Forget about voting, we are going on vacation! Examining the effect of school holidays on turnout

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Abstract: *Media and politicians widely debate the relationship between holidays and political participation, but research in the field is underdeveloped. To test the impact of holidays on election turnout, we use a natural experimental setting in general elections in Slovakia with respect to the presence of holidays near election day. More specifically, while a part of the country had no holidays, other regions either experienced holidays for the first time or had the holiday in a repeated manner. The results from difference--in-differences and OLS regressions employed in the analysis show that experiencing a holiday near election day decreases electoral turnout. However, this negative effect of holidays on turnout is found to be significant only in territories that experienced holidays for the first time, while it is absent in territories that had holidays near elections repeatedly. This finding points to a potential habituation of the electorate and the holidays' influence in the long run. The paper thus contributes to our understanding of how different time aspects of holidays affect electoral turnout.*

Keywords: *holidays, turnout, elections, Slovakia, difference-in-differences*

I. Introduction

Many types of conventional wisdom have been surrounding election day turnout. For example, there have been claims that bad weather, long queues or distant polling stations can decrease turnout. Moreover, some of the turnout literature argues that the individual temporal state of the citizen may play a role in their voting decision. In recent years, political science literature has exam-

ined these circumstantial conditions and come up with more or less substantial effects impacting participation rate (see, for example, Gomez et al. 2007; Garnett – Grogan 2021; Pettigrew 2021; Ksiazkiewicz – Erol 2022). Yet, one factor commonly believed to influence turnout has not been examined thoroughly by scholars: holidays.

Based on rational choice theory, if the citizens' expected utility from the voting act is higher than the costs, they will participate in elections (Downs 1957). However, if the costs for voting are increased, and the motivation to participate is not high, even small costs may persuade a 'fragile' citizen and be the last straw to abstention. This might mean having a holiday in the winter or summer season that could be used for free-time activities with families or friends outside their town. A handful of studies address this question and confirm that organising elections around a holiday depresses turnout (Dubois – Lakhdar 2007; Anderson – Beramendi 2012). On the other hand, to our knowledge, these are only two systematic empirical tests that have been made about the possible effect of holidays on turnout, neglecting the role of this seemingly unrelated factor in other places and conditions. What is more, there has been no investigation on whether repeated holidays in the same place over the years can have a detrimental effect on turnout or not.

Slovakia's 2020 parliamentary elections provided a unique experimental setting where a part of the country did have a school holiday for the whole week, whilst the part of the country operated as usual with no free days. The setting allows us to employ a difference-in-differences (DID) strategy comparing the turnout rates of Slovak municipalities that had school holidays and did not have them before and after the 2020 elections. Using data from all 2,926 municipalities in Slovakia, we find that experiencing the spring holiday for the first time decreases turnout between 1.9 and 2.9 percentage points (depending on the model). We also demonstrate that exposure to the holiday season for several elections does not change turnout significantly. Hence, we are the first to show that repetition of holidays affects turnout differently than holidays occurring for the first time. Additionally, the study contributes to the ongoing debates about how much effort it takes to vote in a specific situation. Finally, the results expand our understanding of the holiday effect by its confirmation in the Central Eastern European region.

The structure of the paper is as follows: in the next section, we will summarise the literature on turnout and seemingly unrelated factors related to it, holiday behaviour and the Slovak case. Then we will describe the methodology and data. To help explain the variation in electoral participation, we also include various control variables. Finally, we discuss the statistical results, implications and conclusions.

II. Voter turnout and holidays

One of the main theoretical frameworks of political participation is the rational choice model, which sees citizens as actors calculating the potential benefits and costs associated with voting (Downs 1957; Riker – Ordeshook 1968; Blais et al. 2000).[1] Regardless of the perceived personal benefits from the electoral outcome, the sense of civic duty or any other motivations driving a voter to polling stations, the individual generally needs to overcome certain costs of voting. Since Downs (1957), researchers have distinguished between the cost of time needed to choose a preferred candidate and the cost associated with the actual voting. The latter category has become one of the research topics of political science scholars, who have been examining some of the logical truisms associated with election day turnout. For example, registration laws (Wolfinger – Rosenstone 1980), long queues formed outside the polling stations (Pettigrew 2021), changes in polling locations (Brady – McNulty 2011) and a longer journey one must take in order to get to the polling station (Gibson et al. 2013; Garnett – Grogan 2021) decrease the likelihood that a citizen will turn out to vote.

