

Picketing Amongst the Picket Fence:

Neighborhood Development & Civic Engagement in Europe

By

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SUMMARY

Despite substantial academic exploration surrounding the causes and effects of both variation in levels of neighborhood development (urban, suburban, rural, etc.) and civic engagement in isolation, very few studies have concentrated on investigating the overlap of these two factors, and even fewer have done so in the context of Europe. To fill this gap then, this paper leverages data from the European Social Survey from 2010 to 2018 to evaluate whether a relationship can be observed between neighborhood development and civic engagement level, controlling for several other potential explanatory variables.

The results from the analysis ultimately offer a mixed picture. A “U-shaped” pattern was substantively observed in the relationship between neighborhood development and overall civic engagement, with participation greatest at the extremes of both highly urban and highly rural communities, and lower in more suburban districts. This dynamic was seemingly driven by the higher likelihood of rural inhabitants contacting politicians and becoming involved in both party and non-party-related political organizations compared to suburban residents. However, only a limited number of the relationships across the numerous linear and logistic models relied on to examine the paper’s central research question were found to be statistically significant.

As a result, the paper ultimately concludes that further exploration into this topic is needed before any linkage can be established between neighborhood development level and civic engagement in a European context with a high degree of confidence and generalizability.

INTRODUCTION

The nature of urban, suburban, and rural life has rapidly changed over the last decade as substantial differences in the degree and character of urban regeneration or decline, suburban expansion or consolidation, and rural repopulation or exodus have taken place across both time and space (Rocha, 2022; Kovacs et al, 2019).

Simultaneously, conversations surrounding the importance of establishing and encouraging civic-minded behavior and institutions as a safeguard against potential democratic backsliding have also been revitalized due to the rising tide of illiberalism that has been recently perceived to be proliferating (Putnum, 2000; Lee. 2021).

Responding to the growing relevance of these dual phenomena, a substantial amount of research in the field of political science has been devoted to investigating the causal and collateral factors associated with disparities in both the development level of countries' geographic landscapes and the degree of civic engagement of a populace, exploring these connections within an international arena as well as a European context. However, while such studies have been indispensable in generating and testing theories distinctly relevant to the dynamics of either neighborhood development or civic engagement, almost no focus has been placed on exploring how these two factors overlap and interact with each other, with any such existing studies centered outside of Europe (Oliver, 1999 & 2000). Moreover, such research almost exclusively relies on formal, administratively-defined geographic boundaries in operationalizing neighborhood type, a measure that recent evidence suggests may not always reflect the lived experience of the individuals who actually reside there.

In reaction to this current gap in the academic literature then, this paper will set out to evaluate the relationship between neighborhood development level and civic engagement within Europe over the last decade by investigating whether a relationship can be found to exist between the two factors, and by examining which specific

civic-minded actions may be driving such an association if one can be observed. It will do this by leveraging individual-level survey data from three different waves of the European Social Survey (ESS), from 2010 to 2018, to first, perform descriptive exploratory analyses to contextualize and understand the data. It will then use multivariate linear regression modeling to examine whether variation in neighborhood development level can be observed to independently impact respondents' overall level of civic engagement. Finally, it will employ logistic regression modeling to predict how such differences in neighborhood affect residents' propensity to engage in specific civic-minded actions.

In the sections that follow, this paper will first present an overview of the current state of the art in the academic literature regarding urban-rural-suburban neighborhood development, civic engagement, and their overlap evaluated within a non-European context, establishing the need for this paper to fill a gap by investigating the relationship in Europe, as well as by using a new operational definition for measuring neighborhood development level. Moving on, it will delineate the various competing hypotheses that will be tested throughout the research process as well as the numerous chains of causal logic supported by the current literature which underpin each.

Following this, it will describe the dataset, variables, conceptual and operational definitions, and methodology which will be leveraged to test the hypotheses. Finally, it will present and interpret the results of the analysis before concluding with a summary of the primary takeaways in the context of the central research question and a discussion of the shortcomings, implications, and directions for future research that the findings indicate.

LITERATURE REVIEW

Beginning with the primary explanatory variable to be investigated throughout this paper, a considerable amount of research in the academic literature has been

conducted regarding variation in the degree of spatial development of neighborhoods across cities, regions, and countries, with a specific focus on suburban districts, one of the most prominent and distinct features of contemporary urban geography. Exploring overall trends in the concentration of suburban, urban, and rural neighborhoods across time and space outside of Europe, works such as Duany, Plater-Zyberk, & Speck (2001), Kunstler (1995), and Davison (1995) generally negatively characterize the suburbs, in comparison to urban and rural regions, as sprawling and homogenous dead zones lacking any communal sense, and negatively impacting social connectivity. Other investigations, such as Wen, Lauderdale, & Kandula (2009), Alba et al (1999), Massey, & Tannen (2018), Modarres & Kirby (2010), and Guterbock (2021) in contrast, have observed significant increases in the degree of demographic and economic assimilation, as well as the population density of suburban neighborhoods over time, thus suggesting that social cohesion may not be as diminished as expected.

Within Europe, this pattern is reiterated, with articles such as Rocha (2022) and Kovács et al (2019) each also demonstrating how suburban expansion has taken place, while simultaneously hinting at potential changes in the nature of such suburban neighborhoods which require additional investigation.

Meanwhile, several works have additionally investigated, more specifically, the factors driving such changes in the concentration and fundamental characteristics of neighborhood development, with a specific focus again on suburban communities. Outside of Europe, articles including, Redding (2022) and Baum-Snow (2007) evaluate how the growth of interstate highways in American cities has eased commuting and transportation costs, making it easier for citizens to live further away from traditional urban cores. In conjunction, works such as Zhou & Ma (2000) and Yoshitake, Teramachi, & Deguchi (2015) show how factors such as new housing construction

outside the city center, state-led zoning policies, and urban land use transformations have also played a role in altering the character of regional development.

Across European nations, many of these patterns again hold constant. Papers including, Rocha et al (2021), Slaev et al (2018), Garcia-López, Holl & Viladecans-Marsal (2015), and Venanzoni, Carlucci, & Salvati (2017) similarly point to the growth of highways and the increase in ease of travel as major factors explaining suburban expansion. Other articles, such as Cuadrado-Ciuraneta, Durà-Guimerà, & Salvati (2017), and Kok & Kovác (1999) find that variation in the concentration of urban, rural, and suburban neighborhoods can be attributed to increased demand for rural tourism, as well as second homes, both domestically and internationally, driven by growth in incomes. Finally, papers including, Hochstenbach & Musterd (2018) and Reckien & Luedeke (2014) exhibit how both rapid growths in the cost of urban living and demand for more affordable housing have also similarly driven increases in sprawl across regions of Europe.

Moving on, considerable scholastic attention has also been paid to generating insights surrounding the dependent variable of interest in this investigation, namely, to analyze broad shifts in civic engagement levels over time and place, and explore the various factors which may account for such changes. Probing for general patterns in civic engagement outside of Europe, a plethora of moderating variables have been explored to account for the observed variation. Works such as Putnam (2000), and Lee (2021) posit that such fluctuations in civic engagement levels can be attributed to differences in numerous forms of social capital. Other research, including, Jennings & Stoker (2004), and Adler & Goggin (2005) find that levels of social trust and civic engagement are substantially lower for Generation X than for previous generations, while both civic engagement and social trust are higher in adolescence, then drop upon entrance to adulthood, slowly rise until middle age, and finally, steadily fall throughout

old age. Other papers still, such as Wray-Lake & Flanagan (2011), Verba, Schlozman, & Brady (1995), Omoto, Snyder, & Hackett (2010), and Duke et al (2009) argue that observed differences in civic engagement can be most strongly attributed to primary and secondary socialization processes, which occur through parenting, schooling, and interactions with friends and peers. In contrast, other works including, Hatemi et al (2010) actually find evidence in support of the claim that genetic traits biologically inherited from parents account for a significant portion of the differences in individuals' political outlook and involvement. Meanwhile, other studies, such as Tolbert, McNeal & Smith (2003) demonstrate how broader contextual factors in political systems, such as the level of exposure to direct democracy initiatives, can additionally impact levels of civic engagement among a populace.

