GENDER STEREOTYPING IN THE PERCEPTION OF POLITICAL CANDIDATES: EXPERIMENTAL STUDY ON SLOVAK HIGH-SCHOOL STUDENTS

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ABSTRACT
The issue of gender stereotyping of political candidates has been substantially researched in Western developed democracies (e.g. Sapiro 1982, Huddy and Termkildsen 1993, Kahn 1994, Matland 1994, Aalberg and Jenssen 2007), yet under-researched in the context of new democracies in Central and Eastern Europe. Evidence in previous research suggests a certain discrepancy between attitudes toward the equal perception of political candidates that are explicitly articulated in surveys and the latent ones examined in experimental research. The purpose of this paper is to confront the existing literature with post-communist context found in Slovakia. During the communist regime, women were generally portrayed as practically equal in most areas of social life, which contrasts with conservative attitudes continuously present in the Slovak society. Additionally, Slovakia has had a recent experience with the female prime minister as Iveta Radičová served in this position between 2010 and 2012 as the head of a short-lived government. For the empirical part of the paper, we build on experimental designs utilized in existing literature. The data were collected through questionnaires among high-school students in Slovakia in which they were exposed to one of two versions of the same political speech including both explicit and implicit information about

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candidate’s gender, which served as the treatment variable. Subsequently, the data were analyzed using hierarchical statistical models hypothesizing the effect of candidate’s gender on the perception of his/her competence. The paper aims to fill the gap in the research of latent gender stereotyping of political candidates in Central and Eastern European countries.

Key words: political representation, gender stereotypes, experimental design, hierarchical models

INTRODUCTION

When looking at recent years, many large scale global events and crises have had women as heads of political and decision making bodies which were in charge of solving them. Whether we talk about refugee crisis in Europe, where Angela Merkel firmly held to the position of leader not only of Germany but also European Union, or about newly appointed Prime Minister of United Kingdom, who is supposed to lead her country through the unprecedented process of leaving the Europe’s most comprehensive integration project ever seen, or perhaps worldwide observed situation in United states, where Hillary Rodham Clinton, despite losing the electoral college, was able to win popular vote in the presidential elections by biggest margin in history of US elections. All these examples show that having women in political leadership is not a new situation in 21st century and that female political leaders are nowadays very visible and crucial part of political elite. Moreover, this is not the case not only in the countries of western Europe and US, but nowadays it is getting less surprising to see women holding highest political offices even in countries of Central and Eastern Europe.

Despite this, the data suggest that the issue of political underrepresentation seems to still be the problem in many countries, while women are almost exclusively on the side of underrepresented. This constitutes a problem from different point of views. Over the years, political scientists, sociologists and philosophers were dealing with the issue of political (under) representation with the emphasis on problems its causes such as with the ideals of democratic citizenship (Marshall, 1973), legitimacy (Beetham, 2006), representation of interests (Ruedin, 2013), fairness (Dahlerup, 2011), missing opportunity of utilizing resources (Lovenduski, 2000) and many of the explanations of this phenomenon in some way work with the concept of so called gender stereotypes or gender bias.

While the issue of gender stereotyping of political candidates has been substantially researched in Western developed democracies (e.g. Sapiro 1982,
Huddy and Terkildsen 1993, Kahn 1994, Matland 1994, Aalberg and Jenssen 2007), it is yet under-researched in the context of new democracies in Central and Eastern Europe, which is a gap this paper aim to help to fill by studying the case of Slovakia. The case might be interesting for several reasons. Firstly, during the communist regime, women were generally portrayed as practically equal in most areas of social life, which contrasts with conservative attitudes continuously present in the Slovak society. Additionally, Slovakia has had a recent experience with the female prime minister as Iveta Radičová served in this position between 2010 and 2012 as the head of a short-lived government.

The main research question of the paper follows the previous research on the topic and asks whether gender makes a difference in the perception of political candidates with regard to their competence to hold political office. To answer this question, we conducted a social-scientific experiment, which should better detect the presence of, by common survey technique untraceable, latent stereotypes. The main goal of the experiment was to measure differences in perception of political candidates depending on their gender through a series of short tasks followed by a questionnaire which allowed us to gather gendered data about their assessment of the candidate. The data were gathered from 411 students of 6 general secondary grammar schools across the Slovakia, which helped us to get sample big enough to ensure variance in dataset and to reduce the potential selection bias. Collected data were then analyzed using hierarchical statistical models to test four hypotheses, covering the hypothesized effect of candidate’s gender on their perceived competency to hold the political office, to stand as a leader of a political body and to deal with particular policy areas. The results show that in the evaluation of overall competence of candidate’s gender does not play a role, and respondents’ evaluation is dependent on their agreement with the presented political speech. Results regarding a ‘glass ceiling’ hypothesis assuming that women are trusted mainly on lower levels of government or in non-leadership positions are rather inconclusive and would require further, and improved analysis. Finally, hypothesis which states that men and women are evaluated differently in different issue areas is supported by the data.