When people decide to vote and travel to a polling station, they sacrifice their time that they could use differently. In other words, they are overcoming the opportunity costs incurred by giving up alternative options such as spending time with family, sleeping or doing other non-voting related activities (Kang 2019). It is clear that as the turnout in most democracies is relatively high, for most people most of the time voting is easy, and they are comfortable with sacrificing their time voting (Blais – Daoust 2020). However, sometimes the circumstances can change, and our voting costs suddenly increase, making voting more complicated. One of these circumstances can be when we are away from home on the day of the election, or at least we were planning to be. More pressing situations can overwhelm us and make our temptation to abstain strong. In this study, we argue that seasonal factors may alter the perception of voting costs, and the start of a school holiday that lasts more than a week can represent this temptation. The causal mechanism proposed here is relatively straightforward: school holidays for most voters and pupils can serve as a time for vacation or more time for other activities than voting because pupils do not

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1   The rational choice model originally developed by Downs (1957) works with the equation R = PB – C. R denotes the aggregate utility of participation, P is the probability that a particular decision to participate will be decisive for the outcome, B is the benefit that the individual will receive from participation if the choice is successful (such as the preferred party wins the election), C is the cost associated with participation. However, there is little chance that the citizen's vote will determine the election's outcome, so the P value is almost always zero (objectively). Therefore, costs should, by definition, almost always outweigh the benefits, making participation in collective action irrational for the individual. Riker and Ordeshook (1968) extended the model and added that the reason why citizens tend to vote is also because of the expressive benefits they get from the voting act. These expressive benefits (D), frequently called civic duty, include the satisfaction one gets from adhering to ethical principles (Blais – Achen 2019).

have to abstain from school. Therefore, due to increased opportunity costs, having a school holiday near elections is worse for electoral turnout than having a regular working week ahead.

Not all voters are immune to increased opportunity costs that may cause abstention. As Dubois and Lakhdar (2007: 145) put it, seasonal factors can be used by 'fragile citizens' as an excuse for not voting. They value their holidays, so they travel away from their town even if they do not return home by election day. It is well established that many voters do have a higher value of civic duty, are interested in politics and see elections as an essential act for the future of the country (Blais et al. 2000). However, a certain part of the electorate in the society does not feel a great motivation to vote, is not interested in politics and while the election day is approaching, they are still not decided whether they should vote or not. The so-called 'fragile citizens' or 'late-deciders' sometimes make the final decision on election day and could be persuaded by other than political factors.[2] In these cases, even small changes in perceived costs, such as inclement weather on election day or holiday, can swing the personal decision to the abstain side.[3]

Why would the citizen prefer holiday time instead of election time? Atkinson and Fowler (2014: 57) argue that what non-election-related events do is that they distract citizens from the political process. They examine saint's day fiestas organised close to election days in Mexico and conclude that the events decrease turnout by 2.5 to 3.5 percentage points. Moreover, Stoker and Jennings (1995) show that younger people tend to abstain more around the time of their weddings.[4] The distractions that could be created by circumstances unrelated to political processes make voting a lower-priority activity. Therefore, it is reasonable to assume that the greater the satisfaction and value a voter receives from these alternative activities, the greater the costs of voting are.

Holidays are a special time when students and working people can take time off and are able to do activities they want. In many ways, the behaviour of people during holidays is changing. Generally, most people travel, read or sightsee (de Bloom et al. 2009). Younger vacationers tend to seek more relaxing travel experiences (Gitelson – Kerstetter 1990) and make fewer trips (Romsa – Blenman

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2   Late deciders can be divided into two categories: the first consists of voters generally interested in politics, who follow the election campaigns and therefore leave their decision to the last minute, based on as much information as possible. The second, larger group (also referred to as non-sophisticated late deciders) is generally not very interested in politics, does not have much information about candidates and parties, and is less likely to vote (Yarchi et al. 2021; Brox – Giammo 2009; Irwin – Van Holsteyn 2018).

3   For example, research has found that rain significantly reduces turnout in several developed democracies around the world (see, for example, Gomez et al. 2007; Stockemer – Wigginton 2018; Garcia-Rodriguez – Redmond 2020).

4   On the other hand, events do not have to decrease turnout per se. Addonizio et al. (2007) show that festivals specifically organised to attract citizens to participate increase turnout. However, those activities are election-related, while the study focuses on events that have nothing to do with political processes.

1989). When looking at family activities, children are a factor that influences the type of vacation the family has (Tagg – Seaton 1995). A higher income and education increase the probability of a family vacation abroad (van Loon – Rouwendal 2013). Finally, families that travel a lot have the highest family cohesion among the types of families (Lehto et al. 2012), and when flying on vacation, most of them pursue sun or beach (Prebensen – Kleiven 2006). Other studies looked at different behaviours, effects and changes. For example, the intention to use bike-sharing increases during holidays (Kaplan et al. 2015), the number of car crashes (Anowar et al. 2013) and energy consumption increase when staying at home (Román – Stokes 2015). People spend more prior to holidays (Dodd – Gakhovich 2011), they gain weight more (Turicchi et al. 2020) and their suicide rate decreases (Hökby et al. 2021). The activity of thieves and burglars decreases (Cohn – Rotton 2003). Overall, holidays and vacations have health benefits facilitated by free time for oneself, warmer (and sunnier) vacation locations, exercise and good sleep (Strauss-Blasche et al. 2005), while mood, energy level and satisfaction also increase (de Bloom et al. 2010).

