possible to verify that political leaders influence the voting behavior of the young adult electorate. These data seem to be a clear indicator of the politicians’ possibility to reverse this situation. Silva and Costa (2018) present a similar view, stating that political leaders can mobilize voters to be politically active again. Since young adults seem to assess candidates more and more based on superficial data (i.e., personality traits), it seems more important than ever that political candidates show certain traits to the electorate (in the young adult’s general case: competence).

Since the competence dimension points to the subject’s skills to achieve his objectives (Carraro, Ghitti & Pastore, 2009), it seems that the capacity to mobilize young adults can be enhanced by a greater exposure of the electorate to candidates who present these traits, which already highlights a positive aspect of the personalisation of politics (Silva and Costa, 2018). With this in mind, we can say that a politician who can use his competent traits to the fullest has all the potential to become "The People’s Candidate" for the young adults of the present and for the adult electorate of tomorrow. It was curious to find that the competence dimension was preferred to warmth in young adults voting behavior. However, further research is important to explore the reasons why warmth is less relevant than competence.

In general, candidates should bet on competent traits to captivate perhaps those who don’t have a trained ideology or those who aren’t left-wing supporters. Considering the data obtained, most respondents don’t consider themselves close to any party, and this can be an advantage for political candidates, who can use, enhance and highlight their traits to captivate these young adults. As for young adults who consider themselves left or right-wing, it is up to party leaders to adapt to the preferences of their supporters. In this case, it seems relevant to us that leaders of left-wing parties should increasingly take an even warmth stance, while right-wing leaders must take a stronger stand for competence.
By combining these data with some of the results - the clear majority of young adults in our study voted in the 2017 elections and have intention to vote in the next elections -, the scenario of a mobilization for a more active political participation by young adults seems fertile, given that young adults seem equally interested in using their right to vote. It is also worth mentioning that the sample presented values above the average for Extroversion, Openness to Experience, Agreeableness and Conscientiousness, which seems to be a favorable point for an easier and more productive interaction between political candidates and young adults.

However, these results also carry with them a warning for the electorate, political candidates as well as the parties that represent them: given that there is greater susceptibility of voters to leaders, and their assessment is more based on the superficial side rather than in the content, a subliminal risk that undermines the quality of politics and politics news may arise (Langer, 2007). Caution and awareness are suggested to political candidates, parties and the media in the way they interact with the electorate.

6.2 Strong Points and Weaknesses of the Study.

This project makes relevant contributions to the study of the personalization of politics. A strong point of the research is the fact that it is an innovative study in Portugal, mainly due to the used study group, which breaks with the usual tendency of this type of studies - most studies that focus on personalization of politics use subjects with voting age, without delimiting the age range. This option is due to the “futuristic” intention of the research, since it can be useful for parties, candidates, psychologists, political scientists, sociologists and other social sciences researchers to understand the voting behavior and preferences of a part of the future electorate. Nevertheless, this is a relevant work since, to the best of our knowledge, no other study has explored this topic in a totally portuguese sample composed only of young adults. Another strength of this research is the methodology itself, as faces of real political candidates have been used for the research purposes, which is an innovative method. Another strong point resides in the creation of a database that contains faces of real politicians validated as warmth and competent. A study of this nature can also inform about the traits candidates should manifest during political moments, like electoral campaigns (Funk, 1997), which can help us to realize the impact of traits in these periods (Mattes et al., 2010). This study may also be important for the study of political democracy, particularly on the effects of candidates' appearance on voting behavior (Lenz & Lawson, 2011). A final advantage is the possibility of results and studies to be exploited.
with the obtained data: since the analyzes focused only on young adults and on the dimensions they prefer in political candidates, there is information that has not been studied in depth, so this research may still bear fruits in the future regarding other problematics.

However, this project contains limitations: first, the analysis conducted by Lobo e Silva (2017) were not replicated in the desired way due to the small number of cases to be studied in the scope of our investigation. Regarding the photographs of political candidates to be evaluated by the participants, we can point out as limitations the reduced number of images presented and the repetition of some of these along the tasks. Another limitation consists in the impossibility of making an exact distinction between a warm and a competent face since the impression and subsequent interpretation we make of other individuals is always subjective. This validation was done only based on the scores obtained in the different traits that composed the warmth and competence dimension, so we can not say with certainty that a face is uniquely warm or competent. Another limitation is the use of only one trait to validate each dimension, which may compromise the results. Still on the faces used, we see that, in the photographs used, the PSD candidates are dressed in a more formal way than the PS candidates, since all are dressed in suit. This data can be a catalyst for bias: participants probably attributed a higher status to PSD candidates for their clothing. Lastly, the sample size and the lack of heterogeneity regarding some variables should also be considered as limitations.

6.3 Future Research

Future studies should use a more reliable face database than the one used in this study. Another suggestion for futures studies is the use of photographs of female candidates, which may bring new conclusions. The perception that voters have of political leaders seems to be an essential field for understanding the personalization of politics phenomenon, and future studies (including both a quantitative and a qualitative approach) are recommended. By comparing the data obtained with young adults with other age groups in voting age, we can understand better which candidates’ traits are more relevant for the voting behavior of the electorate, and therefore we recommend studies with larger and diversified samples. Studies carried out in collaboration with other Western countries may be fundamental to understand the phenomenon of personalization and its effects on Western democracy. Finally, future studies could use devices that allow the monitoring of the brain’s electrical activity while performing tasks of this nature, which would allow a more in-depth investigation of this theme.
References


Appendix

Appendix 1. Assent of the Faculty of Psychology and Educational Sciences of the University of Porto Ethics Review Board
Appendix 2. Questionnaire used in the Pilot Study\textsuperscript{21}

Caro(a) participante,

Este questionário tem como objetivo avaliar algumas faces relativamente a algumas características, bem como obter alguma informação relativamente ao comportamento político dos portugueses. Não se trata de um teste de avaliação, pelo que não existem respostas certas ou erradas. É fundamental que responda às várias questões de forma cuidadosa, honesta e genuína por forma a garantir a qualidade de dados a obter. Os investigadores responsáveis comprometem-se a respeitar e a salvaguardar a privacidade e confidencialidade das suas respostas.

Leia com atenção as instruções, cada afirmação e as opções de resposta. Escolha e assinale aquela que pensa adequar-se melhor ao seu caso pessoal. Em caso de engano a uma resposta, pode mudar e assinalar a opção definitiva. A sua colaboração é da máxima importância para o prosseguimento do estudo, pelo que desde já lhe agradecemos a sua disponibilidade para participar! Mais uma vez obrigado por colaborar neste estudo. Se tiver alguma questão em relação a este questionário, ou sugestões para melhorias, por favor, contacte o investigador responsável (Patrício Costa, pcosta@med.uminho.pt).

\begin{itemize}
\item \textsquare\ Sim, concordo em participar no estudo e observar as recomendações anteriormente apresentadas.
\item \textsquare\ Não concordo em participar no estudo.
\end{itemize}

\textbf{Questions of Political Positioning}

1) Todos temos alguma imagem daquilo que seria para nós um bom político, mesmo que isso não corresponda a ninguém em particular. Assim sendo, tendo em conta a imagem daquilo que seria um bom político em quem certamente votaria, pedimos-lhe, por favor, que ordene as seguintes quatro características abaixo da mais importante (1) para a menos importante (4).