In studies investigating similar patterns and drivers of civic-minded activities within a European context, many of these same factors are identified and explored, as well as some interesting new ones. Works including, Ostman (2012), Nikolova, Roman, & Zimmermann (2017), Albanesi, Cicognani, & Zani (2007), and Langenkamp (2021) reiterate findings from studies taken place outside of Europe, which posit that both long-term societal-level transformations as well as individual-level differences in social capital and social interactions substantially impact citizens propensity to engage in civic-minded activities. Also mirroring findings from non-European studies, investigations including, Miklikowska & Hurme (2011), Cicognani et al (2012), and Quaranta & Dotti-Sani (2016) further emphasize the importance of socialization processes in forging individuals' civic attitudes and habits. Continuing on, findings from papers such as Wallman-Lundåsen (2022), Grizzle & Yusuf (2015), and Prouteau & Sardinha (2015) illustrate how religious participation can play an instrumental role, both positively and negatively depending on its form, in encouraging pro-social civic behavior. Meanwhile, also uncovering previously undiscussed linkages, analyses such

as Borbáth et al (2021), Huber & Montag (2020), and Cicatiello, Ercolano & Gaeta (2015) reveal the effect that economic factors can play in creating and shifting incentives and motivation for political participation, thus explaining variation across time and place.

Finally, as the attention paid to each of the two primary factors of interest in this paper - neighborhood development and civic engagement - has expanded over time, a slowly growing number of studies have set out to understand how they overlap, uncovering evidence in support of numerous different conclusions. However, they have done so in an almost exclusively non-European context. Within this literature, findings from works such as the previously discussed Putnam (2000), Oliver (1999 & 2000), Salamon (2003), Nguyen (2010), Lang & Danielsen (1997), Ewing (1997), Schoppa (2013), and Dahl (1967), examine how higher concentrations of suburban districts in an area lead to decidedly negative effects on civic engagement for its residents. Muddling this consensus, works including, Morris & Pfeiffer (2017), Carden, Courtemanche & Meiners (2009), Talen (1999), and Freeman (2001) all observe either mixed or insignificant evidence in support of any connection between neighborhood development and civic participation. Meanwhile, research such as Fischel (2005) actually finds that individuals living in suburban neighborhoods, with typically higher rates of homeownership, may actually be more politically engaged as a result, than residents in other types of communities.

Papers that analyze this overlap within Europe are few and far between, with a limited number of examples either finding support for the conclusion that a negative relationship exists between living in a suburban neighborhood and being civically engaged, such as Leyden (2013), or in testament to only a mixed or negligible impact being observable, such as is maintained in works by Spackova & Ourednicek (2012), and Rau (2009).

Consequently, responding to this relative lack of consensus, as well as absence of investigations specifically within a European context, this paper will look to fill a gap in the literature by shedding more light on the direction and strength of the link between the neighborhood development level, specifically interested in the effect of suburban residency, in which an individual resides in Europe, and their level of civic engagement.

THEORY

Guiding this central research question, and employed in many of the previously identified analyses which compose the current academic literature and thus direct this paper's expectations, are a number of theoretical assumptions which help to logically connect the two variables of interest in this investigation. As previously established, this paper will focus on exploring variation in the level of civic engagement, conceptually defined as the number of civic-minded activities (such as contacting a local politician, working in a political party, or working in a political organization, etc.) that an individual has performed over the last year. It will seek to explain such engagement through the primary independent variable of neighborhood development level, conceptually understood as the classification of the area (big city, suburb, town/small city, country village, farm/countryside) that an individual perceives as inhabiting, having a specific interest in understanding the effect that suburban residency has on respondents' civic behavior. It will additionally employ a number of control variables, including gender, education level, income level, age, marital status, left-right ideology, and country of residency, in order to isolate the effect of neighborhood development on civic engagement level.

Theoretically, this paper will expect neighborhood development level to causally impact individuals' civic engagement by way of variation in population density, economic and demographic diversity, and proximity to other districts between types of neighborhoods. Such differences, this paper posits, precipitated by distinctions in the

makeup of each neighborhood type, will impact residents' motivation and likelihood to engage in civic activities.

Breaking this down even further into its component parts, this paper will operate, first, under the belief, as largely demonstrated in the current academic literature by previously referenced works such as Kunstler (1995) and Duany (2001) among others, that substantial variation in characteristics such as demographic and socioeconomic homogeneity, as well as population density, exists between distinct categories of neighborhoods, and specifically in relation to suburban neighborhoods, which have often been found to be more homogenous and sparsely populated than other neighborhood types. However, while this belief is still largely held as the norm, it has come under mounting scrutiny recently as numerous contemporary studies such as Wen, Lauderdale & Kandula (2009) and Massey & Tannen (2018) suggest that suburban areas have become more diverse and densely populated over time, making this premise a substantively interesting one to explore further.

Connecting such differences in neighborhood characteristics to variation in inhabitants' level of civic participation, this paper will leverage two ideas: the theory of planned behavior (TPB), and the value belief norm theory (VBN), which are employed in many of the previously referenced studies investigating the determinants of civic engagement. TPB, as described by Asjen (1991), posits that an individual's propensity to engage in pro-social behavior is contingent on the expected consequences of participation and of significant others' endorsement of such involvement, as well as the belief in their ability to effectively participate in such activities. As such, it is a more rational choice-based explanation dependent on individuals' expectations of the consequences of acting in a civic-minded manner. VBN, on the other hand, as outlined by Stern et al (1999), holds that motivation for civic engagement stems from the combination of individuals' awareness that surrounding conditions can adversely affect

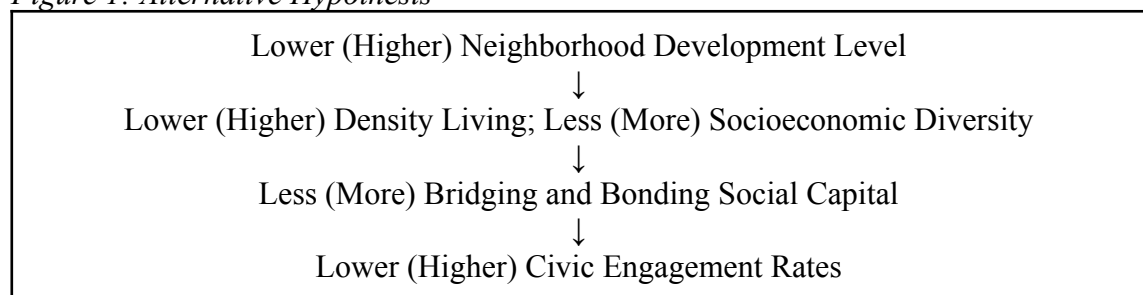
significant others, understanding that such conditions can be ameliorated by their actions and a sense of normative obligation mobilizing this comprehension into action. This theory thus is much more contingent on values and norms which precede expectations of outcomes for the individual deciding whether to engage in pro-social behavior. However, while offering slightly competing ideas in relation to motivations for political participation, they are far from mutually exclusive and have been demonstrated by works such as Skarmeas et al (2020) to be able to help theoretically explain variation in levels of civic engagement in conjunction with one another.

Linking these psychological premises back to differences in characteristics between neighborhoods then in order to explain disparities in levels of civic engagement, this paper expects that the substantial variation in demographic and socioeconomic composition, as well as population density, that have been historically observed to exist between different levels of neighborhood development, will materially alter citizens' ability to act in a civic-minded way, their perceptions surrounding the consequences of acting (TBP), their normative sense of responsibility, and their understanding that such actions could improve conditions for those surrounding them (VBN), by way of discrepancies in the level of connectedness, mutuality, and social cohesion experienced across neighborhoods with wide-ranging levels of density and diversity.

Directed by these underlying assumptions then, this paper will specifically look to test whether a statistically significant and substantively notable independent relationship can be observed between the neighborhood type in which an individual resides and both their overall level of civic engagement, as well as their propensity to engage in specific civic-minded actions, within several European nations from 2010 to 2018. It will initially operate under the null hypothesis that no statistically significant independent relationship can be observed, and look to find evidence in support of

rejecting such a presumption in favor of the alternative hypothesis, that such a statistically significant independent effect can be observed. If such corroboration is able to be lent this paper will substantively expect, in line with traditional assumptions regarding neighborhood development levels and suburban districts specifically, that big cities will be associated with the highest level of civic engagement among its residents, followed by small cities and towns, country villages, suburbs, and finally the countryside, linked to the higher levels of geographic connectedness, density, and diversity expected to be associated with more highly developed regions in comparison, especially, to suburban spaces. Figure 1 helps to further illustrate and make explicit the alternative hypothesis.

Figure 1: Alternative Hypothesis



However, as has been exemplified by the current literature, this substantive expectation is certainly not without its potential weaknesses, and in fact, the possibility that this assumption is proven false is largely why this paper has set out to investigate this question specifically. As such, some potential faults in the many assumptions guiding this substantive hypothesis include geographic factors such as density and proximity between neighborhoods failing to still play an active role in influencing levels of civic engagement during a time when access to such activities is increasingly being made available online; the belief that suburban neighborhoods are still less densely populated and demographically diverse not holding true anymore; or finally the possibility that while some civic-minded activities (attending a public demonstration, etc.) may be highly responsive to differences in the characteristics of neighborhoods

such as population density, residents in other types of neighborhoods may compensate by being more likely to participate in the other civic activities that are more accessible to them.