As implied above, the range of activities for families and individuals increases during leisure, from staying at home or outside the house to travelling outside the town or country. Therefore, the plan to take one of the trips may be related to when students have school holidays – mostly on winter and summer holidays, but also during shorter autumn or spring holidays. The rationale for why to opt for this period is logical – the students do not miss school, and at the same time, they can 'kill time'. All of those conditions highlight that when people do not work, their opportunity costs of voting are increased. On the other hand, having a weekend or holiday election decreases the possibility that the citizens will be at work and are more able to organise other activities during the day as they wish (when near polling stations), voting included.

Surveys about the abstention rate suggest that travelling out of town could be one of the reasons for not participating. LeDuc and Pammet (2010) show that around 40% of non-voters in Canada do not come to polling stations because of personal reasons such as they are too busy with work, family and school, they are on vacation or that they just forget. A recent poll in YouGov conducted just after the 2022 congressional elections in the USA stated that a major reason for not voting was in 23% of the time respondents were busy, and 8% said they were out of town (Orth 2022). The most important elections in Canada and the USA are held during the workweek, but most countries have first-order elections during weekends or holidays. In the study of Dubois and Lakhdar (2007), the authors use a survey where 16% of non-voters in the 2002 French presidential elections did not participate because they were on holiday, away for the weekend or out for a walk. Last, a poll report about the abstention in 2004 regional elections in the Czech Republic is available, and almost 14% of non-voting respondents stated they did not participate because 'they were

out of home, on vacation or a business trip' (Machonin 2005). However, these surveys do not tell us about the potentially significant effects of holidays on turnout and the magnitude of these effects.

Although the supposition of a holiday-turnout linkage has received attention from social scientists (see, for example, Downs 1957; Abrams 1970; Blondel et al. 1997; Rolfe 2012; Blais – Daoust 2020), only a handful of studies conducted an empirical investigation of the plausible effect. In the most exhaustive test to date, Dubois and Lakhdar (2007) studied turnout in French presidential elections between 1988 and 2002. France offers an experimental setting when examining the holiday effect because people do not have the same type of holiday at the same time – depending on geographical area, some of the locations were experiencing the school holidays, while others were not. The authors find that having a holiday near elections decreases turnout by about 1.7 percentage points. The extended and updated version of the French case using data from the sixties and seventies indicates that holidays affect the turnout by about one percentage point (Dubois 2012). The work of Dubois and Lakhdar is the only quasi-experimental research focusing solely on the holiday effect. Some other studies use the holiday variable, but only as a controlling factor. Anderson and Beramendi's (2012) analysis focuses on turnout in 14 OECD countries (mainly from Western Europe and the Commonwealth) from the 1980–2002 elections. They report that countries with holiday elections decrease turnout by about 0.1 percentage points. Grey and Cauls (2000) use a similar dataset and conclude that changing the elections to weekends or holidays when it was not a holiday before does not increase turnout. Finally, two studies from Canada show similarly negative effects during winter and summer elections that they generally associate with the holiday season (Blais et al. 2004; LeDuc – Pammet 2010).[5]

To sum up, the empirical evidence from macro-level studies and polls indicates that the voters are susceptible to holidays as a seemingly unrelated factor. During holidays, they might have decided to go out of town and plausibly forget about the elections. Some others might have known about the election date, but the holidays with their families or friends created a conflict between their personal and civic duties. One way or the other, this non-political variable does not seem to increase the participation rate, quite the opposite.

Could there be any conditionality to the holiday effect? Scholars did not pay much attention to the fact that holidays could be experienced differently if they are repeatedly part of the election process and if they are only circumstantial once-in-a-while events. The distinction may lay in so-called habituation. The habituation points to the research on classical conditioning, which demonstrates

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5   When focusing on winter elections, citizens in Canada who spend winter outside of the country in warmer climates are called 'snowbirds'. In their case, voting by post or returning for elections might be too costly (Stockemer – Wigginton 2018).

that human reaction can quickly fade after repeated exposure to a given stimulus. This means that when we experience a specific situation or stimulus for the first time, the event tends to be more pronounced than the nth repetition of the same stimulus. For example, a person jumps when they hear a loud noise, but if repeated many times, they jump less (LeDoux 2003). The habituation patterns are well-known to neurobiologists and behavioural psychologists (Harris 1943; Grissom – Bhatnagar 2009; Rankin et al. 2009). In the area of electoral behaviour, this suggests that voters would eventually adapt to changing conditions that are part of the election process and that this adaptation should mitigate the impacts of the certain change – in our case, holidays.