1. POLITICAL REPRESENTATION AND GENDER STEREOTYPING

Political representation, as one of the core concepts of political science, has been studied from different aspects by countless authors. Practically every political unit presently known, either democratic or non-democratic in its nature, refers to it in some way to legitimize its actions or even sole existence. In order
for representation to take place, there are two main conditions to be fulfilled – to have group to be represented and to have the representatives. (Ruedin, 2013) In its minimalistic definition, the concept of representation refers to the mechanism of translation of interest of individuals or various groups in a larger unit, for example in the society or state. Hence it is a concept which can manifest in different variations as the representation of particular interests is often connected with the characteristics of group to be represented. Worldwide, the state of the art research is for example oriented on the causes and implications of the under representation of particular groups based for example on their ethnicity (e.g. Moser, 2008; Togeby 2008), religion (e.g Sinno, 2009), economical status (Rigby and Wright, 2013), gender (e.g. Lovenduski, 2000; Dahlerup, 2011; Ruedin, 2013) or even the curious combination of such affiliations. (e.g. Bhargava, 2012)

Political scientists, sociologists, philosophers and others try to analyze the issue of political (under) representation with the emphasis on problems its causes such as with the ideals of democratic citizenship (Marshall, 1973), legitimacy (Beetham, 2006), representation of interests (Ruedin, 2013), fairness (Dahlerup, 2011) or missing opportunity of utilizing resources (Lovenduski, 2000).

1.2 Gender stereotypes

There are several explanations of reasons why the underrepresentation of particular groups seems to be persisting. One of the most common used is the one connected with the theory of patriarchy. It argues that underrepresentation of women can be explained by structural and institutional factors which conserve the gender roles. These gender roles, which are systematically advantaging one group of people over the other in various aspects of public and private life, can then manifest as gender stereotypes – the generalized and commonly perceived sets of characteristics, traits and skills ascribed exclusively to a particular gender.

In one of the most general definition, the gender stereotypes are understood as ascription of different traits, behaviors or even political beliefs of politicians, based on their gender. (Huddy & Terkildsen, 1993, pp. 120-121) Existence of gender bias is one of the most common explanations of why we do continuously see, when looking at the issue from the gender perspective, a significant difference in the demographic composition of societies and the composition of legislative bodies within them. This implies that voters’ stereotyping of male and female candidates have potential to hinder the way of future politicians into elective office (Kahn, 1994, p. 163) or putting in place so called glass ceilings which limit the opportunity of underrepresented group to rise in political ranks, which consequently tends to
lead to the replication of these patterns. (Niskanen, 2011, p. 30)

Psychologists argue that, similarly to the other characteristics of candidate, such as belonging to some particular demographic group or political party, the gender could too serve as an information shortcut to estimate features of politician. (Aalberg & Jenssen, 2007, p. 19) They understand it as the part of a bigger schema or cognitive structure which enables an individual, in this case voter, to make sense of the otherwise possibly overwhelming amount of information about candidates and to help public to decide if they should cast a vote for a particular candidate.

Previous research show that people indeed tend to evaluate the performance and competency of candidates differently when there is no other difference in their overall profile besides their gender, the evidence about the effect of these stereotypes on the voting behavior is however mixed. While some studies suggest the indirect effect of the candidate’s gender on the probability of getting the vote (e.g. Kahn 1996, McDermott 1997 or Dolan 1998), others suggest that the bias are rather connected with the perception of different genders of being equipped with different areas of expertise (e.g. Matland 1994). Moreover, the nature of stereotype and their potential effect are also context dependent, as the different sets of expectation for male and female politicians were for example found out to be more strong within societies with traditional division of labor. (Aalberg & Jenssen, 2007, pp. 19-20)

Kahn’s (1994) argues that gender stereotypes can manifest in two different, yet connected dimensions, the dimension of political domain and the dimension of electability. The first one refers to the situation when gender stereotypes are limiting the range of issues a candidate might be perceived to be able to successfully deal with, while this being not derived from the candidate’s education or experience but rather his or her gender, while the second suggests that women have, due to the presence of so called glass ceiling, more complicated way to get the elected offices, and that the higher in the governmental hierarchy is the office, the more problematic is to get elected into it.

1.3 Gender stereotypes and political domains

Probably the most consistent form of gender stereotyping in politics is based on differing expectation among voters about the competency to deal with issues in different policy areas. While this might sound pretty straightforward, the complications come when we are supposed to define which areas are perceived
as traditionally the domain of man, and which on the other hand are the domain of women and what role in this division is played by social context.

Huddy & Terkildsen (1993) argue that the source of different expectation has two sources, the one based on the difference in personal traits and the difference in beliefs. Literature about personal traits gather mostly from studies of psychologists, who in general argue that the most common stereotypes are that women are often seen as more compassionate, nurturing, warm, gentle, kind and passive, while man are typically viewed as more tough, aggressive and assertive (Huddy & Terkildsen, 1993, p. 121)

This general difference then forms the assumed division of issues and policy areas, where different genders should have upper hand over the others. Previous research (e.g. Huddy & Terkildsen, 1993; Matland 1994; Kahn 1994; Sanbonmatsu, 2002) show that expected feminine traits are translating into stereotypes which suggest that they are more competent to deal with social issues, poverty, education, women’s rights, environment and healthcare. On the other hand, the expected masculine traits make men to be more competent in areas as crime handling, defense, foreign policy, and in some cases also the areas of agriculture and economy.