METHODOLOGY

In order to test these hypotheses this paper will leverage data from the European Social Survey, a large, individual-level, cross-national survey conducted across Europe every two years that is designed to measure various dimensions of citizens' attitudes and behavior towards social, political, and economic factors. This investigation will make use of three different rounds of the survey - Round 5 in 2010, Round 7 in 2014, and Round 8 in 2018 (ESS Round 5, 2010; ESS Round 7, 2014; ESS Round 8, 2018) - to explore the robustness of any linkage potentially established between the variables of interest.

In operationalizing the independent, dependent, and control variables conceptually defined in the section prior, this paper will make use of questions that remain consistent across all three waves of the survey. Beginning with the primary outcome that this study seeks to explain, individuals' level of civic engagement will be operationally defined by creating an additive index consisting of seven different questions in the survey related to respondents' participation over the last year in numerous civic-minded activities. These activities include whether, in the last twelve months, they have: contacted a politician, government, or local government official; worked in a political party or action group; worked in another political or community organization or association; worn or displayed a campaign badge/sticker; signed a petition; taken part in a lawful public demonstration; or boycotted certain products. This method of operationalization was selected as it is the practice most consistently utilized in prior scholarly works such as Amna (2012), Adler & Goggin (2005), Teorell (2006), and the previously referenced Skarmeas et al (2020), all of which understand civic

engagement as an individual's fundamental outward-looking orientation towards reciprocity that can be best expressed by tracking the number of publicly concerned actions performed by an individual in various fields. In addition, in order to validate the reliability of the indexes for each survey wave once created, Cronbach's Alpha scores (which measure how closely related a set of items in a group are) will be calculated and reported for each wave to ensure that an adequate level of internal consistency exists between the seven dimensions of engagement included.

Moving on to the primary independent variable of interest, this paper will seek to measure neighborhood development level by leveraging one of the survey questions which asks respondents to choose the category which best describes the area where they live among the choices of a big city, suburb, town/small city, country village, or finally farm/countryside. While this method of operationalization is less conventionally utilized in the current literature, with a majority of the previously identified studies utilizing geographically or administratively determined classifications for sorting neighborhoods, an increasing number of investigations have recently begun to explore aspects of variation in neighborhood type using inhabitants personal perception to determine the proper classification, as this paper will do. The impetus for the inclusion of this new operational method is the emergence of a growing list of scholarly work that has examined the often significant discrepancies which exist between occupants' perceived designation of the neighborhood type where they live and the official classification it has been administratively given. Examples of this growing list of works include Billingham. & Kimelberg (2018), Hipp, Faris & Boessen (2012), Coulton (2012), Coulton, Jennings, & Chan (2013), Coulton et al (2001), Spilsbury, Korbin & Coulton (2009), Kolko (2015), and Gans (2015). All of these works draw upon the theoretical differences between approaches that categorize neighborhoods by understanding places as objects bounded by their component physical features, and operational methods that

perceive them as imagined communities, formed by the relations of people and institutions, in order to illustrate the inconsistencies between the two distinct approaches and highlight the need for further research leveraging the latter technique as this paper will set out to do.

With regard to the control variables included in the study in order to isolate the effect of neighborhood type on civic engagement, this paper will utilize factors included in many of the previously referenced studies investigating the overlap of the two primary concepts of interest within a non-European context (Freeman, 2001; Nguyen, 2010, etc). These variables include gender, which will be operationalized as respondents' classification as either male or female; education level, which will be measured on a scale from 1 (low) to 7 (high); income level, assessed on a level from 1 (low) to 10 (high); age, calculated in terms of years; left-right ideology, measured on a scale from 0 (left-wing) to 10 (right-wing); and finally country, pertaining to respondents' of residence among the thirteen states which were surveyed in all three waves utilized in this study (Belgium, Switzerland, Germany, Denmark, Spain, France, Netherlands, Norway, Poland, Czechia, United Kingdom, Ireland, and Sweden).

Making use of these various operational definitions, in the section that follows I will first perform an exploratory analysis of the dataset in order to describe and contextualize various aspects of the data which will be leveraged later on. More specifically, I will calculate and visualize various descriptive statistics related to the composition of the dataset, civic engagement levels and distribution, neighborhood type, each control variable, and civic engagement levels segmented by neighborhood type for all three waves in this study. After this has been completed and any trends or irregularities have been identified and discussed, this paper will utilize multivariate linear regression modeling to evaluate whether any independent causal relationship can be inferred to exist with a high degree of confidence, between neighborhood type and

civic engagement level within Europe, utilizing a p-value of less than 0.05 to denote a degree of statistical significance small enough to reject the null hypothesis in favor of the alternative. This paper will then apply the same process to a log-transformed version of the dependent variable in order to test for robustness, before finally using logistic regression modeling to explore the relationship between neighborhood development level and the propensity of respondents to engage in each individual civic-minded included in the index.

RESULTS

Carrying out the methodology for examining this paper's central question after having operationalized the variables of interest using the prior-outlined definitions, an exploratory analysis of the data was first conducted. The first component of this was simply describing the dataset's composition, as can be observed in Table 1 in the appendix, which outlines the number of respondents (around 18,000 - 20,000 individuals) in each of the three waves of the ESS survey leveraged in this investigation.

Following this, various summary statistics related to civic engagement scores for each round of the survey were calculated. These results are displayed in Table 2. Of

Table 2: Summary Statistics of Civic Engagement Scores

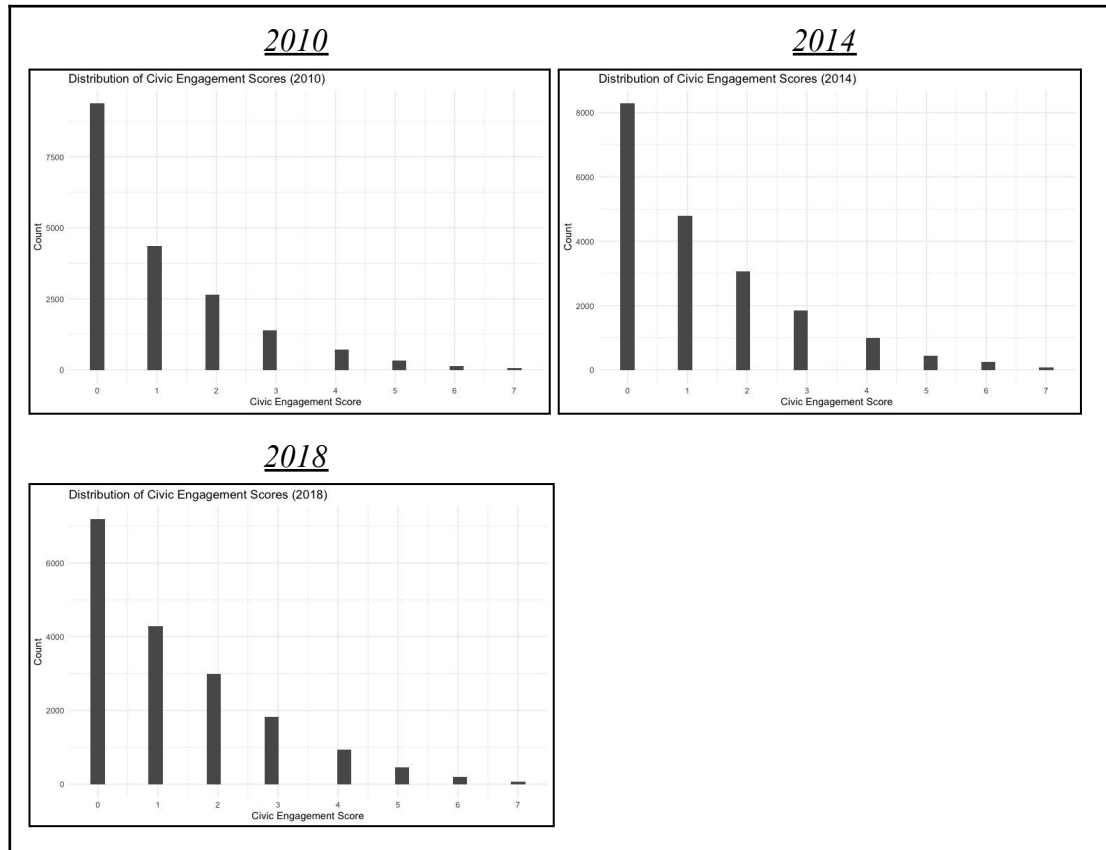
<i>Dataset</i>	<i>Mean</i>	<i>Median</i>	<i>Min</i>	<i>Max</i>	<i>Range</i>	<i>IQR</i>	<i>SD</i>	<i>CA</i>
<i>2010</i>	1.03	1.00	0.00	7.00	7.00	2.00	1.35	0.63
<i>2014</i>	1.25	1.00	0.00	7.00	7.00	2.00	1.47	0.64
<i>2018</i>	1.30	1.00	0.00	7.00	7.00	2.00	1.46	0.63

note in this table are the generally low mean engagement score for each year, hovering around 1.00 to 1.30, as well as the trend of its slight growth over time from 2010 to 2018. All the other figures such as median, range, interquartile range (IQR), and standard deviation (SD) stay relatively constant, including each index's Cronbach's Alpha (CA) score of around 0.63, which indicates that the various aspects of engagement utilized to create the single civic engagement index score are reasonable

internally consistent, validating the use of such a method to operationalize individuals' overall level of participation.