Some countries like Israel or South Korea designate a special holiday during elections, and most other countries have elections during a regular weekday or a weekend. So, they are either used to repeated holiday conditions or do not have them at all. The comparison of the turnout among countries with holidays and without holidays is problematic for many reasons (i.e. due to different political cultures, electoral laws and electoral systems), and the possible examination of the repetition effect would be most suitable in the setting of a single country, which had holidays repeatedly in one part and had holidays only once in the other part. The case of Slovakia we analyse in this paper fulfils this condition.

III. Holidays and parliamentary elections in Slovakia

Students in Slovak schools have more than 14 weeks of holidays during the year. The holidays are divided into religious holidays (with more than one day), including Easter and Christmas, one-day holidays, also called 'days of rest', and seasonal holidays. The longest summer seasonal holidays last around eight weeks. On the contrary, autumn holidays tend to last only two days. The last type of seasonal holiday is the spring holidays, usually scheduled for mid-February until mid-March. The biggest specificity of spring holidays in Slovakia is that not all students have them at the same time. While all the other holidays start and finish the same day, spring holidays divide the country into three parts: western, central and eastern Slovakia.[6] Depending on the part of the country, the students are granted one week of holiday (five working days). The specificity of this setting is also that every year, a different part of Slovakia starts the 'spring round' of free time. For example, the western part had holidays in 2020 as the first, while in 2021, they were the third in line (after the central and eastern part).

Between 2016 and 2020, the parliamentary elections in Slovakia were always held around the spring holidays. This temporal overlap of holidays with three subsequent elections created a quasi-experimental setting where both holiday-

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6   Central Slovakia contains three smaller regions (Banskobystrický, Žilinský, Trenčiansky), and eastern Slovakia contains two smaller regions (Prešovský and Košický). The western part of Slovakia contains three more regions (Bratislavský, Nitriansky and Trnavský).

-turnout hypotheses could be verified. More specifically, the 2020 parliamentary elections in Slovakia were held on Saturday, 29 February, just when the central part finished the holidays and the eastern part's holidays began. Therefore, municipalities that were part of the 'holiday treatment' were from the central and eastern parts of Slovakia, while western municipalities had holidays way before the election day (from 17 to 21 February). Additionally, in the logic of the second hypothesis, the two-holiday groups did not experience the treatment the same way. The central part had holidays near election day in 2016, and this was not the case in eastern Slovakia, with only the 2020 holiday elections.

Media and political analysts widely debate the relationship between holidays and lower levels of voter turnout in Slovakia, but no empirical test has been made to this date.[7] This paper fills the gap in the research and answers if organising elections near free time events is a good idea for political participation.

Figure 1: The Slovak municipalities divided by the time of their spring holidays
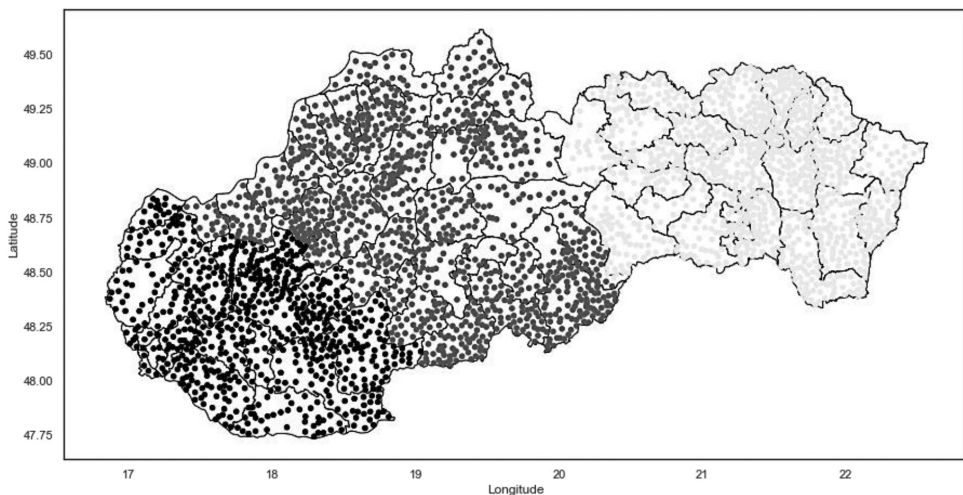
Note: The black spots represent municipalities with no holidays around the election day, the grey spots represent municipalities with holidays in the 2020, and 2016 elections, and the light grey spots represent the municipalities with holidays only in the 2020 elections
Source: Statistical Office of the Slovak Republic, and authors' computations

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7   For example, setting the date of the regional and local elections in 2022 became one of the pre-election themes. The date of the elections was set prior to the autumn holidays. While the chairman of the Slovak parliament argued that more people would participate (as they would return to their permanent addresses) (RTVS 2022), there have been voices raised about the potential decreased participation of voters travelling to their families and outside of the towns (Markíza 2022).