The second source of different expectation are based on assumption, that men and women are believed to possess different beliefs and therefore to be more likely sided with a particular type of ideology. Translated into politics, women can be often perceived as more liberal and Democratic2, what makes them perceived to be more qualified when focusing on domestic and social issues, while trailing behind on issues such as economy and defense.

1.4 Gender stereotypes and electability

The second factor, electability of candidate, is connected with the understanding of structure and responsibilities of government. This line of argument suggests that the importance of the office, its position in the nationwide hierarchy will be a significant affecting different perception of men and women being able to hold the particular office. According to Kahn’s (1994) research shown that issues commonly connected with central government and perceived as the issues on national importance and impact are often perceived as areas belonging to then men to handle. On top of that, it is assumed that issues of such scope are more than other requiring the strong political leadership, the trait

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2 Understood in the context of US politics
ascribed more often to men than women (Kahn, 1994, p. 163).

This translated into the stereotype that the top governmental posts who are in general dealing with issues of (inter)national importance such as defense, foreign policy etc. are better to be held by male politicians, while the issues of more localized scale and effects such as social issues and healthcare are more connected on with lower level or even regional level governmental officials and as a domain where women might to be perceived superior.

2. RESEARCH DESIGN

2.1. Experimental method in the study of biases

Experimental design is a popular and well-tested method for the study of stereotypes (Sapiro 1981, Aalberg & Jenssen 2007, Matland 1994, Huddy & Terkildsen 1993, Dovidio, Evans & Tyler 1986, Peffley, Shields & Williams 1996) . There are several major advantages of experimental studies as compared to all other research methods as they allow “more precise manipulation of the independent variables” (Sapiro 1981, 76). This way, as Matland (1994) points out, experiments by their nature simplify interpretation of results by control of causal ordering, hence reduce space for any ambivalence in this regard. Additionally, they empower researchers to control for the environment in which hypotheses are tested – on one hand, to minimize the effect of extraneous variables; on the other, to control for alternative explanations by inclusion of some of the variables that can be expected to influence measured phenomena. Sapiro (1981) also contends that experimental designs in the study of stereotypes enable researchers to test for unconscious, latent biases, which are unmeasurable in survey designs by inclusion of stereotype-triggering variables, such as gender, in such a way that leaves respondents in a state of certain ignorance and allows them to answer without consideration of what is perceived as socially acceptable or, perhaps, expected. Contrarily, major disadvantage of such studies is that they seek for a consistent and systematic bias in the sample, from which inferences about the population are made - this increases chances for ‘false negatives’, hence wrongful rejection of hypotheses.

As demonstrated, different studies suggest that different kind of stereotypes might be present in different societies and context. Therefore, this paper aim to test the finding of previous researchers on a yet unexplored case of Slovakia. Previous experiments conducted on the topic of the gender stereotypes and role of the gender in evaluation of political candidates provide quite extensive variety of, more or less
complementary, methodological alternatives. In most of them, the same speech is provided to the respondents in experiments, while the gender of the candidate is usually being the only thing making the task and questionnaire different. This is for example the case of the experiment conducted by Virginia Shapiro (1981) who presented her respondents with the fairly neutral and non-antagonizing speech of candidate to the US senate, examining the cause of candidate’s gender on the perception on competence in particular policy areas and the ability to bring positive change. Minor alternations are however possible. Matland (1994) for example followed very similar way, but expanded the design by controlling the ideological background of respondents by giving them versions of the speech closer to the preferences of respondents. On the other hand, Aalberg and Jenssen (2007) were more true to the legacy of Shapiro’s design, when taking non-ideological speech from Norwegian parliament and recreating it by recording a video of the speech delivered by male and female actor. The more innovative approach can be then found in experiments of Huddy and Terkildsen (1993), who added the variation on intervening variable, when not only presenting respondents with the content about candidate not only modified by their gender, but also by ascribing them stereotypical masculine and feminine traits.

2.2. Sample choice

As respondents for the study we chose the population of high school students in Slovakia, which has several consequences for the interpretation of results. First of all, students around the age of 18 years are believed to be already to a large extent politically socialized – they are supposed to possess a core set of attitudes and value standards towards political system (Almond and Verba 1963), which have a lasting effect on the formulation of their political ideas (e.g. Balea 2013). On one hand an experiment with this focus can provide us with insights about the existing gender stereotypes in the society – the effect of environment which respondents were socialized in, and on the other it can clarify our expectations about the development of gender stereotyping of political candidates, as respondents’ attitudes are believed to considerably remain with them for the rest of their lives.