\textsuperscript{21} Due to software limitations, the questionnaire will be inserted in this document in an adapted form.
Question model for assessing candidates' faces

2) Avalie o político apresentado em relação às 4 características abaixo apresentadas.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competência</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amigabilidade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liderança</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confiabilidade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3) Na sua opinião, qual é o posicionamento Ideológico do político apresentado?

<table>
<thead>
<tr>
<th></th>
<th>0 (Esquerda)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 (Direita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideologia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


5) Impulsiveness Scale: UPPS-SCALE (Lopes et al., 2013)

Questions about Political Behavior

6) As questões seguintes têm a ver com as eleições recentes para a Assembleia da República, que ocorreram em 4 de Outubro de 2015. Quando falamos com as pessoas sobre eleições, ficamos a saber que há muitas pessoas que não puderam votar porque estavam doentes, não tiveram tempo ou simplesmente não estavam interessadas. Das seguintes frases, qual a que melhor descreve o seu caso?

□ Não votou nas eleições legislativas de 2015 porque não pôde
□ Pensou em votar desta vez mas não o fez

---

22 Due to the large number of photographs used, we have chosen to put only the model of the question.
□ Normalmente vota mas desta vez não o fez
□ Votou nas eleições legislativas de 2015
□ Não sabe

7) Em que partido?

□ CDS-PP
□ CDU (PCP/PEV)
□ PPD-PSD
□ Bloco de Esquerda
□ PS
□ Outro.
□ Votou em branco ou votou nulo
□ Não sabe
□ Não responde

8) Considera-se próximo/a de um partido político em particular?

□ Sim
□ Não

9) Em caso afirmativo, qual o partido?

□ Bloco de Esquerda
□ CDS-PP
□ CDU (PCP/PEV)
□ PPD-PSD
□ PS
□ Outro.
□ Votou em branco ou votou nulo
□ Não sabe
□ Não responde
10) Independentemente de ter votado ou não, quando tomou essa decisão?

□ No dia das eleições
□ Na véspera das eleições
□ Na semana antes das eleições
□ No mês antes das eleições
□ Mais de um mês antes das eleições
□ Não sabe

Socio-demographic Items

11) Sexo

□ Masculino
□ Feminino

12) Idade __________

13) Escolaridade (Nº de anos de escolaridade)

□ Nenhum
□ Ensino básico
□ Ensino Secundário
□ Licenciatura
□ Mestrado
□ Pós-Graduação
□ Doutoramento
□ Nenhum dos anteriores
□ Não sabe

14) Ocupação

□ Trabalhador no Ativo
□ Estudante
□ Trabalhador-estudante
□ Desempregado
□ Outro

15) Estado Civil

□ Solteiro
□ Casado
□ Divorciado
□ Viúvo
□ União de facto

16) Tem filhos?

□ Sim
□ Não
Appendix 3. Faces validated in the Pilot Study

**PS candidates validated as Competent**

- Q36 – NOT USED
- Q5 - USED
- Q38 - USED
- Q13 - USED

**PSD candidates validated as Competent**

- Q32 - USED
- Q12 - USED
- Q26 - USED
- Q14 – NOT USED

**PS candidates validated as Warmth**

- Q23 - USED
- Q9 - NOT USED
- Q27 - USED
- Q39 - USED
PSD candidates validated as Warmth

Q6 - USED
Q24 – NOT USED
Q45 - USED
Q37 - USED
Q4 – NOT USED
Q35 – NOT USED
Q41 – NOT USED
Q22 – NOT USED
Appendix 4. Z-scores of the different attributes used to validate the warmth and competent faces.

Table 3. Z-scores of the different attributes used to validate the warmth and competent faces.