Further providing context and shedding light on the dependent variable of interest, Figure 2 illustrates the distribution of civic engagement scores for each survey wave. In doing so, it clearly highlights the positive (right) skewness of the distribution

Figure 2: Distribution of Civic Engagement Scores



of engagement scores for each year, as the mode (0) in each wave appears below the median (1), which itself is lower than the mean (1.03, 1.25 and 1.30 respectively). The skewed nature of these distributions will be addressed later on in the regression analysis to ensure robustness by log-transforming ($\log\text{-transformed civic engagement score} = \log(\text{civic engagement} + 0.5)$) the engagement score for each respondent in order to try to normalize the distribution.

Finally, taking a look at the individual activities which make up the civic engagement index, Table 3 displays the proportion of respondents in each survey wave

that actually participated in each civic-minded activity. As can be seen, some actions, such as signing a petition or boycotting an item were performed at much higher rates

Table 3: Participation Rates of Civic-Minded Activities

<i>Dataset</i>	<i>Signed Petition</i>	<i>Boycotted Item</i>	<i>Worked in Political Organization</i>	<i>Contacted Politician</i>	<i>Wore Political Badge</i>	<i>Attended Rally</i>	<i>Worked in Political Party</i>
<i>2010</i>	0.28	0.20	0.19	0.16	0.09	0.08	0.04
<i>2014</i>	0.33	0.26	0.23	0.18	0.11	0.09	0.05
<i>2018</i>	0.34	0.28	0.23	0.19	0.12	0.10	0.05

than others, such as working in a political party.

Moving on to the explanatory variables of interest, Table 4 in the appendix displays the number of respondents for every neighborhood classification in each wave, and demonstrates that the relative number of individuals who perceived their place of residence as falling into each of the five categories remained fairly similar across all three years, with the largest category in each year being “town/small city”, followed by “country village”, “big city”, “suburb” and finally the “countryside”.

Contextualizing the other explanatory variables controlled for, Table 5 presents various summary statistics for each factor that could be adequately described through such measures, being unable to do so for gender or country due to their categorical nature. Of most significant note in this table are the trends that over the course of the

Table 5: Summary Statistics of Control Variables

<i>Dataset</i>	<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Range</i>	<i>IQR</i>	<i>SD</i>
<i>2010</i>	<i>Ideology</i>	5.07	5.00	10.00	2.00	2.09
	<i>Education</i>	3.81	4.00	6.00	3.00	1.86
	<i>Income</i>	5.31	5.00	9.00	5.00	2.80
	<i>Age</i>	48.79	48.00	87.00	27.00	17.70
	<i>Gender</i>	-	-	-	-	-
	<i>Country</i>	-	-	-	-	-
<i>2014</i>	<i>Ideology</i>	5.01	5.00	10.00	2.00	2.16
	<i>Education</i>	3.99	4.00	6.00	4.00	1.88
	<i>Income</i>	5.47	5.00	9.00	5.00	2.80
	<i>Age</i>	49.86	50.00	100.00	28.00	17.83
	<i>Gender</i>	-	-	-	-	-
	<i>Country</i>	-	-	-	-	-

2018	<i>Ideology</i>	4.97	5.00	10.00	2.00	2.15
	<i>Education</i>	4.25	4.00	6.00	3.00	1.87
	<i>Income</i>	5.58	6.00	9.00	5.00	2.79
	<i>Age</i>	50.74	51.00	75.00	29.00	17.90
	<i>Gender</i>	-	-	-	-	-
	<i>Country</i>	-	-	-	-	-

three waves, the mean ideology scores decreased (trending towards the left-wing), while the mean education and income level, as well as age, all grew.

Finally, to conclude the exploratory section of this analysis, Table 6 describes various summary statistics related to civic engagement scores for each survey year, sorted by neighborhood type in order to provide a cursory look at the differences in civic engagement level for inhabitants of each type of perceived district. Looking first at

Table 6: Summary Statistics of Civic Engagement Scores by Neighborhood Type

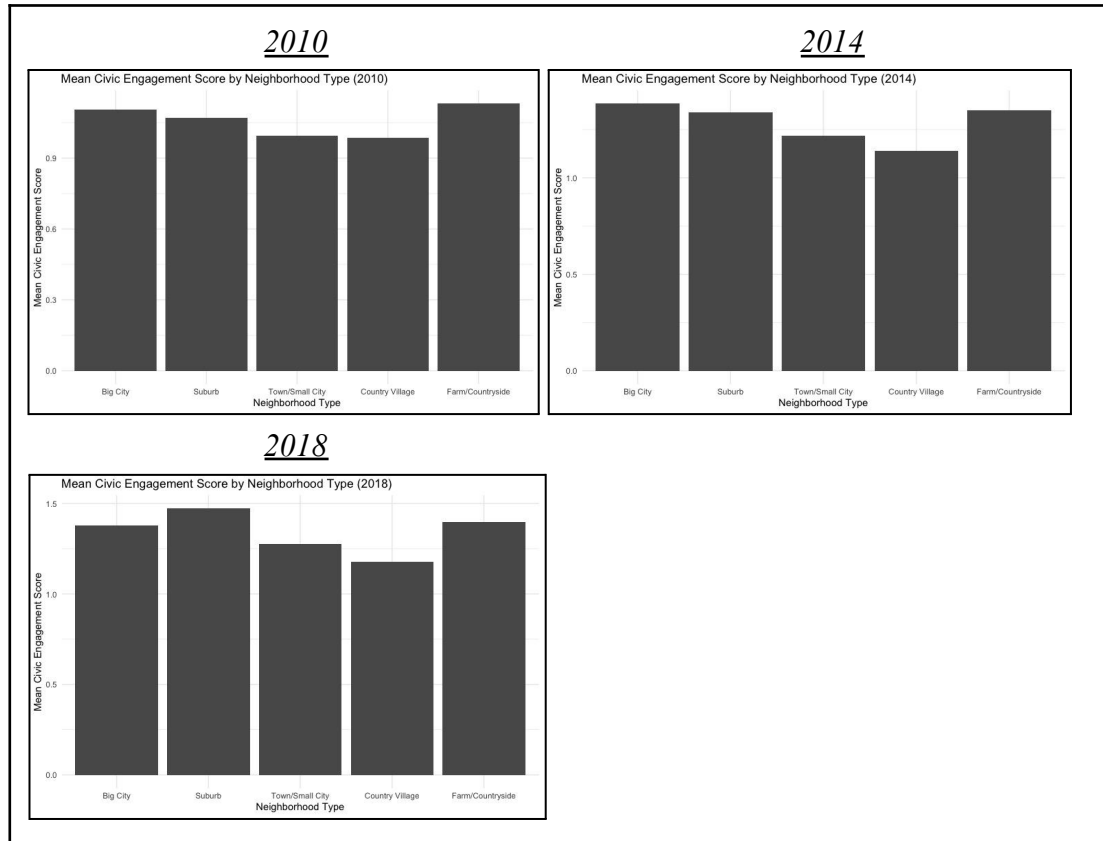
<i>Dataset</i>	<i>Variable</i>	<i>Mean</i>	<i>Median</i>	<i>Range</i>	<i>IQR</i>	<i>SD</i>
2010	<i>Big City</i>	1.10	1.00	7.00	2.00	1.42
	<i>Suburb</i>	1.07	1.00	7.00	2.00	1.36
	<i>Town/Small City</i>	0.99	0.00	7.00	2.00	1.33
	<i>Country Village</i>	0.98	0.00	7.00	2.00	1.30
	<i>Countryside</i>	1.13	1.00	7.00	2.00	1.42
2014	<i>Big City</i>	1.38	1.00	7.00	2.00	1.58
	<i>Suburb</i>	1.33	1.00	7.00	2.00	1.43
	<i>Town/Small City</i>	1.21	1.00	7.00	2.00	1.45
	<i>Country Village</i>	1.13	1.00	7.00	2.00	1.40
	<i>Countryside</i>	1.35	1.00	7.00	2.00	1.53
2018	<i>Big City</i>	1.38	1.00	7.00	2.00	1.52
	<i>Suburb</i>	1.47	1.00	7.00	2.00	1.52
	<i>Town/Small City</i>	1.28	1.00	7.00	2.00	1.47
	<i>Country Village</i>	1.18	1.00	7.00	2.00	1.38
	<i>Countryside</i>	1.40	1.00	7.00	2.00	1.47