There is a variety of types of high schools in Slovakia. We focused on general secondary grammar schools as they should be all inclusive without any systemic bias in representation of different social groups – perhaps with the exception of economic background. This should ensure that all random factors in the sample (school and class) would not systematically influence the results
of analysis. Moreover, choosing secondary grammar schools as a sample can be expected to cover reasonably representative sample with regard to ideological preferences and knowledge of politics, while to some extent controlling for variables such as educational ambition and class background (e.g. Matland 1994). We aimed at selecting one school in each administrative region in Slovakia in order to cover various socio-economical environments present in Slovakia. At the same time we attempted to include schools with best output quality\(^3\). The ranking is often criticized for rewarding schools for attracting better students, suggesting it preserves differences between students caused by social and economic factors. For our research such an assumption has great implications as it allows us to control for the impact variables such as economic background or education of parents without requiring respondents to answer such questions. On the other hand, a major disadvantage of the sample choice stems from the fact that if our assumption about economic background is true, then we exclude students from worse social and economic environment in which gender stereotyping can be a greater issue.

2.3. Data collection

Altogether, the experiment was conducted in 17 classes consisting of 411 students, which all lasted 45 minutes. We were not able to find a school willing to participate in the research in all of Slovakia’s administrative regions, particularly in Bratislava and Košice regions. All schools involved in the research, including the dates of data collection and number of classes and students who participated in the research is disclosed in Table 1. In the introductory part of every session we introduced ourselves admitting our university affiliation. However, the nature of experiment was not revealed to respondents, only to schools’ directors and teachers, while students were told the research focuses on the topic of political communication, how young people understand political speeches and what issues they react to.

<table>
<thead>
<tr>
<th>Date</th>
<th>School</th>
<th>N (classes)</th>
<th>N (students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 3, 2016</td>
<td>Gymnázium in Dubnica nad Váhom</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>Nov 4, 2016</td>
<td>Gymnázium P. Coubertina in Piešťany</td>
<td>4</td>
<td>68</td>
</tr>
<tr>
<td>Nov 14, 2016</td>
<td>Gymnázium Veľká Okružná in Žilina</td>
<td>2</td>
<td>39</td>
</tr>
<tr>
<td>Nov 16, 2016</td>
<td>Gymnázium A. Vrábla in Levice</td>
<td>2</td>
<td>97</td>
</tr>
<tr>
<td>Nov 14, 2016</td>
<td>Gymnázium J.G. Tajovského in Banská Bystrica</td>
<td>6</td>
<td>142</td>
</tr>
<tr>
<td>Nov 24, 2016</td>
<td>Gymnázium J.A. Raymana in Prešov</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>17</strong></td>
<td><strong>411</strong></td>
</tr>
</tbody>
</table>

\(^3\) As measured by Ranking of high schools in Slovakia conducted by a non-governmental organization INEKO – Institute for Economic and Social Reforms. The ranking can be found here: http://skoly.sme.sk/
Table 1. Number of classes and students who participated in the experiment by schools

After the introduction, students were given two types of questionnaires. Questionnaires were completely identical and differed only in the gender of the candidate indicated – hence the only difference was the independent variable we manipulated with. At the core of questionnaire was a 2-page anonymized political speech in a written form. The final wording of the speech was based on the Report on the state of the republic delivered by Andrej Kiska, the president of the Slovak Republic, on June 18, 2015. This speech was chosen for several reasons. It seemed to us rather ideologically unbiased while it not too controversially discussed crucial problematic areas in the country, while remaining vague regarding their possible solutions. This was done in order to minimize the chances of respondents sabotaging the questionnaire based on potentially strong pre-existing political preferences. The speech was shortened and presented as a speech of an anonymous political candidate introducing his or her political views to the general public. Content wise, it covered predominantly the following topics: healthcare (approx. 13% of the text), regional development (12%), education (11%), justice (11%), and defense (10%). Some topics presented in the original speech were marginalized, such as EU relations (7%), economy (4%), or completely left out – e.g. unemployment. This was done in order to be able to observe whether emphasis on particular topics, or their absence would play a role in the evaluation of political candidate’s ability to deal with particular issues.

The questionnaire consisted of four parts, with the speech located between the two. The objective of first two parts was to gather information about respondents, and to plant the idea of candidate’s gender in their mind. The last two parts asked about respondents’ perceptions of competence of the candidate with regard to different levels of government, and with regard to specific issue areas.

Besides basic questions about respondent’s age, gender and school or class they had belonged to, the first part of the questionnaire aimed to address students’ attitudes and preferences that may have been relevant for the studied matter. In Matland’s experiment (1994) students had the opportunity to choose between Labouror Conservative party candidates in order to minimize the effect of their party alignment on the perception of presented speech. In Slovakia no such clear and uncontroversial division between is at hand, but we had expected that certain attitudes may be more in line with opinions presented in the speech, no matter how vague and uncontroversial it was. For that reason, we included three questions
regarding students’ attitudes – one targeting their stance on concentration of
wealth, the other aimed at the perceived importance of customs and traditions
in a society, and the last one was asking about their attitudes regarding equal
opportunities. In addition, assuming that respondents with less interest in politics
may be easier to persuade by political speech we included a question regarding
their self-perception of how much are they interested in Slovak politics. Answers
for these questions were indicated on 7-point scales where the higher the number
respondents indicated, the more they agreed with the presented statement.