<table>
<thead>
<tr>
<th>Face</th>
<th>AMIG</th>
<th>LIDE</th>
<th>CONF</th>
<th>COMP</th>
<th>W</th>
<th>C</th>
<th>Wz</th>
<th>Cz</th>
<th>Wz-Cz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4</td>
<td>4.98</td>
<td>4.28</td>
<td>4.74</td>
<td>4.83</td>
<td>4.86</td>
<td>4.55</td>
<td>0.042</td>
<td>-0.905</td>
<td>0.95</td>
</tr>
<tr>
<td>Q5</td>
<td>4.21</td>
<td>5.53</td>
<td>4.55</td>
<td>5.79</td>
<td>4.38</td>
<td>5.66</td>
<td>-0.799</td>
<td>1.27</td>
<td>-2.072</td>
</tr>
<tr>
<td>Q6</td>
<td>5.17</td>
<td>5.40</td>
<td>4.70</td>
<td>5.15</td>
<td>4.94</td>
<td>5.28</td>
<td>0.17</td>
<td>0.52</td>
<td>-0.346</td>
</tr>
<tr>
<td>Q9</td>
<td>5.38</td>
<td>4.15</td>
<td>4.77</td>
<td>4.23</td>
<td>5.07</td>
<td>4.19</td>
<td>0.42</td>
<td>-1.617</td>
<td>2.03</td>
</tr>
<tr>
<td>Q12</td>
<td>4.64</td>
<td>5.49</td>
<td>5.00</td>
<td>5.89</td>
<td>4.82</td>
<td>5.69</td>
<td>-0.033</td>
<td>1.335</td>
<td>-1.368</td>
</tr>
<tr>
<td>Q13</td>
<td>3.66</td>
<td>5.17</td>
<td>4.51</td>
<td>5.34</td>
<td>4.09</td>
<td>5.26</td>
<td>-1.322</td>
<td>0.477</td>
<td>-1.799</td>
</tr>
<tr>
<td>Q14</td>
<td>3.79</td>
<td>4.68</td>
<td>4.64</td>
<td>5.15</td>
<td>4.21</td>
<td>4.91</td>
<td>-1.098</td>
<td>-0.193</td>
<td>-0.905</td>
</tr>
<tr>
<td>Q22</td>
<td>5.11</td>
<td>4.28</td>
<td>5.06</td>
<td>4.89</td>
<td>5.09</td>
<td>4.59</td>
<td>0.44</td>
<td>-0.842</td>
<td>1.28</td>
</tr>
<tr>
<td>Q23</td>
<td>5.62</td>
<td>4.96</td>
<td>5.09</td>
<td>5.02</td>
<td>5.35</td>
<td>4.99</td>
<td>0.90</td>
<td>-0.047</td>
<td>0.95</td>
</tr>
<tr>
<td>Q24</td>
<td>5.60</td>
<td>4.77</td>
<td>4.74</td>
<td>5.02</td>
<td>5.17</td>
<td>4.89</td>
<td>0.58</td>
<td>-0.235</td>
<td>0.82</td>
</tr>
<tr>
<td>Q26</td>
<td>3.55</td>
<td>5.81</td>
<td>4.81</td>
<td>5.70</td>
<td>4.18</td>
<td>5.76</td>
<td>-1.154</td>
<td>1.46</td>
<td>-2.615</td>
</tr>
<tr>
<td>Q27</td>
<td>5.32</td>
<td>4.43</td>
<td>4.68</td>
<td>4.60</td>
<td>5.00</td>
<td>4.51</td>
<td>0.29</td>
<td>-0.989</td>
<td>1.27</td>
</tr>
<tr>
<td>Q32</td>
<td>4.38</td>
<td>5.06</td>
<td>4.70</td>
<td>5.36</td>
<td>4.54</td>
<td>5.21</td>
<td>-0.519</td>
<td>0.39</td>
<td>-0.912</td>
</tr>
<tr>
<td>Q35</td>
<td>5.06</td>
<td>4.62</td>
<td>4.85</td>
<td>4.96</td>
<td>4.96</td>
<td>4.79</td>
<td>0.21</td>
<td>-0.445</td>
<td>0.66</td>
</tr>
<tr>
<td>Q36</td>
<td>4.40</td>
<td>5.34</td>
<td>5.06</td>
<td>5.57</td>
<td>4.73</td>
<td>5.46</td>
<td>-0.182</td>
<td>0.88</td>
<td>-1.057</td>
</tr>
<tr>
<td>Q37</td>
<td>5.13</td>
<td>4.40</td>
<td>4.94</td>
<td>4.98</td>
<td>5.03</td>
<td>4.69</td>
<td>0.34</td>
<td>-0.633</td>
<td>0.97</td>
</tr>
<tr>
<td>Q38</td>
<td>4.36</td>
<td>5.70</td>
<td>4.87</td>
<td>5.64</td>
<td>4.62</td>
<td>5.67</td>
<td>-0.388</td>
<td>1.29</td>
<td>-1.681</td>
</tr>
<tr>
<td>Q39</td>
<td>5.23</td>
<td>4.87</td>
<td>4.91</td>
<td>4.77</td>
<td>5.07</td>
<td>4.82</td>
<td>0.42</td>
<td>-0.382</td>
<td>0.80</td>
</tr>
<tr>
<td>Q41</td>
<td>5.04</td>
<td>4.74</td>
<td>4.85</td>
<td>4.94</td>
<td>4.95</td>
<td>4.84</td>
<td>0.19</td>
<td>-0.34</td>
<td>0.53</td>
</tr>
<tr>
<td>Q45</td>
<td>5</td>
<td>4.57</td>
<td>4.68</td>
<td>4.70</td>
<td>4.84</td>
<td>4.63</td>
<td>0.005</td>
<td>-0.738</td>
<td>0.74</td>
</tr>
</tbody>
</table>

W – Warmth score (mean of the sum between AMIG and Conf scores); C – Competence score (mean of the sum between LIDE and COMP scores); Wz – Warmth Z-score; Cz – Competence Z-score; Wz -Cz difference between warmth z-score and competence z-score.
Caros colegas,

Os investigadores responsáveis solicitam a vossa colaboração num estudo que visa compreender o comportamento político dos jovens adultos portugueses e a opinião dos mesmos relativamente à imagem dos candidatos políticos do nosso país. O objetivo desta investigação envolve também a possibilidade de partidos e candidatos políticos obterem informação que possa ser utilizada para a criação de estratégias que atraiam os jovens adultos.

A presente investigação irá decorrer ao longo de quatro tarefas. Pedimos que responda o mais sinceramente possível em cada uma delas – não há respostas certas. Em cada tarefa irá observar uma série de rostos de candidatos reais à presidência de diversas câmaras municipais de Portugal, acompanhados de questões relativas aos mesmos. Previamente ao iniciar de cada tarefa, serão apresentadas as instruções para a sua realização.

A sua participação é totalmente voluntária, pelo que pode desistir a qualquer momento ou até mesmo recusar a sua colaboração no projeto sem qualquer consequência adversa. Em caso de engano na resposta a uma questão, pode voltar atrás no questionário e assinalar a sua opção definitiva.

Os dados obtidos serão analisados e publicados. Porém, a informação individual recebida será sempre confidencial e da responsabilidade dos investigadores responsáveis pelo projeto. Para obter os resultados futuros deste estudo, envie um e-mail para um dos seguintes endereços: pcosta@fpce.up.pt (Prof. Patrício Costa) ou up201306688@fpce.up.pt (Filipe Falcão). Se surgirem dúvidas, não hesite em pedir ajuda ao investigador que se encontra a administrar o questionário.

Obrigado pela sua colaboração.

□ Autorizo a minha participação no presente projeto
□ Não autorizo a minha participação no presente projeto

23 Due software limitations, the questionnaire will be inserted in this document in an adapted form.
**Socio-demographic Items**

1) Sexo
   □ Masculino
   □ Feminino

2) Idade ____________

3) Escolaridade (Nº de anos de escolaridade)
   □ Nenhum
   □ Ensino básico
   □ Ensino Secundário
   □ Licenciatura
   □ Mestrado
   □ Pós-Graduação
   □ Doutoramento
   □ Nenhum dos anteriores
   □ Não sabe

4) Ocupação
   □ Trabalhador no Ativo
   □ Estudante
   □ Trabalhador-estudante
   □ Desempregado
   □ Outro

5) Estado Civil
   □ Solteiro
   □ Casado
   □ Divorciado
   □ Viúvo
   □ União de facto
First Screen

A presente investigação irá decorrer ao longo de quatro tarefas, seguidas de um breve questionário. Em cada tarefa irá observar uma série de rostos de candidatos reais à presidência de diversas câmaras municipais de Portugal, acompanhados de questões relativas aos mesmos. Previamente ao iniciar de cada tarefa, serão apresentadas as instruções para a sua realização.

Em caso de engano na resposta a uma questão, pode voltar atrás no questionário e assinalar a sua opção definitiva. Se surgirem dúvidas, não hesite em pedir ajuda ao investigador que se encontra a administrar o questionário. Obrigado pela sua colaboração.

Second Screen

Neste momento, é-lhe solicitado que se imagine num cenário de eleições fictícias para a câmara municipal do concelho onde reside, sendo que ainda não decidiu qual será o candidato em que votará.

Atente no rosto dos candidatos que vão surgindo no ecrã. A partir desta análise, responda, por favor às questões que lhe são apresentadas.