the engagement scores for individuals in suburban areas, no clear pattern appears to emerge, as the engagement levels of such respondents have the third highest mean score for Waves 5 and 7, but actually the highest score for Wave 8. Of additional note is the surprisingly high level of engagement for respondents who classified their place of

residence as being in the “countryside”, as this category received the highest mean score for Wave 5, and second highest for Waves 7 and 8.

These trends are further reiterated in Figure 3, which visualizes the mean civic engagement for each survey wave using bar plots for easier interpretation. It again

Figure 3: Mean Civic Engagement Scores by Neighborhood Type



highlights the notably high relative engagement level of “countryside” residences as well as the lack of any pattern for individuals living in suburban areas.

Advancing from the descriptive towards the inferential portion of this analysis, this study first utilized multivariate linear regression modeling for each wave of the survey to evaluate the central research question and hypotheses by determining whether an independent causal relationship exists between an individuals neighborhood development level and their degree of civic engagement, controlling for gender, age, education, income, ideology, and county. The results of this modeling are presented in

Table 7 in a standardized form to make comparison across each wave and factor easier.

Substantively, the findings point to a distinct U-shape pattern in which residents who

Table 7: Multivariate Linear Regression Model Results (Standardized)

<i>Variable</i>	<i>2010</i>	<i>2014</i>	<i>2018</i>
<i>Intercept (Ref. Big City, Male)</i>	-0.18 (0.03) ***	-0.15 (0.03) ***	-0.14 (0.03) ***
<i>Suburb</i>	-0.02 (0.03)	-0.09 (0.02) ***	-0.03 (0.03)
<i>Town/Small City</i>	-0.02 (0.02)	-0.06 (0.02) **	-0.05 (0.02) *
<i>Country Village</i>	-0.01 (0.02)	-0.06 (0.02) **	-0.03 (0.02)
<i>Countryside/Farm</i>	0.09 (0.03) **	0.02 (0.03)	0.01(0.03)
<i>Female</i>	-0.05 (0.01) ***	-0.04 (0.01) ***	0.01 (0.01)
<i>Education Level</i>	0.22 (0.01) ***	0.22 (0.01) ***	0.22 (0.01) ***
<i>Income Level</i>	0.07 (0.01) ***	0.07 (0.01) ***	0.05 (0.01) ***
<i>Ideology</i>	-0.10 (0.01) ***	-0.11 (0.01) ***	-0.14 (0.01) ***
<i>Age</i>	-0.00 (0.01)	-0.02 (0.01) **	-0.00 (0.01)
<i>R²</i>	0.13	0.13	0.13
<i>Adj. R²</i>	0.13	0.13	0.13
<i>Num. obs.</i>	19,023	19,751	17,932

*Notes: (*** $p < .001$; ** $p < .01$; * $p < .05$); Country displayed in Table 11 in Appendix*

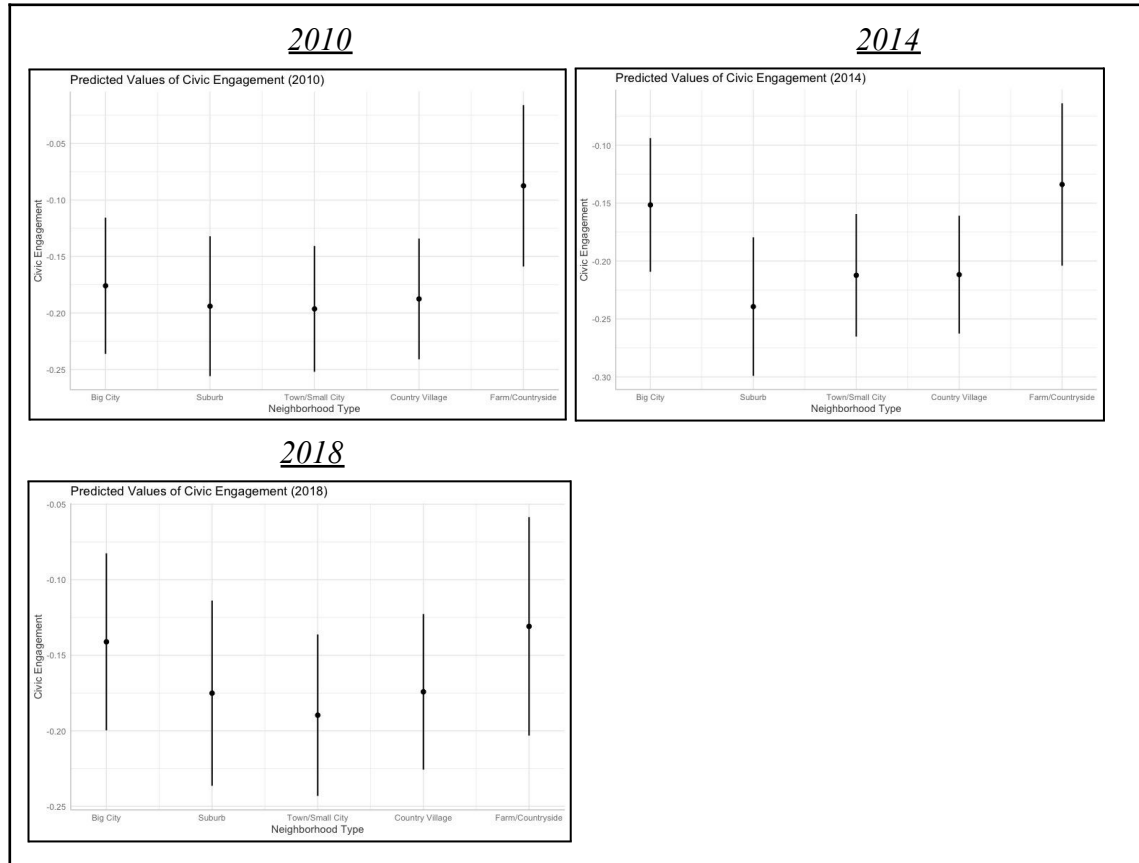
live in big cities and the countryside are observed to have higher levels of engagement, with civic participation lower among inhabitants of suburbs, towns, and villages.

However, while this substantive pattern is quite notable, In terms of statistical significance, the findings generated by the regression analysis provide mixed evidence, with only around one-third of the instances actually denoting a high degree of statistical significance. Thus, it is difficult to fully reject the null hypothesis that a non-random causal impact can be observed with a high degree of generalizability due to the consistent lack of significance across the three survey waves.

For the various control variables outlined in Table 7, and additionally in Table 9 in the appendix for the country-fixed effects, high levels of statistical significance were generally observed for each factor across each wave of the survey, in line with expectations established in previous studies overviewed in the literature review, and thus confirming the rationale behind including them in the analysis.

Figure 4 serves to reiterate the evaluation of the central research question described above by visualizing the predicted civic engagement scores, with their confidence intervals also displayed, for each neighborhood type. It demonstrates the U-shaped pattern found in the regression models while also highlighting the lack of

Figure 4: Predicted Civic Engagement Scores



statistical significance (indicated by the overlapping confidence intervals).

To test the robustness of this finding, this paper additionally log-transformed the engagement index in order to confirm that the findings were not simply a product of the negatively skewed distribution displayed in Figure 1. The findings from this analysis are recorded in the Appendix in Table 10 and Figure 5, and as can be observed, each reassuringly suggests that the same U-shape dynamic and mixed statistical significance were present in the log-transformed version of the engagement index, lending further credence to the results of the investigation.

Finally, in order to explore which specific civic-minded actions were driving this U-shaped pattern, multivariate logistic regression modeling for each action in each survey wave was used next. The results from these analyses can be observed in Table 8.