The second part of the questionnaire was designed to paint an image of
the candidate in respondents’ minds in order to ensure they will visualize him or
her so they would be implicitly aware of their gender. There were two reasons
for paying special attention to this issue: first of all, Sapiro (1981) in her paper
describes few instances in which respondents failed to realize the gender of the
candidate; and secondly, the pilot study conducted on a small sample of university
students discovered rather worrisome recognition of candidate’s gender, which
is the central variable in this research. This was done in three steps. At first,
students read a short made-up bio of a candidate which presented him or her as a
lawyer with young family, who studied both in Slovakia and abroad, who worked
in private as well as public sector, while his or her affiliations were sufficiently
vague so they would not have invoked any strong feelings. In order to be able
to assess whether students correctly recognized gender of a candidate we asked
them to write three adjectives describing him or her based on the bio, utilizing
gender-sensitivity of Slovak language to male and female adjectives. We did not
encounter any case in which a respondent used incorrect adjective suffixes, hence
we believe it is correct to assume every participant was aware of the gender of the
candidate. Finally, at the end of this part students were asked to answer simple
dichotomous question whether they can imagine the candidate holding various
offices – from general prosecutor, through judge, to diplomatic position or being
a director of a hospital.

After reading of the speech, students were presented with two tasks. In
the first task respondents were asked to evaluate candidate’s competence to hold
different political offices on different levels of government and indicate them on
7-point scale where 1 meant absolutely incompetent and 7 absolutely competent.
The list of different political offices intentionally covered various positions in
governmental hierarchy, as well as differentiated between positions with implied
demand for certain leadership to answer research questions regarding overall
perceived competence of male and female candidates, and the “glass ceiling”
expectations that women are perceived as better suited for positions in lower
levels of government and for positions that do not require leadership. After these six questions, students were asked to indicate the level of their agreement with the speech in order to control for the effect of their conflict with presented views.

In the second task students were asked to order issue areas by the level of perceived competence of the candidate in each of them. There were 9 areas included – external borders security, long-term unemployment, access to quality healthcare, corruption, quality of educational institutions, Slovak presidency in the EU, law enforcement, public debt of Slovak economy, and living conditions of young families. Requirement for ordering was in the study included to prevent students from clustering their answers, and to ensure variance in the sample. Out of 411 respondents 30, that is 7.3%, failed to correctly use all numbers between 1 and 9 as they were asked to. The list was constructed to mirror various policy areas where gender stereotypes can be expected to play a role, while some of them were not presented in the speech. The rationalization for inclusion of this task was to enable us to analyze whether candidate’s competence is perceived differently with regard to issue areas based on the gender.

Based on the written above, we formulate following hypotheses:

*Hypothesis 1: If a candidate is female, then she is perceived to be less competent to hold political office*

*Hypothesis 2: If a candidate is female, then she is perceived to be less competent to hold an office at national level as compared to local level.*

*Hypothesis 3: If a candidate is female, then she is perceived to be less competent to hold office with leadership responsibilities than an office without such responsibilities.*

*Hypothesis 4: If a candidate is female, then she is perceived as more competent in women stereotypical issue areas as compared to stereotypical male issue areas.*

3. RESULTS

3.1. Descriptive Statistics

With regard to gender variable our sample was distributed quite fairly. On one hand we have over-representation of women respondents in the sample, as
they comprise as much as 62% of all respondents. This is caused by factors beyond our powers, but it should be admitted that we hoped for more equality in this regard, as this was one of the reasons why we chose general secondary grammar schools. One participant failed to indicate his or her gender, for that reason the total number presented in Table 2 differs from the total number of participants. On the other hand, we were able to secure equal number of respondents to be presented with each gender of candidate, while even within respondents’ gender groups the questionnaires were distributed quite equally.

<table>
<thead>
<tr>
<th>Candidate’s gender</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>79</td>
<td>76</td>
<td>155</td>
</tr>
<tr>
<td>Female</td>
<td>126</td>
<td>129</td>
<td>255</td>
</tr>
<tr>
<td>Total</td>
<td>205</td>
<td>205</td>
<td>410</td>
</tr>
</tbody>
</table>