First Task

Na presente tarefa irá observar uma série de rostos de candidatos políticos que serão apresentados de forma individual. Para cada candidato apresentado, é-lhe solicitado que indique qual a probabilidade de o escolher para presidente da câmara municipal.

First Task

1.1) Atente no rosto do candidato e selecione a opção que considera mais adequada.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável
1.2) Atente no rosto do candidato e selecione a opção que considera mais adequada.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

1.3) Atente no rosto do candidato e selecione a opção que considera mais adequada.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

1.4) Atente no rosto do candidato e selecione a opção que considera mais adequada.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

**Second Task**

De seguida, irá observar rostos de candidatos para as eleições em questão dispostos em pares. Entre cada par de candidatos que é apresentado, é-lhe solicitado que indique qual o candidato em que votaria.
2.1) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B

2.2) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B

2.3) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B
2.4) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B

2.5) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B

2.6) Atente nos rostos dos candidatos. Qual dos candidatos escolheria?

□ A
□ B
2.7) "Atente nos rostos dos candidatos. Qual dos candidatos escolheria?"

□ A

□ B

2.8) "Atente nos rostos dos candidatos. Qual dos candidatos escolheria?"

□ A

□ B

2.9) "Atente nos rostos dos candidatos. Qual dos candidatos escolheria?"

□ A

□ B
2.10)

“*Atente nos rostos dos candidatos. Qual dos candidatos escolheria?*”

□ A
□ B

2.11)

“*Atente nos rostos dos candidatos. Qual dos candidatos escolheria?*”

□ A
□ B

2.12)

“*Atente nos rostos dos candidatos. Qual dos candidatos escolheria?*”

□ A
□ B
Third Task

Neste momento, será exposto a uma série de rostos apresentados de forma individual. Juntamente com cada rosto apresentado estará disponível para leitura um pequeno texto que contém informações sobre o candidato em questão.

Após completar a leitura do texto e observar o rosto de cada político, indique qual a probabilidade de o escolher para presidente da câmara municipal.

3.1) "Temos de nos tornar na mudança que queremos ver”. Foi com estas palavras que o candidato A iniciou o seu discurso perante os seus apoiantes em mais uma sessão de campanha que decorreu no parque municipal. “É importante que a mudança social ocorra de forma a que a igualdade possa ser alcançada, e é meu dever trabalhar para que isso aconteça”.

“Qual a probabilidade de votar neste candidato?”
0 = Nada provável; 10 = Muito provável

3.2) Em entrevista ao jornal local, o Candidato B foi claro relativamente às mudanças a implementar na câmara municipal caso seja eleito: “Não tenciono realizar mudanças radicais. Nasci nesta cidade, e sei que os seus moradores valorizam a estabilidade e a ordem, pelo que é meu dever respeitar a vontade deles. Há tradições a manter.” Concluiu.

“Qual a probabilidade de votar neste candidato?”
0 = Nada provável; 10 = Muito provável
3.3) 

À chegada de uma feira local para mais uma sessão de campanha eleitoral, o candidato C assume que está na altura de “solidificar o que foi feito e manter a ordem no país”. O mesmo candidato afirmou ainda que “a tradição e a estabilidade” são primordiais para manter a população local feliz.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

3.4) 

Foi com as palavras de um famoso escritor que o candidato D abordou possíveis mudanças que possam ocorrer no concelho caso vença as eleições: “O mais importante num bom casamento não é a felicidade e sim a estabilidade. E a estabilidade dos moradores é a minha primeira preocupação”, garantiu o candidato, para quem “a tradição e a necessidade de ordem são valores primordiais”.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

3.5) 

“Todas as mudanças devem ser estudadas com cuidado, pois é importante, e necessário, que a tradição e os costumes que nos representam sejam conservados”. Foi com estas palavras de cautela que o candidato E replicou às questões dos jornalistas sobre possíveis mudanças no concelho caso saia vencedor das próximas eleições. “Primeiro de tudo, valorizo a estabilidade e a necessidade de ordem”, rematou, no final de mais um dia de campanha.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável
3.6) Quando questionado sobre as motivações da sua candidatura, o Candidato F replicou que o objetivo do seu trabalho foca essencialmente na “mudança social e na vontade de que todos os cidadãos tenham as mesmas condições para alcançarem as suas metas”. Perante dezenas de pessoas que assistiram ao seu discurso, o Candidato F reforçou a mensagem de que uma democracia funciona adequadamente quando prevalece o direito à igualdade.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

3.7) Foi no auditório local que, perante dezenas de cidadãos curiosos, o Candidato G se apresentou ontem à noite aos residentes do concelho: “Descrevo-me como alguém preocupado com as pessoas e focado na mudança e igualdade social”. Recetivo a todas as perguntas que lhe foram sendo realizadas pelos jornalistas e moradores presentes, o Candidato G mostrou-se principalmente.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável

3.8) Após um dia longo de campanha, o candidato H referiu estar preocupado com o desequilíbrio que persiste em algumas zonas do conselho: “Alguns destes casos são preocupantes. É preciso um maior foco na mudança social e na igualdade por parte do próximo executivo, e é este foco que eu prometo aos residentes”, finalizou, garantindo que, caso seja eleito, nenhuma minoria será esquecida durante o seu mandato.

“Qual a probabilidade de votar neste candidato?”
0= Nada provável; 10= Muito provável
Fourth Task
Neste momento, será exposto a uma série de rostos apresentados em pares. Juntamente com cada rosto apresentado estará disponível para leitura um pequeno texto que contém informações sobre cada candidato.

Entre cada par de candidatos que é apresentado, é-lhe solicitado que indique qual o candidato em que votaria.

Fourth Task

4.1)

“Todas as mudanças devem ser estudadas com cuidado, pois é importante, e necessário, que a tradição e os costumes que nos representam sejam conservados”. Foi com estas palavras de cautela que o candidato E replicou às questões dos jornalistas sobre possíveis mudanças no concelho caso saia vencedor das próximas eleições. “Primeiro de tudo, valorizo a estabilidade e a necessidade de ordem”, rematou, no final de mais um dia de campanha.

Em entrevista ao jornal local, o Candidato B foi claro relativamente às mudanças a implementar na câmara municipal caso seja eleito: “Não tenciono realizar mudanças radicais. Nasci nesta cidade, e sei que os seus moradores valorizam a estabilidade e a ordem, pelo que é meu dever respeitar a vontade deles. Há tradições a manter.” Concluiu.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A

☐ B
4.2)

“Todas as mudanças devem ser estudadas com cuidado, pois é importante, e necessário, que a tradição e os costumes que nos representam sejam conservados”. Foi com estas palavras de cautela que o candidato E replicou às questões dos jornalistas sobre possíveis mudanças no concelho caso saia vencedor das próximas eleições. “Primeiro de tudo, valorizo a estabilidade e a necessidade de ordem”, rematou, no final de mais um dia de campanha.