IV. Data and empirical strategy

This paper examines the impact of holidays on voter turnout in general elections in Slovakia. The theoretical part of the text discusses previous research on this topic, which suggests that holidays are likely to decrease turnout. Furthermore, past studies have found that repeated exposure to a stimulus can diminish its expected impact. Based on that, we develop two hypotheses:

H1: The holidays during elections decrease turnout.
H2: The negative effect of holidays on turnout is larger in territories that experience holidays during elections for the first time than in territories that experience such holidays repeatedly.

Our dataset contains all Slovak municipalities in two parliamentary elections between 2016 and 2020. To examine the plausible effect of holidays on turnout and investigate the validity of the first hypothesis, we divide the municipalities into two groups. The first group, coded as one, contains municipalities experiencing holidays near election time. In our case, this includes the municipalities from the central and eastern part of Slovakia. The second group, coded as zero, contains municipalities that did not experience any state-imposed holidays in the 2020 elections. Out of the 2,926 municipalities in the study, 2,232 were assigned to the holiday (treatment) group, while the other 694 units were in the non-holiday (control) group.

Municipalities in the treatment group did not have the same conditions regarding the perception of holidays. While the parliamentary elections in the central part of the country were repeatedly held around the spring holidays, the eastern part did not have them in the 2016 elections. To compare the different plausible effects of holidays, we distinguish between repeated and one-time holidays in our analysis and look at the turnout change between them. In this setting, we have three categories: control group (west), repeated holiday group (central) and one-time holiday group (east). The division of Slovak municipalities into three categories based on holiday status is seen in figure 1.

We opted for presenting the results of the difference-in-differences (DID) regression models as they are easier to interpret. The DID strategy examines (mostly) two groups of units. It is a common type of analysis studying the differential effect of a treatment on a treatment group versus a control group and compares the same units before and after a treatment (holidays) to find the effect (Lee 2016). Our case compares the turnout data in holiday municipalities with non-holiday municipalities before (in the 2016 elections) and after the spring holidays in 2020 (with elections in the same year).

We used DID regressions to examine whether turnout varied significantly in holiday areas compared to non-holiday areas. This approach answers the ques-

tion of how the turnout changed in several areas depending on the existence or absence of spring holidays near election time. The independent variables in the analysis were categorical and used as dummy variables. The reference point in the analysis always represents the absence of the condition (non-holiday places), and, depending on the model, it is compared to the whole group of holiday municipalities (N = 2,232) or part of it. The former direction serves to investigate the first hypothesis, while the latter direction focuses on the second hypothesis. Specifically, we focused on models investigating repetition condition variables: a repetition event dummy (N = 1,107), represented by the central Slovak municipalities and a one-time dummy (N = 1,125), represented by eastern Slovak municipalities. Our models control for several socioeconomic factors associated with voter turnout. Specifically, we include logged population, the median age in a municipality, % of women in the municipality, % of married citizens, % catholic, and % of tertiary education as part of the fixed municipality effects. The data repository for control variables was the Statistical Office of the Slovak Republic which published some of the information after the

Table 1: Descriptive statistics for municipalities with holidays and without holidays

	Holiday 2016		Holiday 2020		West 2016	West 2020	Total 2016	Total 2020
Mean	60.559		64.100		61.269	66.112	60.727	64.578
SD	10.446		10.251		8.565	9.032	10.035	10.011
Diff.		**3.541**				**4.843**		**3.851**
Min	4.126		8.492		0	0	0	0
Max	100		94.311		77.473	88.455	100	94.311
N	2232		2232		694	694	2926	2926
	Central 2016	Central 2020	East 2016	East 2020	West 2016	West 2020	Total 2016	Total 2020
Mean	62.341	66.561	58.805	61.679	61.269	66.112	60.727	64.578
SD	9.864	9.777	10.707	10.134	8.565	9.032	10.035	10.011
Diff.		**4.220**		**2.874**		**4.843**		**3.851**
Min	21.418	24.559	4.126	8.493	0	0	0	0
Max	100	94.311	93.750	94.117	77.473	88.455	100	94.311
N	1107	1107	1125	1125	694	694	2926	2926

Note: Mean turnout is stated as a percentage. The holiday variable contains data from the Central and East part of Slovakia
Source: Statistical Office of the Slovak Republic, and authors' computations

2021 census (marital status, catholic population, tertiary education) and some of the information is released annually (population, median age, proportion of women in municipality).[8]

Our research relies on an equal trend assumption. In other words, we expect that the change in turnout throughout the years will more or less follow a similar trend. We assessed this assumption by performing additional placebo DID estimations on a fake treatment group and fake outcome. Both tests showed zero impact of holidays on the DID estimates. Alongside DID analyses, we also employ OLS regressions of holiday and turnout results from the 2020 parliamentary elections to create a reference analysis framework. The models are controlled for the same variables with fixed-year effects.