Table 2. Distribution of questionnaires by gender of respondents and candidates

The average age of the participant was slightly below 18 years and as can be seen in Figure 1, the age variable concentrates around the age of 18, with few cases on each side of it. This demonstrates that it is fair to postulate that the sample fits the ‘political socialization’ argument of sample selection. Contrarily, inclusion of value variables proved to be very unsuccessful and not usable for the analysis as all three of them are very much skewed in favor of strong agreement with proposed statements. As these were seemingly contradictory – two appealing to rather liberal values regarding wealth distribution and equality of opportunities, and the other appealing to conservative sentiment regarding appreciation of customs and traditions – it is difficult to interpret their frequency distributions. Consistency of measured high values can, on one hand, suggest very strong opinions of respondents, but taking into consideration the contradiction between them raises concerns why respondents rarely dared to disagree with proposed statement. A possible explanation for this is an interaction between the fact that respondents did not have clear opinions on value questions they were presented with, with rather suggestive phrasing of these questions.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>St.Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>409</td>
<td>17.96</td>
<td>0.82</td>
</tr>
<tr>
<td>Wealth should not be distributed in hands of few</td>
<td>411</td>
<td>5.51</td>
<td>1.61</td>
</tr>
<tr>
<td>It is important that people value customs and traditions</td>
<td>411</td>
<td>5.92</td>
<td>1.24</td>
</tr>
<tr>
<td>It is important people are treated equally and have equal opportunities</td>
<td>411</td>
<td>6.06</td>
<td>1.29</td>
</tr>
<tr>
<td>Level of interest in Slovak politics</td>
<td>411</td>
<td>3.40</td>
<td>1.62</td>
</tr>
<tr>
<td>Level of agreement with the text</td>
<td>402</td>
<td>5.21</td>
<td>1.24</td>
</tr>
</tbody>
</table>
Further, the average level of interest in politics was 3.4 suggesting that most of the respondents does not care about politics too much, which can be also seen in Figure 1. Variable is fairly normally distributed, and it seems reasonable to use it in the analysis. And finally, the level of agreement with the text on 7-point scale was on average at 5.21. The Figure 1 shows the same, majority of respondents agreed with the text, and for that reason the frequency plot is skewed towards higher values. In order to avoid multicollinearity, we looked at correlation between these two variables and the Pearson’s r of 0.05 shows very weak relationship between them.

![Figure 1. Frequency distributions of age variable, and control variables](image.png)

### 3.2. Model choice

For the statistical analysis we used cumulative link mixed model using package ordinal in R (Christensen, 2015). Cumulative link mixed models are hierarchical models used for ordered categorical response variables with explanatory variables with both random and fixed effects where subsamples cannot be perceived as independent and are predicted to correlate. Put differently, in cumulative link mixed models ordinal response variable $\gamma_i$ that can fall in $j$ categories, where $J \geq 2$ follows a multinomial distribution with parameter $\pi$.
where \( \pi_{ij} \) denotes the probability that \( i^{th} \) observation falls in response category \( j \).

\[
\gamma_{ij} = P(Y_i \leq j) = \pi_{i1} + \pi_{ij}
\]

In our case the distribution of response variable(s) with 7 ordered categories can be predicted to depend on the region and their specific socio-economic environment. As we have exactly one school in every administrative region the school variable will be used as a random effect to control for the effect of regions. Our primary focus will be however on the fixed effect of candidate’s gender variable which is at the core of this research. The process of modelling was the same for all hypotheses. We started with null model without any explanatory variables, then we added fixed effect variable of candidate’s gender as the most crucial independent variable. Then we added random effects to control for possible intra-cluster correlations – except for school variable, we used also individual students and specific questions as random effects, if it was appropriate. Finally, we added other possible explanatory variables to the model – gender of the respondent, agreement with text, and interest in politics – in order to get as complex insight in the explanation of dependent variables as possible. The process of modelling is summarized in Table 4, where \( \theta_j \) refers to threshold parameters, \( \beta_n \) are fixed effects and \( \nu_n \) denotes random effects.

<table>
<thead>
<tr>
<th># Model</th>
<th>variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 0</td>
<td>( \theta_j )</td>
</tr>
<tr>
<td>Model 1</td>
<td>( \theta_j - \beta_1 ) (candidate’s gender)</td>
</tr>
<tr>
<td>Model 2</td>
<td>( \theta_j - \beta_1 ) (candidate’s gender) - ( \nu_n )</td>
</tr>
<tr>
<td>Model 3</td>
<td>( \theta_j - \beta_1 ) (candidate’s gender) - ( \beta_2 ) - ( \nu_n )</td>
</tr>
</tbody>
</table>

Table 4. Summary of step-wise cumulative link mixed model used

3.3. Analysis

For the four hypotheses formulated earlier in the paper we devised 8 possible dependent variables, as there are multiple possibilities on measuring them in our data. This chapter of the paper will proceed as follows. At the beginning of each part we will explain what is the dependent variable, how the data was restructured, or how it was calculated. Then we will present simple chi-square tests for comparisons between different models to assess whether candidate’s gender does improve the model fit. When it does, we will present summary
statistics for the most complex model (Model 3) in order to show parameter estimates of explanatory variables to understand vectors and strengths of their effects. In case the model fit does not improve we will just report on summary statistics in the text\(^4\).

### 3.3.1. Are women perceived as less competent?

Model A.

For testing of this hypothesis data on 6 questions regarding candidate’s competence to hold particular offices (prime minister, member of the cabinet, MP, party leader, mayor, local MP) were restructured to the long format, so for each respondent – who answered all questions – we had 6 observations in the data. Their evaluation of candidate was treated as a dependent variable, whereas in addition to school as we also included particular respondent and particular office in question as random effects. This was based on the assumption that it can be predicted that certain students were more difficult – or less difficult, for that matter – to please, giving overall poorer scores to candidates. Similarly, we predicted that it was easier to get better scores on particular offices as compared to others – for instance, it is fair to assume that it was more difficult to be evaluated with a high score with regard to competence to be a prime minister, as compared to competence to be a member of parliament.