Quando questionado sobre as motivações da sua candidatura, o Candidato B replicou que o objetivo do seu trabalho foca essencialmente na “mudança social e na vontade de que todos os cidadãos tenham as mesmas condições para alcançarem as suas metas”. Perante dezenas de pessoas que assistiram ao seu discurso, o Candidato F reforçou a mensagem de que uma democracia funciona adequadamente quando prevalece o direito à igualdade.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B
4.3)

Foi com as palavras de um famoso escritor que o candidato A abordou possíveis mudanças que possam ocorrer no concelho caso vença as eleições: “O mais importante num bom casamento não é a felicidade e sim a estabilidade. E a estabilidade dos moradores é a minha primeira preocupação”, garantiu o candidato, para quem “a tradição e a necessidade de ordem são valores primordiais”.

Em entrevista ao jornal local, o Candidato B foi claro relativamente às mudanças a implementar na câmara municipal caso seja eleito: “Não tenciono realizar mudanças radicais. Nasci nesta cidade, e sei que os seus moradores valorizam a estabilidade e a ordem, pelo que é meu dever respeitar a vontade deles. Há tradições a manter.” Concluiu.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

□ A
□ B
"Temos de nos tornar na mudança que queremos ver". Foi com estas palavras que o candidato A iniciou o seu discurso perante os seus apoiantes em mais uma sessão de campanha que decorreu no parque municipal. “É importante que a mudança social ocorra de forma a que a igualdade possa ser alcançada, e é meu dever trabalhar para que isso aconteça”.

Após um dia longo de campanha, o candidato B referiu estar preocupado com o desequilíbrio que persiste em algumas zonas do conselho: “Alguns destes casos são preocupantes. É preciso um maior foco na mudança social e na igualdade por parte do próximo executivo, e é este foco que eu prometo aos residentes”, finalizou, garantindo que, caso seja eleito, nenhuma minoria será esquecida durante o seu mandato.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B
Após um dia longo de campanha, o candidato A referiu estar preocupado com o desequilíbrio que persiste em algumas zonas do conselho: “Alguns destes casos são preocupantes. É preciso um maior foco na mudança social e na igualdade por parte do próximo executivo, e é este foco que eu prometo aos residentes”, finalizou, garantindo que, caso seja eleito, nenhuma minoria será esquecida durante o seu mandato.

Foi no auditório local que, perante dezenas de cidadãos curiosos, o Candidato G se apresentou ontem à noite aos residentes do concelho: “Descrevo-me como alguém preocupado com as pessoas e focado na mudança e igualdade social”. Recetivo a todas as perguntas que lhe foram sendo realizadas pelos jornalistas e moradores presentes, o Candidato B mostrou-se principalmente interessado, durante o seu discurso, nas questões sociais respeitantes ao concelho.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B
Foi com as palavras de um famoso escritor que o candidato A abordou possíveis mudanças que possam ocorrer no concelho caso vença as eleições: “O mais importante num bom casamento não é a felicidade e sim a estabilidade. E a estabilidade dos moradores é a minha primeira preocupação”, garantiu o candidato, para quem “a tradição e a necessidade de ordem são valores primordiais”.

Quando questionado sobre as motivações da sua candidatura, o Candidato B replicou que o objetivo do seu trabalho foca essencialmente na “mudança social e na vontade de que todos os cidadãos tenham as mesmas condições para alcançarem as suas metas”. Perante dezenas de pessoas que assistiram ao seu discurso, o Candidato F reforçou a mensagem de que uma democracia funciona adequadamente quando prevalece o direito à igualdade.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos você escolheria?”

☐ A

☐ B
“Todas as mudanças devem ser estudadas com cuidado, pois é importante, e necessário, que a tradição e os costumes que nos representam sejam conservados”. Foi com estas palavras de cautela que o candidato E replicou às questões dos jornalistas sobre possíveis mudanças no concelho caso saia vencedor das próximas eleições. “Primeiro de tudo, valorizo a estabilidade e a necessidade de ordem”, rematou, no final de mais um dia de campanha.

Foi com as palavras de um famoso escritor que o candidato A abordou possíveis mudanças que possam ocorrer no concelho caso vença as eleições: “O mais importante num bom casamento não é a felicidade e sim a estabilidade. E a estabilidade dos moradores é a minha primeira preocupação”, garantiu o candidato, para quem “a tradição e a necessidade de ordem são valores primordiais”.

“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B
Foi no auditório local que, perante dezenas de cidadãos curiosos, o Candidato G se apresentou ontem à noite aos residentes do concelho: “Descrevo-me como alguém preocupado com as pessoas e focado na mudança e igualdade social”. Recetivo a todas as perguntas que lhe foram sendo realizadas pelos jornalistas e moradores presentes, o Candidato B mostrou-se principalmente interessado, durante o seu discurso, nas questões sociais respeitantes ao concelho.

À chegada de uma feira local para mais uma sessão de campanha eleitoral, o candidato C assume que está na altura de “solidificar o que foi feito e manter a ordem no país”. O mesmo candidato afirmou ainda que “a tradição e a estabilidade” são primordiais para manter a população local feliz.

Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

□ A
□ B
“Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A

☐ B
À chegada de uma feira local para mais uma sessão de campanha eleitoral, o candidato C assume que está na altura de “solidificar o que foi feito e manter a ordem no país”. O mesmo candidato afirmou ainda que “a tradição e a estabilidade” são primordiais para manter a população local feliz.

Após um dia longo de campanha, o candidato B referiu estar preocupado com o desequilíbrio que persiste em algumas zonas do conselho: “Alguns destes casos são preocupantes. É preciso um maior foco na mudança social e na igualdade por parte do próximo executivo, e é este foco que eu prometo aos residentes”, finalizou, garantindo que, caso seja eleito, nenhuma minoria será esquecida durante o seu mandato.

Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B
Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?"

- □ A
- □ B

"Temos de tornar na mudança que queremos ver". Foi com estas palavras que o candidato A iniciou o seu discurso perante os seus apoiantes em mais uma sessão de campanha que decorreu no parque municipal. “É importante que a mudança social ocorra de forma a que a igualdade possa ser alcançada, e é meu dever trabalhar para que isso aconteça”.

Foi no auditório local que, perante dezenas de cidadãos curiosos, o Candidato G se apresentou ontem à noite aos residentes do concelho: “Descrevo-me como alguém preocupado com as pessoas e focado na mudança e igualdade social”. Recetivo a todas as perguntas que lhe foram sendo realizadas pelos jornalistas e moradores presentes, o Candidato B mostrou-se principalmente interessado, durante o seu discurso, nas questões sociais respeitantes ao concelho.
4.12) A chegada de uma feira local para mais uma sessão de campanha eleitoral, o candidato C assume que está na altura de “solidificar o que foi feito e manter a ordem no país”. O mesmo candidato afirmou ainda que “a tradição e a estabilidade” são primordiais para manter a população local feliz.