Table 8: Multivariate Logistic Regression Results

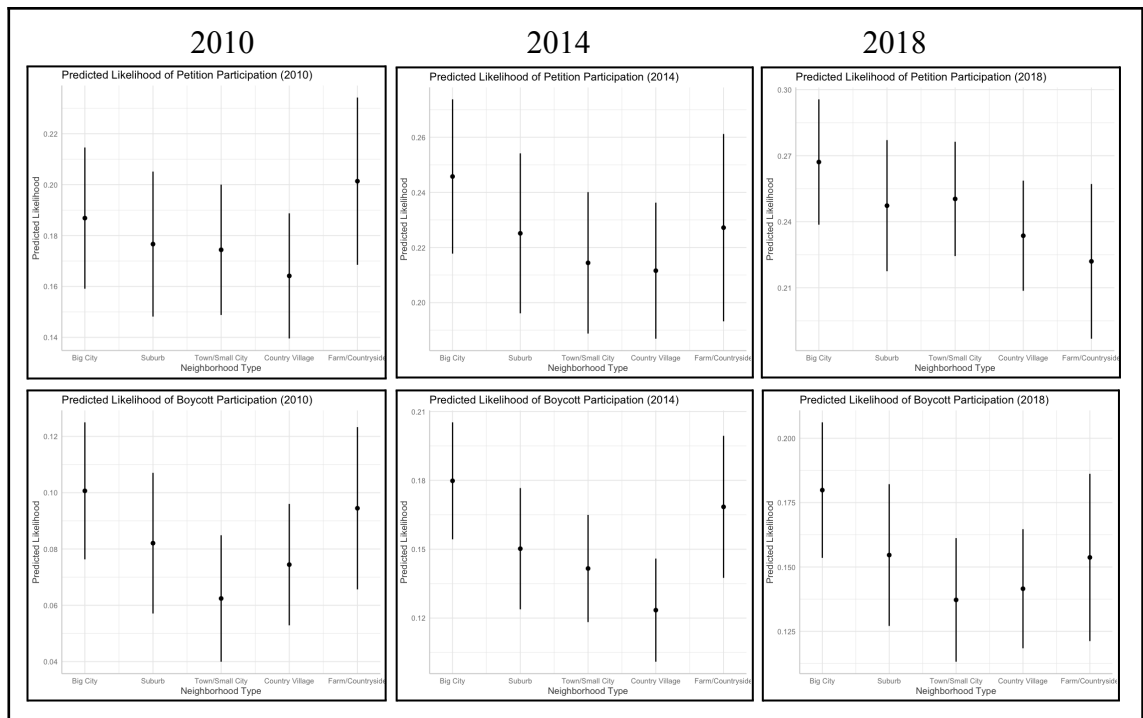
<i>Dataset</i>	<i>Variable</i>	<i>Petition</i>	<i>Boycott</i>	<i>Pol. Org.</i>	<i>Politician</i>	<i>Badge</i>	<i>Rally</i>	<i>Party</i>
<i>2010</i>	<i>Intercept</i>	0.19 *** (0.01)	0.10 *** (0.01)	0.19 *** (0.01)	0.10 *** (0.01)	0.07 *** (0.01)	0.10 *** (0.01)	0.05 *** (0.01)
	<i>Suburb</i>	-0.01 (0.01)	-0.02 (0.01)	0.02 (0.01)	0.01 (0.01)	-0.00 (0.01)	-0.02 ** (0.01)	0.00 (0.01)
	<i>Small City</i>	-0.01 (0.01)	-0.04 *** (0.01)	0.02 (0.01)	0.03 *** (0.01)	-0.00 (0.01)	0.03 *** (0.01)	0.01 (0.00)
	<i>Village</i>	-0.02 * (0.01)	-0.03 ** (0.01)	0.04 *** (0.01)	0.04 *** (0.01)	-0.01 (0.01)	0.04 *** (0.01)	0.01 (0.00)
	<i>Countryside</i>	0.01 (0.01)	-0.01 (0.01)	0.05 *** (0.01)	0.08 *** (0.01)	-0.01 (0.01)	-0.03 *** (0.01)	0.02 *** (0.01)
<i>2014</i>	<i>Intercept</i>	0.25 *** (0.01)	0.18 *** (0.01)	0.20 *** (0.01)	0.13 *** (0.01)	0.07 *** (0.01)	0.14 *** (0.01)	0.07 *** (0.01)
	<i>Suburb</i>	-0.02 (0.01)	-0.03 ** (0.01)	-0.01 (0.01)	0.01 (0.01)	-0.01 (0.01)	-0.05 *** (0.01)	-0.02 ** (0.01)
	<i>Small City</i>	-0.03 ** (0.01)	-0.04 *** (0.01)	0.02 (0.01)	0.03 *** (0.01)	-0.01 (0.01)	-0.05 *** (0.01)	-0.01 (0.00)
	<i>Village</i>	-0.03 *** (0.01)	-0.06 *** (0.01)	0.03 *** (0.01)	0.05 *** (0.01)	-0.00 (0.01)	-0.07 *** (0.01)	-0.01 (0.00)
	<i>Countryside</i>	-0.02 (0.01)	-0.01 (0.01)	0.06 *** (0.01)	0.07 *** (0.01)	-0.01 (0.01)	-0.07 *** (0.01)	0.01 (0.01)
<i>2018</i>	<i>Intercept</i>	0.27 *** (0.01)	0.18 *** (0.01)	0.21 *** (0.01)	0.19 *** (0.01)	0.09 *** (0.01)	0.12 *** (0.01)	0.04 *** (0.01)
	<i>Suburb</i>	-0.02 (0.01)	-0.03 * (0.01)	0.01 (0.01)	0.02 (0.01)	-0.01 (0.01)	-0.03 *** (0.01)	0.01 (0.01)

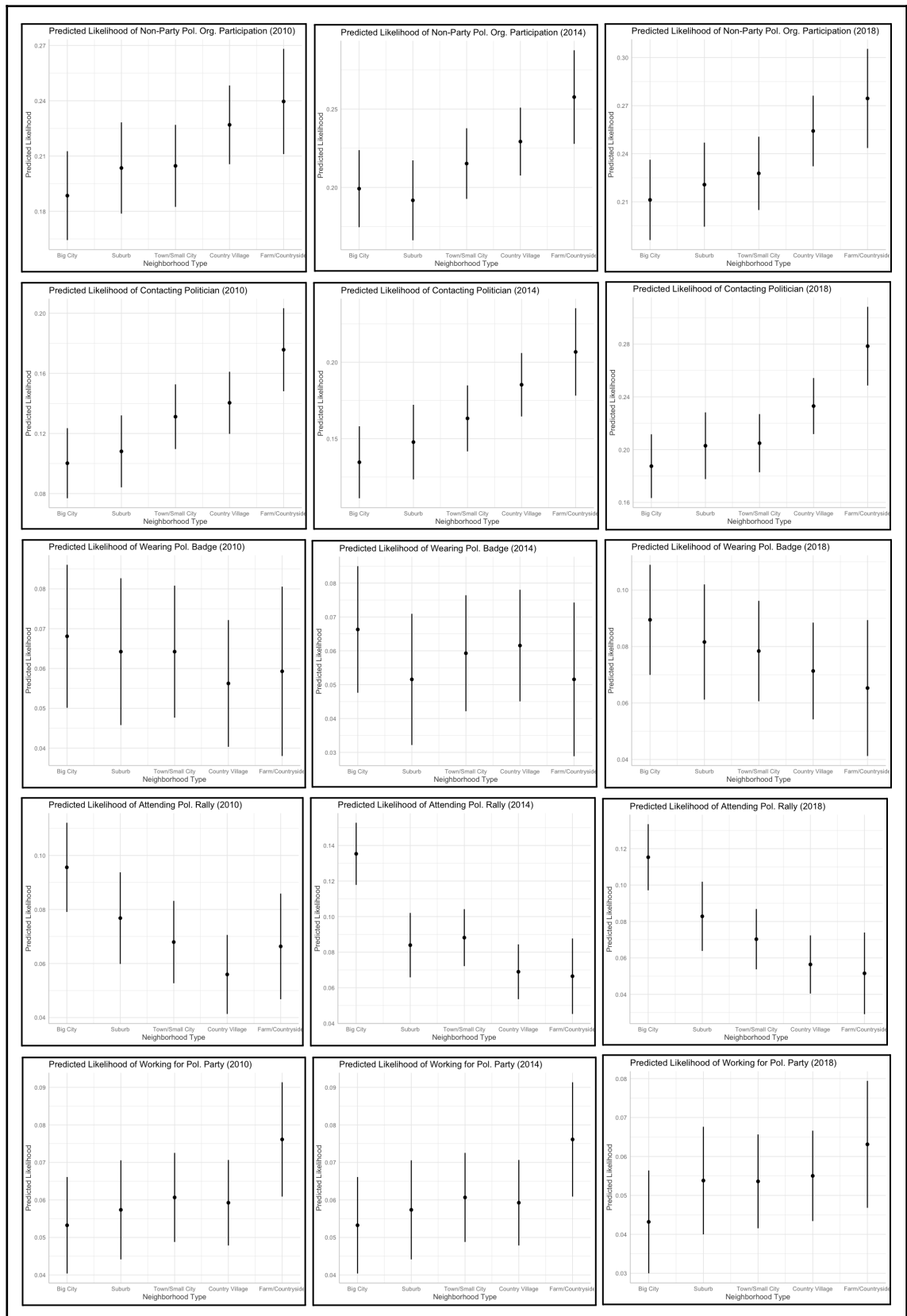
	<i>Small City</i>	-0.02 (0.01)	-0.04 *** (0.01)	0.02 (0.01)	0.02 * (0.01)	-0.01 (0.01)	-0.04 *** (0.01)	0.01 * (0.00)
	<i>Village</i>	-0.03 ** (0.01)	-0.04 *** (0.01)	0.04 *** (0.01)	0.05 *** (0.01)	-0.02 * (0.01)	-0.06 *** (0.01)	0.01 * (0.00)
	<i>Countryside</i>	-0.05 ** (0.02)	-0.03 (0.01)	0.06 *** (0.01)	0.09 *** (0.01)	-0.02 * (0.01)	-0.06 *** (0.01)	0.02 ** (0.01)