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>Pr(&gt;Chisq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A – model 0</td>
<td>8,189</td>
<td></td>
</tr>
<tr>
<td>A – model 1</td>
<td>8,189</td>
<td>0.194</td>
</tr>
<tr>
<td>A – model 2</td>
<td>7,399</td>
<td>&lt;0.001 ***</td>
</tr>
<tr>
<td>A – model 3</td>
<td>7,272</td>
<td>&lt;0.001 ***</td>
</tr>
</tbody>
</table>

Note: \( p<0.01 *** \quad p<0.05 ** \quad p<0.1 * \)

\[ N = 393 \text{ students} = 2,358 \text{ observations} \]

Table 5. Likelihood ratio tests of cumulative link models
- Model A – competence hypothesis

Including gender of the candidate in the model does not improve the model fit, as is shown in Table 5. For that reason, we do not interpret summary statistics for the model. However, results suggest that there are certain patterns in the data\(^4\) Complete analysis, including original dataset, R code and all the results can be provided upon request.
– first of all, inclusion of random effects improves the model fit suggesting that observations really do correlate within clusters; and secondly, additional fixed effects improved the model as well, especially ‘agreement with text’ variable which by increasing by 1 increases observation on the dependent variable by 0.85 at 99.9% confidence level.

3.3.2. Are women perceived as more competent on local level?

Model B.

First model for testing ‘glass ceiling’ hypothesis with regard to levels of government uses as a dependent variable difference between evaluation of competence of candidate as possible MP and the local MP. The more suited is a candidate to hold office at the local level as compared to national level, the lower was the value on the dependent variable. The expectation was that if a ‘glass ceiling’ hypothesis is correct, then this value would be higher for female candidates.

Model C.

The second model for ‘glass ceiling’ hypothesis on different levels of government looks at the difference in the perception of competence of candidates on different levels of government in offices with implied leadership requirements. The dependent variable was calculated as a difference between competence in the office of prime minister and competence in the office of mayor. The higher the number was the less suited the candidate was to hold leadership office at the national level.

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>Pr(&gt;Chisq)</th>
<th>Model</th>
<th>AIC</th>
<th>Pr(&gt;Chisq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B – model 0</td>
<td>1,577</td>
<td></td>
<td>C – model 0</td>
<td>1,682</td>
<td></td>
</tr>
<tr>
<td>B – model 1</td>
<td>1,579</td>
<td>0.717</td>
<td>C – model 1</td>
<td>1,684</td>
<td>0.826</td>
</tr>
<tr>
<td>B – model 2</td>
<td>1,580</td>
<td>0.411</td>
<td>C – model 2</td>
<td>1,685</td>
<td>0.246</td>
</tr>
<tr>
<td>B – model 3</td>
<td>1,578</td>
<td>0.053 *</td>
<td>C – model 3</td>
<td>1,677</td>
<td>0.003 ***</td>
</tr>
</tbody>
</table>

Note: p<0.01 *** p<0.05 ** p<0.1 *

N = 393 students

Table 6. Likelihood ratio tests of cumulative link models – Models B and C – glass ceiling hypothesis on levels of government

Table 6 shows that neither of the models improves when candidate’s gender is taken into account. Both models significantly improve only in the last
step of modelling, when control variables are included, and both show ‘agreement with text’ as a variable that significantly helps to explain the dependent variables.

3.3.3. Are women perceived as more competent in non-leadership positions?

Model D.

For the second ‘glass ceiling’ hypothesis – assuming that men are perceived to be better suited to hold positions that require certain leadership skills – we calculated the difference between perceived competence of a candidate to hold a leadership office and a regular office within the same level of government. In Model D the dependent variable is the result of subtraction of the perceived competence to be an MP from the competence to be the prime minister. Third hypothesis suggests that when a candidate is female this difference should be smaller.

Model E.

The dependent variable in Model E was calculated as a difference between perceived competence to be a mayor and competence to be MP on the local level. Once again, the hypothesis suggests that female candidates should be perceived as less competent to hold leadership office, hence the difference should be larger for female candidates.

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>Pr(&gt;Chisq) (M_n v. Mn-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D – model 0</td>
<td>1,344</td>
<td></td>
</tr>
<tr>
<td>D – model 1</td>
<td>1,346</td>
<td>0.889</td>
</tr>
<tr>
<td>D – model 2</td>
<td>1,348</td>
<td>1.00</td>
</tr>
<tr>
<td>D – model 3</td>
<td>1,340</td>
<td>0.003 ***</td>
</tr>
</tbody>
</table>

Model E

<table>
<thead>
<tr>
<th>Model</th>
<th>AIC</th>
<th>Pr(&gt;Chisq) (M_n v. Mn-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E – model 0</td>
<td>1,115</td>
<td></td>
</tr>
<tr>
<td>E – model 1</td>
<td>1,115</td>
<td>0.121</td>
</tr>
<tr>
<td>E – model 2</td>
<td>1,117</td>
<td>1.00</td>
</tr>
<tr>
<td>E – model 3</td>
<td>1,120</td>
<td>0.514</td>
</tr>
</tbody>
</table>