"Temos de nos tornar na mudança que queremos ver”. Foi com estas palavras que o candidato A iniciou o seu discurso perante os seus apoiantes em mais uma sessão de campanha que decorreu no parque municipal. “É importante que a mudança social ocorra de forma a que a igualdade possa ser alcançada, e é meu dever trabalhar para que isso aconteça”.

Atente nos rostos dos candidatos nas informações disponibilizadas. Qual dos candidatos escolheria?”

☐ A
☐ B

5th Task - Notoriety

5.1) “Conhecia este candidato previamente a esta ou outra investigação?”

☐ Sim
☐ Não
5.2) **“Conhecia este candidato previamente a esta ou outra investigação?”**

- □ Sim
- □ Não

5.3) **“Conhecia este candidato previamente a esta ou outra investigação?”**

- □ Sim
- □ Não

5.4) **“Conhecia este candidato previamente a esta ou outra investigação?”**

- □ Sim
- □ Não

5.5) **“Conhecia este candidato previamente a esta ou outra investigação?”**

- □ Sim
- □ Não
5.6)

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não

5.7)

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não

5.8)

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não

5.9)

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não
5.10) 

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não

5.11) 

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não

5.12) 

“Conhecia este candidato previamente a esta ou outra investigação?”

□ Sim
□ Não


Questions about Political Behavior

7) De um modo geral, considera-se uma pessoa muito interessada, razoavelmente, pouco ou nada interessada pela política?

□ Nada Interessada
□ Pouco Interessada
□ Razoavelmente Interessada
8) Durante a(s) campanha(s) eleitoral(is), com que frequência costuma acompanhar as notícias sobre política através de... *

<table>
<thead>
<tr>
<th></th>
<th>Nunca</th>
<th>Com menos frequência</th>
<th>Neutro</th>
<th>1-2 dias por semana</th>
<th>3-4 dias por semana</th>
<th>Diariamente/quase todos os dias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rádio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Televisão</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jornais (incluindo edições online)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9) Em política, as pessoas por vezes falam de esquerda e direita. Onde é que se posicionaria a si próprio numa escala de 0 a 10, onde 0 significa esquerda e 10 significa direita?

<table>
<thead>
<tr>
<th>0 (Esquerda)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 (Direita)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10) As questões seguintes têm a ver com as autárquicas de 2017 (eleições para eleger o presidente da câmara). Quando falamos com as pessoas sobre eleições, ficamos a saber que há muitas pessoas que não puderam votar porque estavam doentes, não tiveram tempo ou simplesmente não estavam interessadas. Das seguintes frases, qual a que melhor descreve o seu caso?

- Não votou nas eleições legislativas de 2015 porque não pôde
- Pensou em votar desta vez mas não o fez
- Normalmente vota mas desta vez não o fez
- Votou nas eleições legislativas de 2015
- Não sabe
- Não responde
11) Em que partido votou nas eleições autárquicas de 2017?
☐ Bloco de Esquerda
☐ CDS-PP
☐ CDU (PCP/PEV)
☐ PPD-PSD
☐ PS
☐ Partido Ecologista – Os Verdes
☐ Outro
☐ Votou em branco ou votou nulo
☐ Não sabe
☐ Não responde

12) Independentemente de ter votado ou não, quando tomou essa decisão?
☐ No dia das eleições
☐ Na véspera das eleições
☐ Na semana antes das eleições
☐ No mês antes das eleições
☐ Mais de um mês antes das eleições
☐ Não sabe

13) Considera-se próximo/a de um partido político em particular?
☐ Sim
☐ Não
☐ Não sabe
☐ Não responde
14) Mas considera-se um pouco mais próximo /a de um dos partidos do que dos outros?

□ Sim
□ Não
□ Não sabe
□ Não responde

15) Importa-se de me dizer qual é esse partido?

□ Bloco de Esquerda
□ CDS-PP
□ CDU
□ Partido Ecologista – Os Verdes
□ PCP
□ PPD-PSD
□ PS
□ Outro
□ Não sabe
□ Não responde

16) Sente-se muito próximo/a desse partido, razoavelmente próximo/a, ou diria que é meramente simpatizante desse partido?

□ Muito Próximo
□ Razoavelmente próximo
□ Meramente simpatizante
□ Não sabe
□ Não responde

17) Em política, as pessoas por vezes falam de esquerda e direita. Onde é que posicionaria cada um dos seguintes partidos numa escala de 0 a 10, onde 0 significa esquerda e 10 significa direita?
<table>
<thead>
<tr>
<th>Partido</th>
<th>0 (Esquerda)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 (Direita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bloco de Esquerda</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDS-PP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partido Ecologista/Verdes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPD-PSD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

18) Se as próximas eleições autárquicas fossem hoje, votaria?

☐ Definitivamente não votaria
☐ Provavelmente não votaria
☐ Não sei se votaria
☐ Provavelmente votaria
☐ Definitivamente votaria

19) E em que partido votaria?

☐ Bloco de Esquerda
☐ CDS-PP
☐ Partido Ecologista/Verdes
☐ PCP
☐ PPD-PSD
☐ PS
☐ Não sei/Não responde

OBRIGADO PELA SUA COLABORAÇÃO.
Appendix 6. Experimental Study Design

Figure 2. Experimental study design

Valid Respondents (n=116)

Introduction
Instructions; Socio-demographic items

1st Task
Probability of Voting - Simple

2nd Task
Candidate’s Choice - Simple

3rd Task
Probability of Voting - Complex

4th Task
Candidate’s Choice - Complex

At the end of the tasks:
Notoriety

Questionnaire
Personality Assessment; Political Behavior Items

Probability of choosing a Warmth/Competent Candidate (0=Not Likely, 10=Very Likely): “What is the probability of choosing this candidate?”

Warmth/Competent Candidate vs Warmth/Competent Candidate: “Which candidate would you choose?”

Probability of choosing a Warmth/Competent Candidate: candidates were presented with a text regarding values associated to Left (Equality and Social Change) and Right (Tradition, Stability and Need of Order) parties (0=Not Likely, 10=Very Likely): “What is the probability of choosing this candidate?”

Warmth/Competent Candidate vs Warmth/Competent Candidate: Each candidate is presented with a text regarding values associated to Left and Right parties (“Which candidate would you choose?”)