V. Results

Descriptive statistics in table 1 from two parliamentary elections in Slovakia reveal the average turnout rate in municipalities and the difference between the 2016 and 2020 spring elections. Municipality turnout is defined here as the percentage of eligible voters in a municipality who voted in the election. Both parliamentary elections attracted more than 60% of the citizens, and the 2020 elections showed more than a 3.8 percentage point increase in overall turnout than previous elections. This claim holds regardless of the area or holiday treatment. When we look at the difference in participation rates depending on whether the municipality had spring holidays around elections or not, the results show that the former did not report such a visible increase in turnout as non-holiday municipalities. What is more, the turnout differences do not point to a similar trend in participation within the holiday group. While the central part (with repeated holidays) mirrors the control group more, there is a distinct pattern in the east, suggesting that one-time holiday shock could be more substantial. The following sections provide deeper insight into the holiday-turnout relationship and answer whether these differences have significant changes.

The results of the analysis are presented in model 1, table 2. The DID estimations show that holidays decrease turnout by almost 0.9 percentage points, and this effect is statistically significant. Hence, the results confirm our first hypothesis. The DID estimations confirm our intuition from table 1 that the holiday group did not show a similar change in turnout. Model 1 demonstrates that holidays decreased turnout by around 0.87 percentage points. Moreover, the P value in the model is statistically significant, confirming the study's first hypothesis. Figure 2 only mirrors our results from the first model and shows that although the turnout was higher in the last elections compared to the 2016

8 The models use data from 2020 (population, median age, proportion of women) and 2021 (marital status, catholic population, tertiary education). We also employed the control variables from 2016 (in the pre-treatment period), and the performance of the models was virtually the same.

Table 2: Regressions measuring the effect of flooding on turnout

	Turnout in municipality			
	Difference-in-differences (2016–2020)		**OLS (2020)**	
Model	(1)	(2)	(3)	(4)
Holiday	-0.87 (0.24) ***		-0.89 (0.22) ***	
Repeated holidays				
One-time (East)		-1.91 (0.28) ***		-2.89 (0.25) ***
Repeated (Central)		-0.23 (0.25)		0.33 (0.23)
Controls				
Pop. (log)	0.62 (0.09) ***	0.54 (0.09) ***	-0.16 (0.09) *	-0.43 (0.09) ***
Median age	-0.09 (0.02) ***	-0.13 (0.02) ***	0.02 (0.02)	-0.05 (0.02) **
Gender	0.08 (0.04) **	0.07 (0.04) *	0.05 (0.02)	0.27 (0.04)
Marriage	0.08 (0.02) ***	0.12 (0.02) ***	0.18 (0.02) ***	0.27 (0.02) ***
Catholic	0.02 (0.00) ***	0.00 (0.00) *	0.04 (0.00) ***	0.03 (0.00) ***
Tertiary	0.01 (0.02)	0.01 (0.02)	0.26 (0.02) ***	0.29 (0.02) ***
Constant	-4.42 (2.34) *	-2.61 (2.33)	7.83 (2.19) ***	13.16 (2.15) ***
Year fixed effects	No	No	Yes	Yes
Adj. R-sq.	0.067	0.082	0.778	0.793
N	2,926	2,926	2,926	2,926

Note: Regression coefficients are shown with standard errors in parentheses. DID regressions in models 1 and 2 are based on municipality election data from two elections (2016 and 2020). The dependent variable is the difference between the 2020 and 2016 turnout. OLS regressions in models 3 and 4 are based on municipality election data from the 2020 elections and are controlled for the 2016 elections. The dependent variable is the 2020 turnout in a municipality. All models use fixed municipality effects – population (logged), median age, gender (%), marital status (%), catholic proportion (%) and tertiary education (%). All the independent variables were treated as dummy variables, with reference categories always considered the non-holiday municipalities. The holiday was coded as one when the municipality had spring school holidays in the week preceding or following the 2020 elections. A one-time holiday event was coded as one when the municipality experienced holidays only in 2020; repeated holiday events were coded as one when the municipality experienced holiday events prior to elections in 2016 and 2020. Significant values of independent variables are in bold. Significance: *p < 0.10; **p < 0.05; ***p < 0. 01.
Source: Authors

elections, the municipalities with holidays did not experience as substantial growth in turnout as municipalities without holidays.

We now turn to the second variable of our interest, the repetition of holidays in our treatment group. As figure 3 shows, both the towns with repeated holidays and municipalities that experienced only one-time holidays witnessed an increase in turnout in the 2020 election; however, to a different extent. In

the case of the former, the rise of turnout does not differ from western Slovak towns that had no holidays during elections. For both these regions, the turnout in 2020 increased by roughly 4.5 percentage points compared to the 2016 elections. On the contrary, in eastern Slovakia, i.e. the region with only one-time holidays, the turnout increase is significantly lower and reaches less than 2.8 percentage points. The existence of the negative effect in the eastern part and non-existence in the central part confirm the second hypothesis about the differential effects of holiday treatment. Model 2 also shows that when control variables are present in the model, the effect of repeated holidays does not significantly affect turnout.