Notes: (***) $p < .001$; (**) $p < .01$; (*) $p < .05$; Controls displayed in Table 12 (Appendix)

What jumps out immediately is that participation in both party-affiliated and non-party-affiliated political organizations, and in contacting a politician, all consistently increased in likelihood of participation as neighborhood level became less developed, while all others activities declined or remained constant, as can be further visualized in Figure 6 which displays the predicted likelihood of participation for each civic activity in each year of the survey based on the above logistic regression results

Figure 6: Predicted Likelihood of Participation in Civic Minded Activities





Thus, the data seems to suggest that countryside residents' comparatively high level of civic engagement, and the general U-shape of predicted engagement scores, are likely driven by this increased propensity for rural residents to contact politicians and become

involved in both party and non-party-related political organizations. Though not fully anticipated prior to the investigation, this finding can be theoretically explained by the fact that these three civic-minded activities are among the least limited by geography. Thus, rural inhabitants may overcompensate due to the lower ease of access of participating in other activities such as attending a rally or wearing a political badge that living in a more concentrated urban area would likely present. If rural residents had not been observed to engage in these activities at such elevated rates compared to inhabitants of every other neighborhood development level, then a more consistently downward-sloping trend would have likely been observed in the index scores, with respondents' levels of overall civic participation generally decreasing as their place of residence became less urban.

DISCUSSION & CONCLUSION

Over the course of this investigation, this paper has set out to respond to a gap in the current academic literature by leveraging individual-level data from three waves of the European Social Survey from 2010 to 2018 to examine whether any independent and non-random causal relationship can be found to exist between the type of neighborhood in which a citizen resides, in terms of the level of development, and their degree of civic engagement, with a specific theoretical interest in the effect of suburban residence on civic participation. Using a novel approach for measuring neighborhood development that relies on the perceptions of inhabitants themselves to classify their district rather than administrative boundaries, and participation in numerous civic-minded activities over the last year to operationalize engagement level, this study first performed extensive exploratory analyses of the data. It then utilized multivariate linear regression modeling to evaluate whether a statistically significant relationship between neighborhood development level and civic engagement could be observed and to describe the substantive direction and shape of the association. Finally, it used

logistic regression modeling for each individual civic-minded activity to explore which specific actions were driving the index results.

The findings ultimately offered mixed results, with a distinct U-shaped pattern in total engagement scores emerging in the linear regression models, but with only about one-third of the neighborhood types across the three waves proving to have a statistically significant effect on engagement levels, leading to the ultimate conclusion that there is not enough evidence to fully reject the null hypothesis and infer that any non-random relationship persistently exists between the two factors of interest. The substantive findings from this study thus confirm the claims made by many traditional detractors of suburban living (Duany, Plater-Zyberk, & Speck, 2001; Kunstler, 2003; Davison, 1995), while the lack of consistency in terms of statistical significance simultaneously make it difficult to have a high degree of confidence that such results are robust or generalizable. Accounting for this pattern, the logistic regression models pointed to rural residents' higher propensity to contact politicians and participate in party and non-party-affiliated political organizations as the primary activities likely shaping the U-shaped pattern observed.

In relation to this paper's theoretical assumptions then, which presumed, based on logical reasoning and previous research, that levels of civic engagement would be the highest in big cities, followed by small cities/towns, then suburbs, country villages, and finally the countryside, this investigation ultimately offers mixed results, confirming the intuition in relation to suburban residents compared to those of big cities, but failing to predict the high level of engagement among more rural inhabitants.

Such results thus point to the need for further research and exploration into this topic. Identifying some avenues for continued analysis, future investigations could build upon the work set out in this paper by accounting for additional control variables in the regression modeling stage such as marriage and family status, home and car ownership,

or factors related to the overall economic and political environment such as inflation rate and government approval levels at the time. Additionally, they could evaluate the relationship in different geographic or chronological contexts, or use different operational methods to measure both civic engagement and neighborhood type. In doing so, they would help to untangle a currently underexplored relationship between two dynamic factors, each growing in importance as countries' geographic landscapes continue to transform and rates of civic engagement across developed nations continue to decline.

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APPENDIX

Table 1: Dataset Composition

<i>Dataset</i>	<i>Respondents</i>
2010)	19,023
2014	19,751
2018	17,932

Table 4: Frequencies of Neighborhood Type

<i>Dataset</i>	<i>Big City</i>	<i>Suburb</i>	<i>Town/Small City</i>	<i>Country Village</i>	<i>Countryside</i>
2010)	3,210	2,553	6,106	5,690	1,464
2014	3,307	2,753	6,437	5,839	1,415
2018	2,977	2,547	5,773	5,365	1,270

Table 9: Additional Multivariate Linear Regression Results (Country Fixed Effects)

<i>Variable</i>	<i>2010</i>	<i>2014</i>	<i>2018</i>
<i>Intercept (Belgium)</i>	-0.18 (0.03) ***	-0.15 (0.03) ***	-0.14 (0.03) ***
<i>Switzerland</i>	0.25 (0.04) ***	0.20 (0.04) ***	0.20 (0.04) ***
<i>Czechia</i>	-0.09 (0.03) **	-0.26 (0.04) ***	-0.15 (0.03) ***
<i>Germany</i>	0.31 (0.03) ***	0.27 (0.03) ***	0.28 (0.03) ***
<i>Denmark</i>	0.28 (0.04) ***	0.28 (0.04) ***	0.27 (0.04) ***
<i>Spain</i>	0.34 (0.04) ***	0.41 (0.04) ***	0.13 (0.04) ***
<i>France</i>	0.37 (0.03) ***	0.37 (0.03) ***	0.21 (0.03) ***
<i>United Kingdom</i>	0.17 (0.03) ***	0.22 (0.03) ***	0.10 (0.03) **
<i>Ireland</i>	-0.06 (0.04)	0.15 (0.03) ***	0.09 (0.04) **
<i>Netherlands</i>	0.15 (0.04) ***	0.16 (0.03) ***	0.07 (0.04)
<i>Norway</i>	0.52 (0.04) ***	0.44 (0.04) ***	0.52 (0.04) ***
<i>Poland</i>	-0.14 (0.04) ***	-0.17 (0.04) ***	-0.18 (0.04) ***
<i>Sweden</i>	0.52 (0.04) ***	0.62 (0.03) ***	0.50 (0.04) ***
<i>R²</i>	0.13	0.13	0.13
<i>Adj. R²</i>	0.13	0.13	0.13
<i>Num. obs.</i>	19,023	19,751	17,932

Notes: (***) $p < .001$; ** $p < .01$; * $p < .05$)

Table 10: Log-Transformed Multivariate Linear Regression Results

<i>Variable</i>	<i>2010</i>	<i>2014</i>	<i>2018</i>
<i>Intercept (Big City, Male)</i>	-0.03 (0.01) **	0.03 (0.01) *	0.05 (0.01) ***
<i>Suburb</i>	-0.00 (0.01)	-0.02 (0.01) *	-0.01 (0.01)
<i>Town/Small City</i>	-0.01 (0.01)	-0.02 (0.01) *	-0.02 (0.01) *
<i>Country Village</i>	-0.00 (0.01)	-0.02 (0.01) *	-0.01 (0.01)
<i>Countryside/Farm</i>	0.03 (0.01) **	0.01 (0.01)	0.01 (0.01)

<i>Female</i>	-0.01 (0.00) **	-0.01 (0.00) **	0.00 (0.01)
<i>Education Level</i>	0.08 (0.00) ***	0.08 (0.00) ***	0.08 (0.00) ***
<i>Income Level</i>	0.03 (0.00) ***	0.03 (0.00) ***	0.02 (0.00) ***
<i>Ideology</i>	-0.03 (0.00) ***	-0.03 (0.00) ***	-0.04 (0.00) ***
<i>Age</i>	-0.01 (0.00) *	0.00 (0.00)	-0.00 (0.00)
<i>R²</i>	0.14	0.15	0.14
<i>Adj. R²</i>	0.14	0.14	0.14
<i>Num. obs.</i>	19,023	19,751	17,932

Notes: (***) $p < .001$; (**) $p < .01$; (*) $p < .05$; Country controlled for but not displayed..