Respondents indicated if they knew any of the candidates presented in the previous tasks (1=Yes, 2=No): “Do you know this candidate?”
Appendix 7. Distribution of frequencies of the participants' self-positioning and their opinion on the positioning of different Portuguese parties

(BE, CDS, PEV, PCP, PSD, PS)

Table 6. Distribution of frequencies of the participants' self-positioning and their opinion on the positioning of different Portuguese parties

<table>
<thead>
<tr>
<th></th>
<th>0 (Esquerda)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10 (Direita)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autopositioning</td>
<td>5.2%</td>
<td>3.4%</td>
<td>12.9%</td>
<td>16.4%</td>
<td>16.4%</td>
<td>30.2%</td>
<td>7.8%</td>
<td>5.2%</td>
<td>1.7%</td>
<td>0.0%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Bloco de Esquerda (BE)</td>
<td>29.3%</td>
<td>18.1%</td>
<td>19.0%</td>
<td>16.4%</td>
<td>3.4%</td>
<td>12.1%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Partido do Centro Democrático Social (CDS-PP)</td>
<td>5.2%</td>
<td>0.0%</td>
<td>2.6%</td>
<td>5.2%</td>
<td>6.0%</td>
<td>16.4%</td>
<td>6.9%</td>
<td>15.5%</td>
<td>23.3%</td>
<td>8.6%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Partido Ecologista/Verdes (PEV)</td>
<td>7.8%</td>
<td>7.8%</td>
<td>19.8%</td>
<td>15.5%</td>
<td>12.9%</td>
<td>31.0%</td>
<td>0.9%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.9%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Partido Comunista Português (PCP)</td>
<td>31.9%</td>
<td>13.8%</td>
<td>13.8%</td>
<td>7.8%</td>
<td>3.4%</td>
<td>17.2%</td>
<td>2.6%</td>
<td>0.9%</td>
<td>4.3%</td>
<td>0.9%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Partido Social Democrata (PPD-PSD)</td>
<td>0.9%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>2.6%</td>
<td>5.2%</td>
<td>15.5%</td>
<td>17.2%</td>
<td>20.7%</td>
<td>20.7%</td>
<td>3.4%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Partido Socialista (PS)</td>
<td>4.3%</td>
<td>1.7%</td>
<td>7.8%</td>
<td>14.7%</td>
<td>26.7%</td>
<td>21.6%</td>
<td>7.8%</td>
<td>4.3%</td>
<td>6.0%</td>
<td>0.9%</td>
<td>4.3%</td>
</tr>
</tbody>
</table>
Figure 8. Area chart representing the distribution of the participants' self-positioning and the positioning of the parties in the participants' point of view (X axis: Ideology Score; Y Axis: Proportion of participants – Distributed).
Appendix 8. Ideological Positioning one-way within subject’s ANOVA-RM

Table 7. Ideological Positioning one-way within subject’s ANOVA-RM

<table>
<thead>
<tr>
<th></th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p.</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Party</td>
<td></td>
<td>2346</td>
<td>5</td>
<td>469</td>
<td>90.6</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>2346</td>
<td>3.32</td>
<td>706</td>
<td>90.6</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>2346</td>
<td>3.43</td>
<td>683</td>
<td>90.6</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>2346</td>
<td>1</td>
<td>2346</td>
<td>90.6</td>
<td>p&lt;.001</td>
</tr>
<tr>
<td>Error(party)</td>
<td></td>
<td>2977</td>
<td>575</td>
<td>5.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sphericity Assumed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>2977</td>
<td>382</td>
<td>7.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>2977</td>
<td>394</td>
<td>7.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>2977</td>
<td>115</td>
<td>25.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix 9. First Task Results

Table 11. First Task - Tests of Within-Subjects Effects

<table>
<thead>
<tr>
<th></th>
<th>Type III Sum of Squares</th>
<th>Mean Square</th>
<th>( F )</th>
<th>( p )</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidate’s Traits</strong></td>
<td>Sphericity Assumed</td>
<td>0.02</td>
<td>0.002</td>
<td>0.98</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>0.02</td>
<td>0.002</td>
<td>0.98</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>0.02</td>
<td>0.002</td>
<td>0.98</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>0.02</td>
<td>0.002</td>
<td>0.98</td>
<td>0.000</td>
</tr>
<tr>
<td><strong>Candidate’s Traits * Participant’s Ideology</strong></td>
<td>Sphericity Assumed</td>
<td>0.31</td>
<td>0.313</td>
<td>0.12</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>0.31</td>
<td>0.313</td>
<td>0.12</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>0.31</td>
<td>0.313</td>
<td>0.12</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>0.31</td>
<td>0.313</td>
<td>0.12</td>
<td>0.001</td>
</tr>
<tr>
<td><strong>Error (Candidate’s Traits)</strong></td>
<td>Sphericity Assumed</td>
<td>290</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>290</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>290</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>290</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td><strong>Candidate’s Party</strong></td>
<td>Sphericity Assumed</td>
<td>26.6</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>26.6</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>26.6</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>26.6</td>
<td>26.6</td>
<td>12.1</td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td><strong>Candidate’s Party * Participant’s Ideology</strong></td>
<td>Sphericity Assumed</td>
<td>1.72</td>
<td>1.72</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>1.72</td>
<td>1.72</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>1.72</td>
<td>1.72</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>1.72</td>
<td>1.72</td>
<td>0.78</td>
<td>0.38</td>
</tr>
<tr>
<td><strong>Error (Candidate’s Party)</strong></td>
<td>Sphericity Assumed</td>
<td>251</td>
<td>2.20</td>
<td>0.032</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>251</td>
<td>2.20</td>
<td>0.032</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>251</td>
<td>2.20</td>
<td>0.032</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>251</td>
<td>2.20</td>
<td>0.032</td>
<td><strong>0.000</strong></td>
</tr>
<tr>
<td><strong>Candidate’s Traits * Candidate’s Party</strong></td>
<td>Sphericity Assumed</td>
<td>20.1</td>
<td>20.1</td>
<td>4.72</td>
<td><strong>0.032</strong></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>20.1</td>
<td>20.1</td>
<td>4.72</td>
<td><strong>0.032</strong></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>20.1</td>
<td>20.1</td>
<td>4.72</td>
<td><strong>0.032</strong></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>20.1</td>
<td>20.1</td>
<td>4.72</td>
<td><strong>0.032</strong></td>
</tr>
<tr>
<td><strong>Candidate’s Traits * Candidate’s Party * Participant’s Ideology</strong></td>
<td>Sphericity Assumed</td>
<td>7.11</td>
<td>7.12</td>
<td>1.67</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>7.11</td>
<td>7.12</td>
<td>1.67</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>7.11</td>
<td>7.12</td>
<td>1.67</td>
<td>0.20</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>7.11</td>
<td>7.12</td>
<td>1.67</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>Error (Candidate’s Traits)</strong></td>
<td>Sphericity Assumed</td>
<td>486</td>
<td>7.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Greenhouse-Geisser</td>
<td>486</td>
<td>7.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>486</td>
<td>7.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>486</td>
<td>7.12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 12. Third Task - Tests of Within-Subjects Effects