The OLS regressions take a different approach than the DID strategy. They look at the 2020 turnout in a municipality, which is controlled for all the available variables and fixed-year effects (2016 turnout). The logic behind employing independent variables is the same here, and they produce similar results as the first procedure. A slight contrast is seen in the coefficients of the repeated holidays variable, but it still does not show significant results. On the other hand, the effect of a one-time holiday event is negative and statistically significant. As seen in model 4, having a holiday for the first time in a long time decreased turnout by about 2.9 percentage points. After seeing the results from models 2 and 4, it is clear that the one-time event category essentially creates the entire difference between the holiday and non-holiday group.
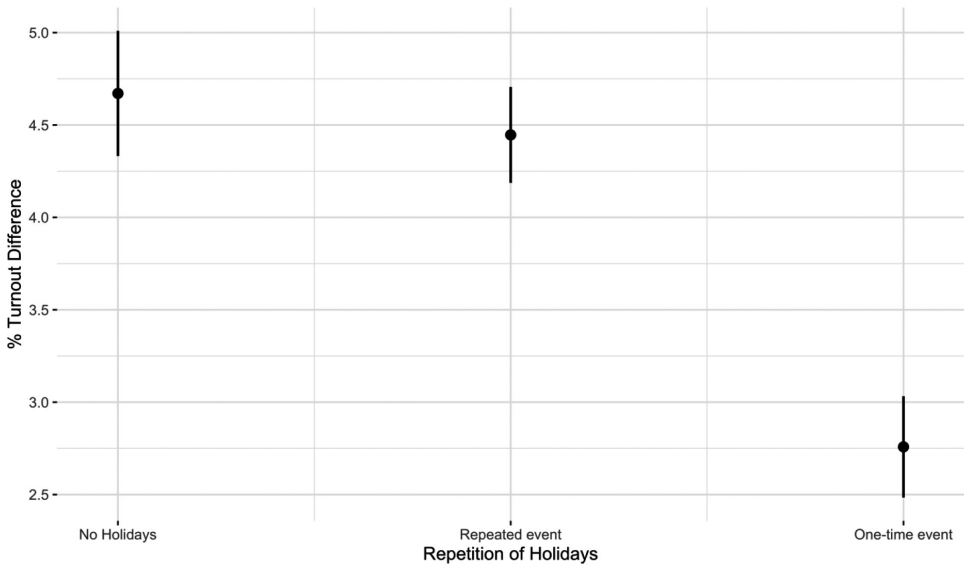
Figure 2: Mean difference in turnout (2016–2020) depending on the character of a municipality (Without holidays vs With holidays)

Note: Confidence intervals are displayed at 90%
Source: Authors

Figure 3: Mean difference in turnout (2016–2020) depending on the character of a municipality (Without holidays vs With repeated holidays vs With one-time holidays)

Note: Confidence intervals are displayed at 90%
Source: Authors

The control variables used in models also deserve our note of caution. Several fixed municipality effects report statistically significant results. The coefficients in models 1 and 2 demonstrate the effect of the variables on the turnout change in the 2016 and 2020 elections. More specifically, more populated, younger, married and catholic-dominated municipalities in 2020 reported a more substantive increase in turnout throughout the years. Additionally, control variables in OLS regressions highlight that the more catholic, university-educated and married citizens the municipalities had, the higher the turnout in the 2020 elections was.

VI.   Discussion and conclusions

The turnout literature forms one of the most extensive parts in the field of political behaviour, and the pursuit of variables explaining variation in electoral participation is one of its main aims (Blais 2006, Cancela – Geys 2016). While some of the 'turnout variables' have been focusing on the circumstances affecting the voters' decision directly (e.g. weather, long lines, depression), the little systematic knowledge was dedicated to events seemingly unrelated to elections and occurring in their time proximity. This paper looks at the spring holidays' effect on turnout in the 2020 parliamentary elections in Slovakia. Dominant

theories hold that voters could get distracted by more pleasurable activities and prioritise something different than voting. On the other hand, the more time available for voters during vacation could allow them to choose the time more suitable for them. The findings point more to the first direction – while voters could apply for a voting card and vote wherever they wanted, a significant part of the electorate did not vote due to holidays.

That said, we stress that there is a difference between the Slovak municipalities that had spring holidays before elections only once and municipalities that repeatedly voted during holidays. It seems that when the elections are held under similar circumstances (as in central Slovakia with multiple elections taking place around holidays), the effect of free time does not seem to persist. It is clear that the 0.9 percentage point effect in total and the two to three percentage point effect in a one-time holiday setting is not huge, and other socioeconomic variables will still be visible in the turnout models.[9] However, the centre of our interest was parliamentary, first-order elections, which are generally more medially important and other seemingly unrelated factors plausibly do not have the chance to manifest as much as in the case of 'less-at-stake' elections. It is reasonable to assume that if the spring (autumn or another school) holidays were held around regional or even European elections in Slovakia, the demobilising effect would be even higher.