Note: p<0.01 *** p<0.05 ** p<0.1 *

N = 393 students

Table 7. Likelihood ratio tests of cumulative link models – Model D and E – glass ceiling hypothesis in leadership positions

Once again, as Table 7 shows, in neither of cases have candidate’s gender make any difference for the model fit. Model fit is improved only when control variables are added to Model D, and once again the only statistically
significant variable is ‘agreement with text’, but in rather unexpected direction – by increasing respondent’s agreement with the text by 1, the value on the dependent variable increases by 0.25. Counterintuitive nature of the results can possibly be understood as respondents’ projection of the candidate preferably in the leadership position based on their agreement with the speech.

3.3.4. Are women perceived as more competent in stereotypical women issue areas?

Model F.

The last hypothesis predicts that there are issues that are perceived as more masculine, and hence male candidates should be perceived as more suited to work in these fields. The first dependent variable we used to test this hypothesis was related to issues that carry certain stereotypical connotation and were mentioned in the text. It was calculated as a difference between ranking assigned to the field of education and ranking of competence in external security issues. The hypothesis predicts that this difference should be lower for female candidates. For instance, if a candidate was perceived as the most competent in the field of education (assigned number 1), and the least competent in stereotypically male issue – external security (assigned number 9), the value on our dependent variable would be -8. Hence, the lower the number on the dependent variable the more competent candidate is in male issue are as compared to the female issue are.

Model G.

Similarly, to the first dependent variable used for testing this hypothesis, the second too compared ranking on assumed female issue are with ranking on assumed male issue area. Unlike in the first case, for this model we used issues that were not mentioned, or rather were marginalized in the speech – competence to deal with problems of young families as female issue area, and competence with dealing with macro-economic issue of debt as a stereotypical male issue area. Expectation was the same as in the first case, the more stereotypically were candidates perceived the lower number should be found on the dependent variable.
Table 8. Likelihood ratio tests of cumulative link models – Models F and G – gender issues

Of the two models the only one that significantly improves is the one focusing on explicitly mentioned issues in the text (Model F). The model improves twice – firstly, when our main independent variable is added to the model, and then when control variables are included. Table 9 presents the most complex of models with school as random effect variable and three fixed effect variables – gender of the candidate, respondent’s interest in politics, and respondent’s agreement with the presented speech. Most importantly, the results show that the difference between ranking of the male and female issue is dependent on the gender of a candidate – if a candidate is female she is perceived to be significantly less competent in the area of external security as compared to the area of education at 99.9% level of confidence. Also, the more respondents agreed with the text the less they favored competence in the male issue as compared to the female issue area. The results therefore suggest that gender of candidates does have an impact on the perception of candidate’s competence in certain fields, especially when they are not judged with regard to the level of agreement between the respondent and the candidate.

Table 9. Cumulative Link Mixed Model fitted with Laplace approximation for Model F – Model 3
CONCLUSIONS

As can be seen, the results of the research are quite puzzling at this point. This being said, we feel confident to reject the first hypothesis as there was no statistically significant effect the gender on the perceived competency of candidate. In the case of second and third, which aimed to find evidence for the presence of the glass ceiling effect, none of the models showed statistical significance of candidate’s gender variable, however we are not convinced to reject it, admitting possible methodological and analytical flaws on our part. We believe that additional work with the data and the possibly alternative operationalization of dependent variables is needed in order to make a final call. For the last hypothesis however, we find strong enough effect of candidates’ gender on the perception of their ability to deal with issues in particular policy areas. To be specific, we have found that a female candidate was, compared to the male one, more competent to deal with the issues regarding education, while in the case of external security, the perception of respondents tended to head in the opposite way.

These results and the analysis open several questions. While the rejection of candidates’ gender being a factor influencing the perception of young people on their competence to be a part of political elite could be interpreted as a sign of positive development, there are serious reasons for doubting such claim. First of all, the data suggest that there are still policy areas which are perceived as the domain of a particular gender, which supports the theories about gender bias.

More importantly however, the most perplexing issue of our results is in fact not connected with the gender at all. The most consistent factor influencing the perception of candidate appeared to be the overall agreement with the speech, meaning the more students agreed with presented speech, the more competent was the candidate in their eyes. The variable appeared to be statistically significant in 5 out of 7 presently tested models and by that it possibly questions our assumptions about the sufficient level of political socialization among our young people. This suspicion is also supported by looking at the question we put in place to map the ideological structure of respondents, which showed us that they did not seem to have problem to declare agreement with archetypal conservative and liberal values at the same time. This is leading us to the idea that the gender might not, with respect to the scope of our research, serve as a reliable information shortcut and that the reason for the underrepresentation of women is perhaps not driven by stereotyping and prejudice at the bottom level, but is rather a manifestation of the unfavorable conditions coming from the top.
REFERENCES