<table>
<thead>
<tr>
<th>Candidate’s Traits</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Noncent. Parameter</th>
<th>Observed Power*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphericity-Assumed</td>
<td>.14</td>
<td>1</td>
<td>.14</td>
<td>.081</td>
<td>.78</td>
<td>.001</td>
<td>.081</td>
<td>.059</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>.14</td>
<td>1.00</td>
<td>.14</td>
<td>.081</td>
<td>.78</td>
<td>.001</td>
<td>.081</td>
<td>.059</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>.14</td>
<td>1.00</td>
<td>.14</td>
<td>.081</td>
<td>.78</td>
<td>.001</td>
<td>.081</td>
<td>.059</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>.14</td>
<td>1.00</td>
<td>.14</td>
<td>.081</td>
<td>.78</td>
<td>.001</td>
<td>.081</td>
<td>.059</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Candidate’s Traits *</th>
<th>Participant’s Ideology</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Noncent. Parameter</th>
<th>Observed Power*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphericity-Assumed</td>
<td>Greenhouse-Geisser</td>
<td>.10</td>
<td>1</td>
<td>10.3</td>
<td>5.94</td>
<td>.016</td>
<td>.050</td>
<td>5.94</td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Huynh-Feldt</td>
<td>.10</td>
<td>1.00</td>
<td>10.3</td>
<td>5.94</td>
<td>.016</td>
<td>.050</td>
<td>5.94</td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Lower-bound</td>
<td>.10</td>
<td>1.00</td>
<td>10.3</td>
<td>5.94</td>
<td>.016</td>
<td>.050</td>
<td>5.94</td>
<td>.68</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Error (Candidate’s Traits)</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
<th>Noncent. Parameter</th>
<th>Observed Power*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphericity-Assumed</td>
<td>.10</td>
<td>1</td>
<td>1.35</td>
<td>2.35</td>
<td>.013</td>
<td>.020</td>
<td>2.35</td>
<td>.33</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>.10</td>
<td>1.00</td>
<td>1.35</td>
<td>2.35</td>
<td>.013</td>
<td>.020</td>
<td>2.35</td>
<td>.33</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>.10</td>
<td>1.00</td>
<td>1.35</td>
<td>2.35</td>
<td>.013</td>
<td>.020</td>
<td>2.35</td>
<td>.33</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>.10</td>
<td>1.00</td>
<td>1.35</td>
<td>2.35</td>
<td>.013</td>
<td>.020</td>
<td>2.35</td>
<td>.33</td>
</tr>
</tbody>
</table>

Appendix 10. Third Task Results
<table>
<thead>
<tr>
<th>Error (Candidate’s Traits *)</th>
<th>Candidate’s Party</th>
<th>Candidate’s Ideology</th>
<th>Candidate’s Traits *</th>
<th>Participant’s Ideology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sphericity Assumed</td>
<td>1.56</td>
<td>1</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>1.56</td>
<td>1.00</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>1.56</td>
<td>1.00</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>1.56</td>
<td>1.00</td>
<td>.92</td>
<td>.34</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>.22</td>
<td>1</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>.22</td>
<td>1.00</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>.22</td>
<td>1.00</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>.22</td>
<td>1.00</td>
<td>.13</td>
<td>.72</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>193.193</td>
<td>114.114</td>
<td>1.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>193.193</td>
<td>114.114</td>
<td>1.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>193.193</td>
<td>114.114</td>
<td>1.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>193.193</td>
<td>114.114</td>
<td>1.70</td>
<td>1.70</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>.35</td>
<td>1</td>
<td>.35</td>
<td>.18</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>.35</td>
<td>1.00</td>
<td>.35</td>
<td>.18</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>.35</td>
<td>1.00</td>
<td>.35</td>
<td>.18</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>.35</td>
<td>1.00</td>
<td>.35</td>
<td>.18</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>7.29</td>
<td>1</td>
<td>7.29</td>
<td>3.72</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>7.29</td>
<td>1.00</td>
<td>7.29</td>
<td>3.72</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>7.29</td>
<td>1.00</td>
<td>7.29</td>
<td>3.72</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>7.29</td>
<td>1.00</td>
<td>7.29</td>
<td>3.72</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>223.223</td>
<td>114.114</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>223.223</td>
<td>114.114</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>223.223</td>
<td>114.114</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>223.223</td>
<td>114.114</td>
<td>1.96</td>
<td>1.96</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>36.4</td>
<td>1</td>
<td>36.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>36.4</td>
<td>1.00</td>
<td>36.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>36.4</td>
<td>1.00</td>
<td>36.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>36.4</td>
<td>1.00</td>
<td>36.4</td>
<td>22.6</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>.028</td>
<td>1</td>
<td>.028</td>
<td>.017</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>.028</td>
<td>1.00</td>
<td>.028</td>
<td>.017</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>.028</td>
<td>1.00</td>
<td>.028</td>
<td>.017</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>.028</td>
<td>1.00</td>
<td>.028</td>
<td>.017</td>
</tr>
<tr>
<td>Sphericity Assumed</td>
<td>183.183</td>
<td>114.114</td>
<td>1.61</td>
<td>1.61</td>
</tr>
<tr>
<td>Greenhouse-Geisser</td>
<td>183.183</td>
<td>114.114</td>
<td>1.61</td>
<td>1.61</td>
</tr>
<tr>
<td>Huynh-Feldt</td>
<td>183.183</td>
<td>114.114</td>
<td>1.61</td>
<td>1.61</td>
</tr>
<tr>
<td>Lower-bound</td>
<td>183.183</td>
<td>114.114</td>
<td>1.61</td>
<td>1.61</td>
</tr>
</tbody>
</table>

a. Computed using alpha = .05
### Appendix 11. Project Timeline

#### Tarefas Planeadas (2016)

<table>
<thead>
<tr>
<th>Meses</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Seleção de Tema</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brainstorming inicial</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leitura de literatura sobre política</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Síntese das primeiras leituras realizadas</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seleção do tema a estudar</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definição da estrutura e conceitos a abordar no enquadramento teórico. Recolha de literatura.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Tarefas Planeadas (2017)

<table>
<thead>
<tr>
<th>Meses</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>II. Definição do Desenho de Estudo</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração da primeira versão do enquadramento Teórico</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrega da primeira versão do enquadramento teórico</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração da versão final do enquadramento teórico</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrega da versão final do enquadramento teórico</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração das metodologias a estudar; elaboração do desenho de Estudo</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definição das metodologias a estudar; definição do desenho de Estudo</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recolha de fotografias de políticos</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tratamento das fotografias recolhidas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

#### Tarefas Planeadas (2018)

<table>
<thead>
<tr>
<th>Meses</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>III. Estudo Empírico</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tratamento dos dados para replicação das análises do estudo de Lobo e Silva (2017)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seleção de fotografias a serem usadas no estudo para validação</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração do questionário para estudo piloto (validação dos rostos)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recolha de dados para o estudo piloto</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Análise dos dados obtidos no estudo piloto</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração do questionário para investigação experimental</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recolha de dados para investigação experimental</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Análise dos dados obtidos na investigação experimental</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elaboração e escrita dos resultados; Conclusão do projeto</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>