These findings not only add to our knowledge about the behaviour of voters during special circumstances but also carry implications for understanding when to schedule elections (if possible). While some Slovak politicians believed that having elections around holidays could gather more families in their permanent residences and subsequently increase the turnout rate (Markíza 2022), our results imply that, at least in the case of spring holidays in Slovakia, it is probably not the correct assumption. The holiday-induced depression in turnout seems to result from increased opportunity costs of voters who could use the vacation time elsewhere than in a polling station. Perhaps some voters wanted to participate, but in the rush of their activities, they forgot, as some of the abstention surveys indicate. Or for some of the voters, the application for proxy voting just represented the increased costs they were unwilling to undergo. One way or the other, whenever the cost of voting becomes high, the temptation to abstain becomes strong, and evidence from this paper confirms that holidays are adding costs to the voting calculus.

In addition to identifying the effect of holidays as a seemingly unrelated factor, looking at its substantive impact on electoral and policy outcomes is essential. If the state actors have the opportunity to set the election date, they have the power to decrease or increase the turnout rate based on their decision.

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9 Applying this finding to the context of the 2020 Slovak election, roughly 20 thousand voters in municipalities of eastern Slovakia did not go to polling stations due to holidays. We build this prediction based on the exact number of citizens that turned out at the polling stations.

It seems that the winter or summer period and the holiday season might not be a good way to have a higher turnout. However, if the government party generally relies on the support of responsible voters with higher civic duty, placing elections near holidays may help them increase their vote share (as the supporters of other parties could abstain more).[10] Another argument is related to legislators who are trying to increase turnout and assume that the connection between the election and the holiday may persuade more voters to be at home and include voting in their holiday mix. Although the intentions might be genuine, the evidence from abroad and this paper does not seem to point in this direction.[11]

With respect to the implications for the turnout literature, the policy outcomes in the future should focus on timing the elections in Slovakia around the 'normal' time of the year when people do not massively ask for vacations, or the students do not have school holidays. The discussion about the turnout increase is in Slovakia's mainstream theme, mainly due to the former PM Igor Matovič, who proposed several policies that should attract more voters to the voting booths (TASR 2023). In line with rational choice theory, politicians should not forget about the need to decrease direct and opportunity costs that could stand in the way of 'fragile' and late-deciding citizens. Postal and proxy voting for all types of elections, more polling stations or the 'right time' of the year should become one of them. As we have seen in the strength of the holiday effect, it may not be the quest for millions of new votes, but attempting to increase turnout by a few percentage points is a noble and worthy task (Blais et al. 2019).

It is important to note, however, that the effect of holidays could be, in the Slovak case, partly compensated by the fact that some of the vacationers could apply for voting in other than their permanent residence. In Slovakia, proxy voting is possible – if the voter (electronically or by person) requests a voting card before elections, they can vote in any municipality in Slovakia. When a voter shows the voting card, the electoral committee then writes the name of a citizen into voting records. Therefore, the municipality's total number of eligible voters increases in terms of the number of proxy voters. Indeed, the turnout results from the 2020 elections showed that 13 of the 30 municipalities with the highest turnout rate are places around ski resorts, many of which are in the central part of Slovakia.[12]

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10 Dubois and Lakhdar (2007) attribute, in part, the defeat of the major leftist presidential candidate to the abovementioned high number of non-voters in the 2002 election.

11 For example, the chairman of the Slovak Parliament argued that having elections near a holiday in 2022 local and regional elections is a good idea (Markíza 2022).

12 Some media coverage focused on the increased number of voters who wanted to vote in the municipalities near ski resorts. For example, Slovakia's most visited ski resorts (Vysoké Tatry and Donovaly) reported longer queues and a higher percentage of voters who were not originally from the area (TASR 2020; SITA 2020). However, not all the voters wanted to overcome the higher voting costs and were open to applying for voting cards (TASR 2020).

What is more, although we used several turnout-explaining variables in the model, there exists a possibility that other unobservable variables could decrease turnout in eastern Slovakia or holiday-affected municipalities, respectively. The compared areas were quite large and did not correspond with the classic natural experiment setting, where the treatment affected the units randomly. If the holidays were distributed to the municipalities and not the regions, the confidence in the interpretations would be higher. In this sense, we need to be cautious about the conclusions of this research because there is a chance that other factors affected the researched municipalities. Future research should combine individual and macro-level data from the same event to enhance the turnout research about holiday and abstention behaviour and could identify other factors that are interfering with the decision to participate.

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