Figure 5: Predicted Log-Transformed Civic Engagement Scores

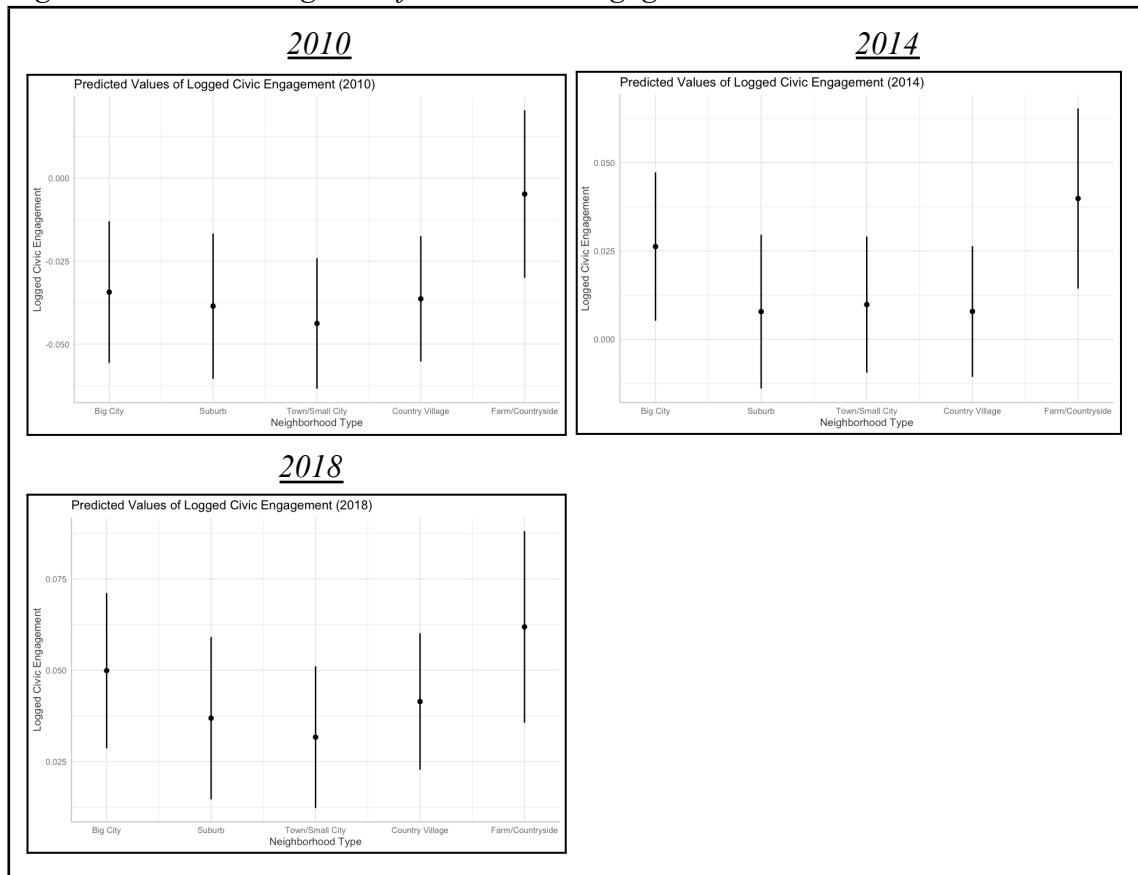


Table 11: Additional Multivariate Logistic Regression Results

Dataset	Variable	Petition	Boycott	Pol. Org.	Politician	Badge Rally	Party
2010	Intercept	0.19 *** (0.01)	0.10 *** (0.01)	0.19 *** (0.01)	0.10 *** (0.01)	0.07 *** (0.01)	0.10 *** (0.01)
	Female	0.04 *** (0.01)	0.02 ** (0.01)	-0.05 *** (0.01)	-0.05 *** (0.01)	0.01 ** (0.01)	-0.02 *** (0.01)

	<i>Education</i>	0.06 *** (0.01)	0.06 *** (0.01)	0.06 *** (0.01)	0.05 *** (0.01)	0.02 *** (0.01)	0.03 *** (0.01)	0.02 *** (0.01)
	<i>Income</i>	0.03 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 *** (0.00)
	<i>Ideology</i>	-0.03 *** (0.00)	-0.03 *** (0.00)	-0.01 ** (0.00)	-0.01 * (0.00)	-0.01 *** (0.00)	-0.03 *** (0.00)	-0.01 *** (0.00)
	<i>Age</i>	-0.02 *** (0.00)	0.01 (0.00)	0.02 *** (0.00)	0.01 *** (0.00)	-0.01 *** (0.00)	-0.01 *** (0.00)	0.01 *** (0.00)
2014	<i>Intercept</i>	0.25 *** (0.01)	0.18 *** (0.01)	0.20 *** (0.01)	0.13 *** (0.01)	0.07 *** (0.01)	0.14 *** (0.01)	0.07 *** (0.01)
	<i>Female</i>	0.02 *** (0.01)	0.03 *** (0.01)	-0.05 *** (0.01)	-0.04 *** (0.01)	0.01 ** (0.00)	-0.02 *** (0.00)	-0.02 *** (0.00)
	<i>Education</i>	0.07 *** (0.00)	0.07 *** (0.00)	0.06 *** (0.00)	0.05 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)
	<i>Income</i>	0.02 *** (0.00)	0.02 *** (0.00)	0.03 *** (0.00)	0.02 *** (0.00)	0.01 ** (0.00)	0.00 * (0.00)	0.01 *** (0.00)
	<i>Ideology</i>	-0.04 *** (0.00)	-0.04 *** (0.00)	-0.01 *** (0.00)	-0.01 * (0.00)	-0.02 *** (0.00)	-0.04 *** (0.00)	-0.01 *** (0.00)
	<i>Age</i>	-0.02 *** (0.00)	0.01 ** (0.00)	0.03 *** (0.00)	0.02 *** (0.00)	0.01 ** (0.00)	-0.01 *** (0.00)	0.01 *** (0.00)
2018	<i>Intercept</i>	0.27 *** (0.01)	0.18 *** (0.01)	0.21 *** (0.01)	0.19 *** (0.01)	0.09 *** (0.01)	0.12 *** (0.01)	0.04 *** (0.01)
	<i>Female</i>	0.04 *** (0.01)	0.03 *** (0.01)	-0.04 *** (0.01)	-0.03 *** (0.01)	0.03 *** (0.00)	-0.00 (0.00)	-0.01 *** (0.00)
	<i>Education</i>	0.07 *** (0.00)	0.07 *** (0.00)	0.06 *** (0.00)	0.05 *** (0.00)	0.02 *** (0.00)	0.03 *** (0.00)	0.02 *** (0.00)
	<i>Income</i>	0.02 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)	0.02 *** (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 * (0.00)
	<i>Ideology</i>	-0.05 *** (0.00)	-0.05 *** (0.00)	-0.02 *** (0.00)	-0.01 * (0.00)	-0.03 *** (0.00)	-0.04 *** (0.00)	-0.01 *** (0.00)
	<i>Age</i>	-0.03 *** (0.00)	0.00 (0.00)	0.03 *** (0.00)	0.02 *** (0.00)	-0.01 *** (0.00)	-0.01 *** (0.00)	0.01 *** (0.00)

Notes: (***) $p < .001$; (**) $p < .01$; (*) $p < .05$; Country controlled for but not displayed